



# TPU BELTS<sup>®</sup>

CATALOG NO. 20166

EDITION 2022

SUPERSEDES 20166 (2014)

## **THERMOPLASTIC POLYURETHANE BELT PROGRAM**

**PRODUCT AND TECHNICAL INFORMATION**





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# INTRODUCTION

## OUR EXPERTISE

Gates TPU brings a world-class combination of expert knowledge, global coverage, and superior service to exceed our customers' expectations. Backed by 100 years of Gates innovation and industry leading product performance and quality, we offer the most compelling thermoplastic polyurethane belt portfolio in the market.

Our products are used in various industries including material handling, intralogistics, general automation, and food processing.



### KNOWLEDGE

#### APPLICATION KNOW-HOW

Our technical experts will work with your team to deliver a solution that meets your application need.

#### EXPERTISE

Our dedicated team can answer questions, provide training and information, and solve challenges.



### PRODUCT

#### QUALITY

Our products deliver the performance and reliability that customers expect from Gates around the world. We guaranty the highest quality, meeting & exceeding the standards of ISO 9001, ISO 14001 and ISO 50001.

#### OFFERING

We offer a full TPU belt portfolio for all positioning, conveyance, and lifting applications.



### EXPERIENCE

#### RESPONSIVENESS

Our regional teams are flexible, close to the market, and able to provide hands on service at customer sites.

#### DELIVERY

With a global production and distribution footprint, including distribution partners worldwide, Gates offers global service to solve your challenges. Exceptional on time delivery performance and short lead times set the standard in the industry.



### SUSTAINABILITY

#### HUMAN HEALTH

Gates products comply with the requirements laid down in the REACH (Registration, Evaluation, Authorization of Chemical Substances) regulation. All substances in our belts requiring registration will be duly registered in the central database run by the European Chemicals Agency (ECHA).

#### ENVIRONMENT

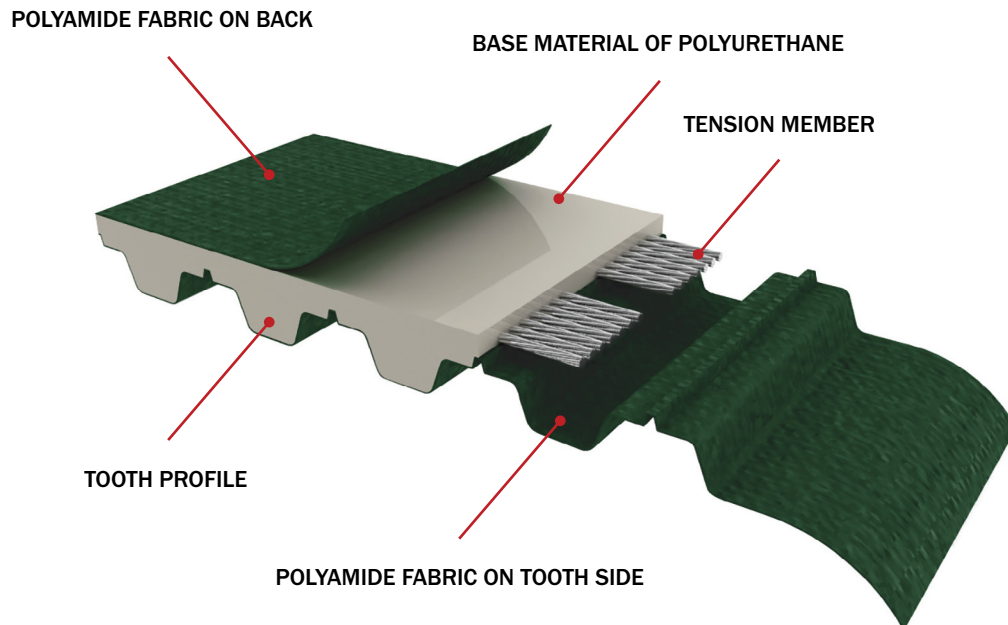
Gates products help preserving our planet by saving energy, less environmental impact, less noise pollution, less waste.



# POLYURETHANE BELTS

**OUR PRODUCT QUALITY IS REVEALED IN THE DETAILS. — NARROW TOLERANCES AND PERFECT TOOTH ENGAGEMENT ARE GUARANTEED.**

Gates TPU Polyurethane Timing Belts are made from high quality, abrasion-resistant polyurethane in combination with high strength steel or aramid cords. Nearly every extruded belt type can be additionally customized by special machining or the addition of various coatings or profiles.



## ATTRIBUTES

- Low-maintenance polyurethane construction
- High tensile strength
- Abrasion and UV resistant
- Low pre-tension
- Excellent durability vs. moisture
- Various cord and Polyurethane grades available

## CHEMICAL ATTRIBUTES

- Long-lasting
- High chemical resistance
- High durability vs. detergent
- Excellent durability vs. oil and fat
- Conditionally permanent vs. acids and bases



# TOOTH PROFILES



## IMPERIAL TOOTH PROFILE

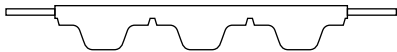
PITCH: XL / L / H / XH

According to DIN ISO 5296

Attributes: Low tooth profiles with large surface area

Applications:

- Low to medium load conveying



## T TOOTH PROFILE

PITCH: T2.5 / T5 / T10 / T20

According to ISO 17396

Attributes: Developed to enable higher load carrying capacity combined with lower backlash

Applications:

- Low to medium load conveying



## AT TOOTH PROFILE

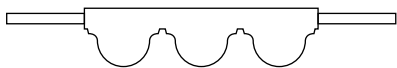
PITCH: AT5 / AT10 / AT20

According to ISO 17396

Attributes: Stronger cords and higher tooth shear strength for improved performance

Applications:

- Linear positioning
- Power transmission
- Medium to high load conveying



## HTD TOOTH PROFILE

PITCH: HTD5 / HTD8 / HTD14

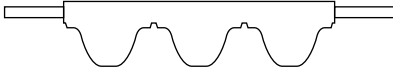
According to ISO 13050

Attributes: Higher tooth meshing, equal tension distribution and load transmission

Reduced wear and noise characteristics

Applications:

- Linear / rotary positioning
- Power transmission

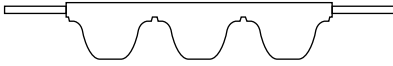


## HPL TOOTH PROFILE

PITCH: HPL3, HPL5 and HPL8  
 Attributes: High-performance synchronous belt  
 Gates GT™ tooth shape

Applications:

- Linear positioning
- Lifting

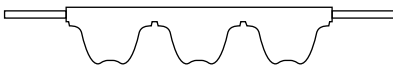


## STD TOOTH PROFILE

PITCH: STD5 / STD8  
 According to ISO 13050  
 Attributes: Reduced wear and noise characteristics

Applications:

- Linear positioning
- Power transmission

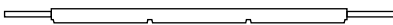


## GPP TOOTH PROFILE

PITCH: GPP8 / GPP14  
 According to ISO 13050  
 Attributes: Reduced wear and noise characteristics

Applications:

- Linear positioning
- Lifting



## FLAT BELTS

PITCH: F20 / F30 / F48  
 Attributes: Easy belt guiding  
 Small pulley diameters

Applications:

- Lifting
- Pulling



## WIDE BELTS

PITCH: WT5 / WT10 / WH / GMT3TM / WHTD8M  
 Attributes: Standard width 200mm for WT5 and 450mm or  
 18" for all other wide belts  
 Alternative to plastic modular chains and flat  
 belting

Applications:

- Synchronous conveying
- Hygienic Industry
- Tire Industry
- Food industry applications



# MATERIALS

## POLYURETHANE GRADES

| TPU RESIN  | BELT TYPES               | HARDNESS    | TEMP RANGE   |
|--|--------------------------|-------------|--------------|
| <b>TPU RESINS FOR STANDARD APPLICATIONS</b>        |                          |             |              |
| R1   | Linear, Flat & Wide Belt | 92° Shore A | -5 to +70°C  |
| R2   | Linear, Flat & Wide Belt | 85° Shore A | -10 to +60°C |
| R3   | Sleeves                  | 84° Shore A | -25 to +75°C |
| R23  | Flex Belt                | 90° Shore A | -5 to +70°C  |
| <b>TPU RESINS FOR LOW TEMPERATURE APPLICATIONS</b> |                          |             |              |
| R23T   | Linear, Flat & Flex Belt | 90° Shore A | -30 to +60°C |
| <b>TPU RESINS FOR FOOD CONTACT *</b>               |                          |             |              |
| FDA  | Linear & Wide Belt       | 85° Shore A | -10 to +60°C |

\* Please contact our application engineers for available belt constructions that meet USDA or EU food regulations.

## CORD CONSTRUCTIONS

| DESIGNATOR | DESCRIPTION                    |
|------------|--------------------------------|
| BSL        | Basic steel                    |
| SL         | Steel                          |
| HF         | High Flexible Steel            |
| RSL        | Reinforced Steel               |
| RHF        | Reinforced High Flexible Steel |
| NIRO       | Stainless Steel                |
| KV         | Aramid                         |
| RKV        | Reinforced Aramid              |

## POLYAMID FABRIC OPTIONS

|     |  |
|-----|--|
| NT  | Polyamid fabric on tooth side                |
| NB  | Polyamid fabric on back                      |
| NTB | Polyamid fabric on tooth and back            |
| AS  | Antistatic Polyamid fabric on tooth and back |

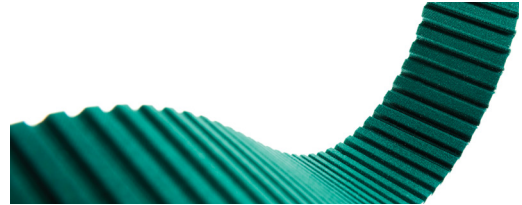


# GATES TPU PRODUCTS



## SYNCHRO-POWER LINEAR

Open ended or endless welded TPU timing belt for linear movement and conveying.



## SYNCHRO-POWER FLEX

Truly endless TPU timing belt up to 22,9m for power transmission and rotary positioning.



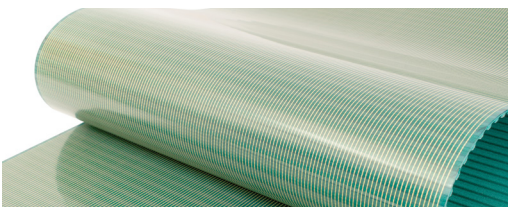
## SYNCHRO-POWER FLAT

Open ended TPU flat belt for pulling and lifting applications.



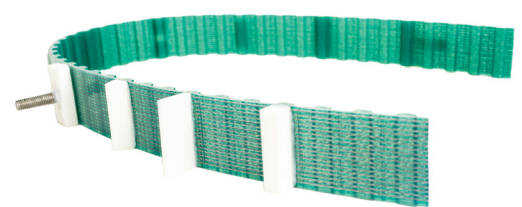
## BELTS WITH BACKINGS

Endless welded TPU timing belt for conveying and transportation.



## SYNCHRO-POWER WIDE

Endless welded wide TPU timing belt for synchronous conveying.



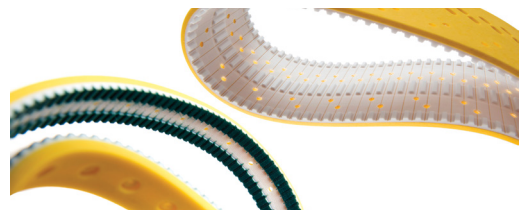
## BELT WITH PROFILES

Endless welded TPU timing belt for conveying and transportation.



## SYNCHRO-POWER SLEEVES

Truly endless timing belt for light power transmission and rotary positioning.



## FABRICATED BELTS

Endless welded TPU timing belt for conveying and transportation.





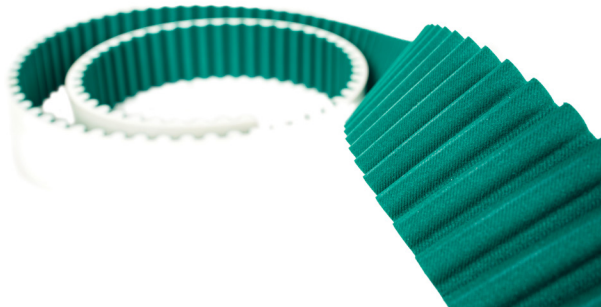
# SYNCHRO-POWER LINEAR

## TIMING BELTS

Gates TPU linear timing belts are manufactured in standard roll lengths in different pitches, constructions and tooth shapes. The wide range of various designs offers the exact solution for nearly every application. Linear belts are available as roll stock, open ended (long length), pre-punched or endless, thermal welded belts.

For special custom applications, the belts can be coated with various backings and/or manufactured with welded on profiles.

**GATES TPU LINEAR BELTS ARE DESIGNED TO ENSURE HIGH GRADE PERFORMANCE FOR BOTH, POWER TRANSMISSION AND LINEAR APPLICATIONS AND CAN BE USED FOR A BROAD RANGE OF DEMANDS, SPEEDS, AND APPLICATIONS.**



### ATTRIBUTES

- Thermoplastic polyurethane construction
- High tensile strength and stiffness
- Parallel cord construction for uniform tensioning
- Smooth, low-noise operation
- Temperature range:  
Standard TPU: R1 - 5° to + 70° C  
Low temp TPU: R23T - 30° to + 50° C
- Extended service temperature range is available on request
- FDA and EU food approval for various pitches

### APPLICATIONS

- Conveying- and handling equipment
- Linear applications
- Vertical Lifting
- Synchronous conveying applications
- Automatic assembly machines
- Door drives
- Textile industry

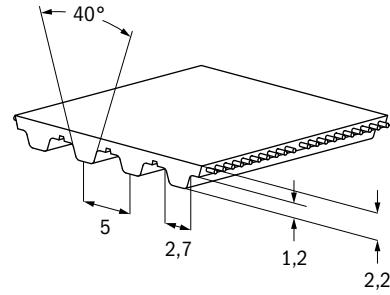
### PROCESSING OPTIONS

- Backings - Further information on page 96
- Profiles - Further information on page 102
- Special processing - Further information on page 108

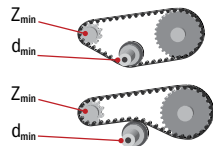
# T5 / PITCH: 5MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>STANDARD THICKNESS</b>                   | 2,2 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +0,5 mm               |
| > 50MM WIDTH                                | +0,75 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 480 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Optional              |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 10    | 10     |
| <b>d min</b> | 30    | 30     |
| <b>z min</b> | 15    | 15     |
| <b>d min</b> | 30    | 30     |

dmin = 50mm for low temperature applications

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| R23T         | 90                   | -30 to +50              | Low Temperature       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

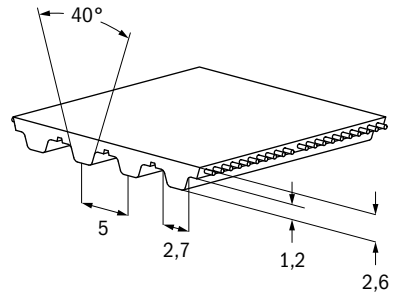
## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 10     | 16      | 25      | 32      | 50      | 75      | 100     |
|---|--------|--------|---------|---------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 1.250  | 2.000   | 3.375   | 4.250   | 6.875   | 10.375  | 13.875  |
| Aramid  | [N]    | 3.162  | 5.245   | 8.370   | 10.800  | 17.050  | 25.730  | 34.410  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 311    | 498     | 840     | 1.058   | 1.711   | 2.582   | 3.453   |
| Aramid  | [N]    | 346    | 574     | 916     | 1.181   | 1.865   | 2.814   | 3.764   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 156    | 249     | 420     | 529     | 856     | 1.291   | 1.727   |
| Aramid  | [N]    | 259    | 430     | 687     | 886     | 1.399   | 2.111   | 2.823   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |        |         |         |         |         |         |         |
|   | [N]    | 250    | 400     | 625     | 800     | 1.250   | 1.875   | 2.500   |
| <b>BELT WEIGHT</b>  |        |        |         |         |         |         |         |         |
| Steel   | [kg/m] | 0,02   | 0,04    | 0,06    | 0,07    | 0,11    | 0,16    | 0,22    |
| Aramid  | [kg/m] | 0,02   | 0,03    | 0,05    | 0,06    | 0,10    | 0,15    | 0,20    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 77.778 | 124.444 | 210.000 | 264.444 | 427.778 | 645.556 | 863.333 |
| Aramid  | [N]    | 86.464 | 143.428 | 228.875 | 295.334 | 466.227 | 703.579 | 940.931 |

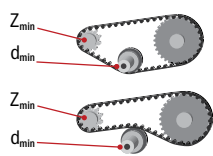
**T5-AS / PITCH: 5MM**

**PRODUCT SPECIFICATIONS**

|   |  |
|---|--|
| <b>PITCH</b>                                | 5 mm   |
| <b>STANDARD THICKNESS</b>                   | 2,6 mm   |
| <b>WIDTH TOLERANCE</b>                      |  |
| < 50MM WIDTH                                | +,-0,5 mm  |
| > 50MM WIDTH                                | +,-0,75 mm                                       |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 480 mm   |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m  |
| <b>STANDARD COLOR</b>                       | Black  |
| <b>FDA/EU APPROVAL</b>                      | No   |
| <b>POLYURETHANE</b>                         | 92 Shore A                                       |
| <b>POLYAMIDE FABRIC</b>                     | Antistatic fabric on tooth and back              |
| <b>MEET ANTISTATIC STANDARD</b>             | IES DTS 60079-32<br>TRBS 2153<br>CENELEC TR50404 |



**MIN PULLEY DIAMETER:**



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 10    |
| <b>d min</b> | 30    |
| <b>z min</b> | 15    |
| <b>d min</b> | 30    |

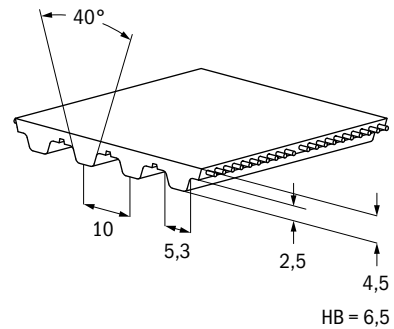
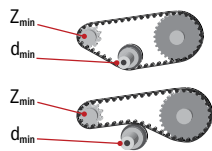
| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE  |
|--------------|---------------------|------------------------|----------|
| R1           | 92                  | -5 to +70              | Standard |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10     | 16      | 25      | 32      | 50      | 75      | 100     |
|---|--------|--------|---------|---------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 1.250  | 2.000   | 3.375   | 4.250   | 6.875   | 10.375  | 13.875  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 311    | 498     | 840     | 1.058   | 1.711   | 2.582   | 3.453   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 156    | 249     | 420     | 529     | 856     | 1.291   | 1.727   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |        |         |         |         |         |         |         |
|   | [N]    | 250    | 400     | 625     | 800     | 1.250   | 1.875   | 2.500   |
| <b>BELT WEIGHT</b>  |        |        |         |         |         |         |         |         |
| Steel   | [kg/m] | 0,02   | 0,04    | 0,05    | 0,07    | 0,11    | 0,17    | 0,22    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 77.778 | 124.444 | 210.000 | 264.444 | 427.778 | 645.556 | 863.333 |

**T10 / PITCH: 10MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>STANDARD THICKNESS</b>                   |                       |
| T10   | 4,5 mm                |
| T10HB                                       | 6,5 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-0,5 mm             |
| > 50MM WIDTH                                | +,-0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           |                       |
| < 100MM WIDTH                               | 480 mm                |
| > 100MM WIDTH                               | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |
| <b>ANTISTATIC NYLON</b>                     | Optional              |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID | STEEL HF |
|--------------|-------|--------|----------|
| <b>z min</b> | 14    | 14     | 12       |
| <b>d min</b> | 45    | 45     | 38       |
| <b>z min</b> | 20    | 20     | 15       |
| <b>d min</b> | 80    | 80     | 60       |

| POLYURETHANE | HARDNESS [ ' SHORE A] | TEMPERATURE RANGE [ ' C] | FEATURE               |
|--------------|-----------------------|--------------------------|-----------------------|
| R1           | 92                    | -5 to +70                | Standard              |
| R2           | 85                    | -10 to +60               |                       |
| R23T         | 90                    | -30 to +50               | Low Temperature       |
| FDA          | 85                    | -10 to +60               | With Aramid Cord Only |

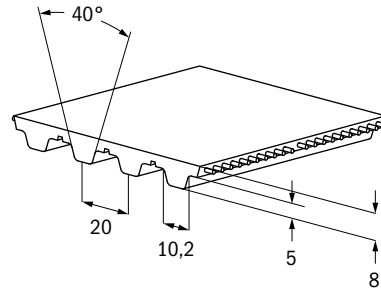
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 12      | 16      | 25      | 32      | 50        | 75        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 2.940   | 4.200   | 7.140   | 9.240   | 14.700    | 22.260    | 29.820    | 44.940    |
| Aramid  | [N]    | 3.601   | 4.980   | 8.085   | 10.500  | 16.709    | 25.333    | 33.957    | 51.205    |
| Steel HF  | [N]    | 4.340   | 6.200   | 10.540  | 13.640  | 21.700    | 32.860    | 44.020    | 66.340    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 786     | 1.123   | 1.909   | 2.470   | 3.929     | 5.950     | 7.971     | 12.012    |
| Aramid  | [N]    | 474     | 655     | 1.064   | 1.381   | 2.198     | 3.332     | 4.467     | 6.736     |
| Steel HF  | [N]    | 964     | 1.376   | 2.340   | 3.028   | 4.818     | 7.295     | 9.773     | 14.728    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 393     | 561     | 954     | 1.235   | 1.965     | 2.975     | 3.985     | 6.006     |
| Aramid  | [N]    | 355     | 491     | 798     | 1.036   | 1.648     | 2.499     | 3.350     | 5.052     |
| Steel HF  | [N]    | 482     | 688     | 1.170   | 1.514   | 2.409     | 3.648     | 4.886     | 7.364     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |           |
|   | [N]    | 683     | 910     | 1.423   | 1.821   | 2.845     | 4.268     | 5.690     | 8.535     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |           |
| Steel   | [kg/m] | 0,05    | 0,07    | 0,11    | 0,14    | 0,22      | 0,33      | 0,44      | 0,66      |
| Aramid  | [kg/m] | 0,04    | 0,06    | 0,09    | 0,12    | 0,18      | 0,27      | 0,36      | 0,54      |
| Steel HF  | [kg/m] | 0,06    | 0,08    | 0,12    | 0,15    | 0,24      | 0,35      | 0,47      | 0,71      |
| HB Steel  | [kg/m] | 0,08    | 0,11    | 0,17    | 0,21    | 0,34      | 0,50      | 0,67      | 1,01      |
| HB Aramid   | [kg/m] | 0,07    | 0,10    | 0,15    | 0,19    | 0,30      | 0,44      | 0,59      | 0,89      |
| HB Steel HF   | [kg/m] | 0,09    | 0,12    | 0,18    | 0,22    | 0,36      | 0,52      | 0,70      | 1,06      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 196.463 | 280.662 | 477.125 | 617.456 | 982.316   | 1.487.507 | 1.992.699 | 3.003.081 |
| Aramid  | [N]    | 118.403 | 163.779 | 265.875 | 345.283 | 549.475   | 833.075   | 1.116.675 | 1.683.875 |
| Steel HF  | [N]    | 240.882 | 344.118 | 585.000 | 757.059 | 1.204.412 | 1.823.824 | 3.443.235 | 5.182.059 |

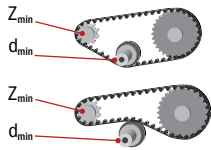
**T20 / PITCH: 20MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 20 mm                 |
| <b>STANDARD THICKNESS</b>                   | 8,0 mm                |
| <b>WIDTH TOLERANCE</b>                      | + -1,0 mm             |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1000 mm               |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL | ARAMID | STEEL HF | STAINLESS STEEL |
|--------------|-------|--------|----------|-----------------|
| <b>z min</b> | 15    | 15     | 12       | 20              |
| <b>d min</b> | 120   | 120    | 110      | 130             |
| <b>z min</b> | 25    | 25     | 21       | 30              |
| <b>d min</b> | 120   | 120    | 120      | 180             |

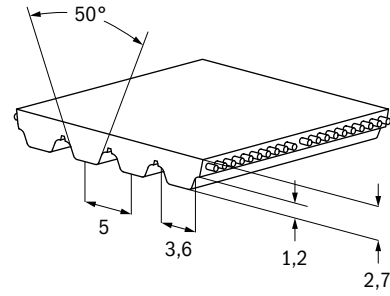
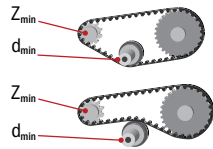
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| R23T         | 90                   | -30 to +50              | Low Temperature       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |
| Steel   | [N]    | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Aramid  | [N]    | 16.185  | 21.019    | 33.449    | 50.713    | 67.977    | 102.505   |
| Steel HF  | [N]    | 12.975  | 16.435    | 26.815    | 40.655    | 54.495    | 82.175    |
| Stainless Steel   | [N]    | 10.688  | 13.538    | 22.088    | 33.488    | 44.888    | 67.688    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |           |
| Steel   | [N]    | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Aramid  | [N]    | 1.675   | 2.175     | 3.461     | 5.247     | 7.033     | 10.606    |
| Steel HF  | [N]    | 3.456   | 4.378     | 7.142     | 10.829    | 14.515    | 21.888    |
| Stainless Steel   | [N]    | 2.806   | 3.554     | 5.799     | 8.791     | 11.784    | 17.770    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |           |           |           |           |           |
| Steel   | [N]    | 1.871   | 2.369     | 3.866     | 5.861     | 7.856     | 11.847    |
| Aramid  | [N]    | 1.256   | 1.631     | 2.596     | 3.935     | 5.275     | 7.954     |
| Steel HF  | [N]    | 1.728   | 2.189     | 3.571     | 5.414     | 7.258     | 10.944    |
| Stainless Steel   | [N]    | 1.403   | 1.777     | 2.899     | 4.396     | 5.892     | 8.885     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |
|   | [N]    | 3.075   | 3.936     | 6.150     | 9.225     | 12.300    | 18.450    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,19    | 0,24      | 0,37      | 0,56      | 0,75      | 1,12      |
| Aramid  | [kg/m] | 0,18    | 0,23      | 0,36      | 0,54      | 0,72      | 1,08      |
| Steel HF  | [kg/m] | 0,15    | 0,19      | 0,30      | 0,44      | 0,59      | 0,89      |
| Stainless Steel   | [kg/m] | 0,19    | 0,24      | 0,37      | 0,56      | 0,74      | 1,11      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |
| Steel   | [N]    | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Aramid  | [N]    | 418.650 | 543.687   | 865.210   | 1.311.770 | 1.758.330 | 2.651.450 |
| Steel HF  | [N]    | 864.000 | 1.094.400 | 1.785.600 | 2.707.200 | 3.628.800 | 5.472.000 |
| Stainless Steel   | [N]    | 701.438 | 888.488   | 1.449.638 | 2.197.838 | 2.946.038 | 4.442.438 |

**AT5 / PITCH: 5MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>STANDARD THICKNESS</b>                   | 2,7 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +0,5 mm               |
| > 50MM WIDTH                                | +0,75 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 480 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 18    | 18     |
| <b>d min</b> | 29    | 29     |
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 60    | 60     |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| R23T         | 90                  | -30 to +50             | Low Temperature       |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

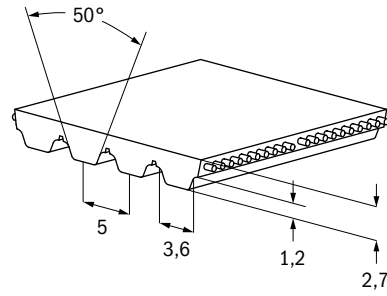
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10      | 16      | 25      | 32      | 50      | 75        | 100       |
|---|--------|---------|---------|---------|---------|---------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 2.565   | 4.275   | 7.125   | 9.120   | 14.535  | 21.945    | 29.355    |
| Aramid  | [N]    | 3.140   | 5.224   | 8.350   | 10.782  | 17.034  | 25.718    | 34.402    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 634     | 1.056   | 1.761   | 2.253   | 3.591   | 5.422     | 7.253     |
| Aramid  | [N]    | 455     | 757     | 1.210   | 1.562   | 2.468   | 3.727     | 4.985     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 317     | 528     | 880     | 1.127   | 1.796   | 2.711     | 3.627     |
| Aramid  | [N]    | 341     | 568     | 908     | 1.172   | 1.851   | 2.795     | 3.739     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |         |           |           |
|   | [N]    | 480     | 768     | 1.200   | 1.536   | 2.400   | 3.600     | 4.800     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |         |           |           |
| Steel   | [kg/m] | 0,03    | 0,05    | 0,08    | 0,11    | 0,17    | 0,25      | 0,33      |
| Aramid  | [kg/m] | 0,03    | 0,04    | 0,07    | 0,09    | 0,14    | 0,20      | 0,27      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 158.445 | 264.075 | 440.125 | 563.360 | 897.855 | 1.355.585 | 1.813.315 |
| Aramid  | [N]    | 113.740 | 189.244 | 302.500 | 390.588 | 617.100 | 931.700   | 1.246.300 |

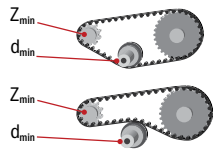
# ATL5 / PITCH: 5MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>STANDARD THICKNESS</b>                   | 2,7 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-0,5 mm             |
| > 50MM WIDTH                                | +,-0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 480 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 15    |
| <b>d min</b> | 40    |
| <b>z min</b> | 15    |
| <b>d min</b> | 60    |

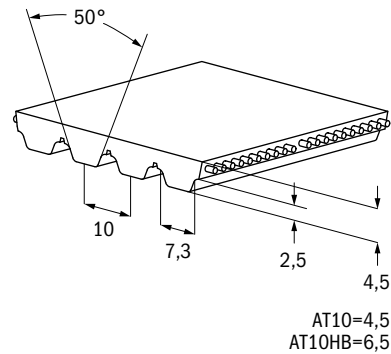
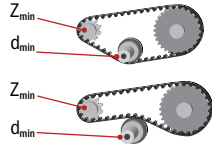
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------|----------------------|------------------------|-----------------|
| R1           | 92                   | -5 to +70              | Standard        |
| R2           | 85                   | -10 to +60             |                 |
| R23T         | 90                   | -30 to +50             | Low Temperature |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 10      | 16      | 25      | 32      | 50        | 75        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 3.720   | 6.200   | 10.540  | 13.640  | 21.700    | 32.860    | 44.020    | 66.340    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 826     | 1.376   | 2.340   | 3.028   | 4.818     | 7.295     | 9.773     | 14.728    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 413     | 688     | 1.170   | 1.514   | 2.409     | 3.648     | 4.886     | 7.364     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |           |
|   | [N]    | 480     | 768     | 1.200   | 1.536   | 2.400     | 3.600     | 4.800     | 7.200     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |           |
| Steel   | [kg/m] | 0,03    | 0,05    | 0,07    | 0,09    | 0,14      | 0,21      | 0,28      | 0,42      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 206.471 | 344.118 | 585.000 | 757.059 | 1.204.412 | 1.823.824 | 2.443.235 | 3.682.059 |

**AT10 / PITCH: 10MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>STANDARD THICKNESS</b>                   |                       |
| AT10  | 4,5 mm                |
| AT10 HB                                     | 6,5 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-0,75 mm            |
| > 50MM WIDTH                                | +,-1,00 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           |                       |
| < 100MM WIDTH                               | 480 mm                |
| > 100MM WIDTH                               | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID | STEEL HF | STAINLESS STEEL |
|--------------|-------|--------|----------|-----------------|
| <b>z min</b> | 15    | 15     | 12       | 20              |
| <b>d min</b> | 50    | 50     | 40       | 130             |
| <b>z min</b> | 25    | 25     | 20       | 30              |
| <b>d min</b> | 120   | 120    | 100      | 160             |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| R23T         | 90                   | -30 to +50              | Low Temperature       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

**TECHNICAL DATA**

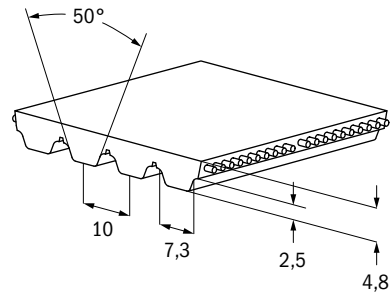
| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 8.550   | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Aramid  | [N]    | 9.970   | 16.185  | 21.019    | 33.449    | 50.713    | 67.977    | 102.505   |
| Steel HF  | [N]    | 7.785   | 12.975  | 16.435    | 26.815    | 40.655    | 54.495    | 82.175    |
| Stainless Steel   | [N]    | 6.413   | 10.688  | 13.538    | 22.088    | 33.488    | 44.888    | 67.688    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 2.245   | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Aramid  | [N]    | 1.032   | 1.675   | 2.175     | 3.461     | 5.247     | 7.033     | 10.606    |
| Steel HF  | [N]    | 1.944   | 3.240   | 4.104     | 6.696     | 10.152    | 13.608    | 20.520    |
| Stainless Steel   | [N]    | 1.683   | 2.806   | 3.554     | 5.799     | 8.791     | 11.784    | 17.770    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 1.122   | 1.871   | 2.369     | 3.866     | 5.861     | 7.856     | 11.847    |
| Aramid  | [N]    | 774     | 1.256   | 1.631     | 2.596     | 3.935     | 5.275     | 7.954     |
| Steel HF  | [N]    | 972     | 1.620   | 2.052     | 3.348     | 5.076     | 6.804     | 10.260    |
| Stainless Steel   | [N]    | 842     | 1.403   | 1.777     | 2.899     | 4.396     | 5.892     | 8.885     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |           |           |           |           |           |
|   | [N]    | 1.651   | 2.580   | 3.302     | 5.160     | 7.740     | 10.320    | 15.480    |
| <b>BELT WEIGHT</b>  |        |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,09    | 0,14    | 0,18      | 0,29      | 0,43      | 0,57      | 0,86      |
| Aramid  | [kg/m] | 0,07    | 0,11    | 0,13      | 0,21      | 0,32      | 0,42      | 0,63      |
| Steel HF  | [kg/m] | 0,09    | 0,14    | 0,18      | 0,27      | 0,41      | 0,55      | 0,82      |
| Stainless Steel   | [kg/m] | 0,11    | 0,17    | 0,21      | 0,34      | 0,50      | 0,67      | 1,01      |
| HB Steel  | [kg/m] | 0,13    | 0,20    | 0,26      | 0,40      | 0,60      | 0,80      | 1,21      |
| HB Aramid   | [kg/m] | 0,10    | 0,16    | 0,21      | 0,33      | 0,49      | 0,65      | 0,98      |
| HB Steel HF   | [kg/m] | 0,12    | 0,20    | 0,25      | 0,39      | 0,59      | 0,78      | 1,17      |
| HB Stainless Steel  | [kg/m] | 0,14    | 0,23    | 0,29      | 0,45      | 0,68      | 0,90      | 1,35      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 561.150 | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Aramid  | [N]    | 257.888 | 418.650 | 543.687   | 865.210   | 1.311.770 | 1.758.330 | 2.651.450 |
| Steel HF  | [N]    | 486.000 | 810.000 | 1.026.000 | 1.674.000 | 2.538.000 | 3.402.000 | 5.130.000 |
| Stainless Steel   | [N]    | 420.863 | 701.438 | 888.488   | 1.449.638 | 2.197.838 | 2.946.038 | 4.442.438 |



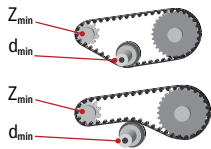
# ATL10 / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>STANDARD THICKNESS</b>                   | 4,8 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-1,00 mm            |
| > 50MM WIDTH                                | +,-1,50 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A                   |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID | STEEL HF | STEEL RHF |
|--------------|-------|--------|----------|-----------|
| <b>z min</b> | 25    | 25     | 20       | 40        |
| <b>d min</b> | 80    | 80     | 70       | 127       |
| <b>z min</b> | 25    | 25     | 20       | 42        |
| <b>d min</b> | 150   | 150    | 130      | 200       |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------|----------------------|-------------------------|-----------------|
| R1           | 92                   | -5 to +70               | Standard        |
| R2           | 85                   | -10 to +60              |                 |
| R23T         | 90                   | -30 to +50              | Low Temperature |

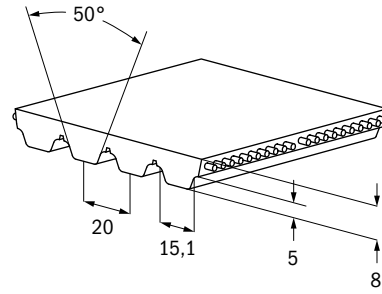
## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 16      | 25        | 32        | 50        | 75        | 100       | 150        |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |            |
| Steel   | [N]    | 13.840  | 24.220    | 31.140    | 50.170    | 76.120    | 102.070   | 153.970    |
| Aramid  | [N]    | 13.390  | 21.798    | 28.337    | 45.153    | 68.508    | 91.863    | 138.573    |
| Steel HF  | [N]    | 15.400  | 26.950    | 34.650    | 55.825    | 84.700    | 113.575   | 171.325    |
| Steel RHF   | [N]    | N/A     | 41.250    | 52.250    | 82.500    | 123.750   | 165.000   | 247.500    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |           |            |
| Steel   | [N]    | 3.349   | 5.860     | 7.534     | 12.139    | 18.147    | 24.696    | 37.253     |
| Aramid  | [N]    | 1.222   | 1.989     | 2.585     | 4.120     | 6.251     | 8.382     | 12.643     |
| Steel HF  | [N]    | 2.902   | 5.079     | 6.530     | 10.521    | 15.963    | 21.404    | 32.288     |
| Steel RHF   | [N]    | N/A     | 9.600     | 12.160    | 19.200    | 28.800    | 38.400    | 57.600     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |            |
|   | [N]    | 1.651   | 2.580     | 3.302     | 5.160     | 7.740     | 10.320    | 15.480     |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |            |
| Steel   | [kg/m] | 0,11    | 0,17      | 0,21      | 0,34      | 0,50      | 0,67      | 1,01       |
| Aramid  | [kg/m] | 0,07    | 0,10      | 0,13      | 0,21      | 0,31      | 0,41      | 0,62       |
| Steel HF  | [kg/m] | 0,12    | 0,18      | 0,23      | 0,36      | 0,54      | 0,72      | 1,08       |
| Steel RHF   | [N]    | N/A     | 0,21      | 0,27      | 0,42      | 0,63      | 0,85      | 1,27       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |            |
| Steel   | [N]    | 837.143 | 1.465.000 | 1.883.571 | 3.034.643 | 4.604.286 | 6.173.929 | 9.313.214  |
| Aramid  | [N]    | 305.429 | 497.210   | 646.373   | 1.029.935 | 1.562.660 | 2.095.385 | 3.160.836  |
| Steel HF  | [N]    | 725.571 | 1.269.750 | 1.632.536 | 2.630.196 | 3.990.643 | 5.351.089 | 8.071.982  |
| Steel RHF   | [N]    | N/A     | 2.400.000 | 3.040.000 | 4.800.000 | 7.200.000 | 9.600.000 | 14.400.000 |

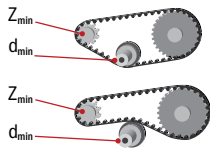
# AT20 / PITCH: 20MM

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 20 mm                 |
| <b>STANDARD THICKNESS</b>                   | 8,0 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-1,00 mm            |
| > 50MM WIDTH                                | +,-1,50 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1.200 mm              |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 18    | 18     |
| <b>d min</b> | 120   | 120    |
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 180   | 180    |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| R23T         | 90                   | -30 to +50              | Low Temperature       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

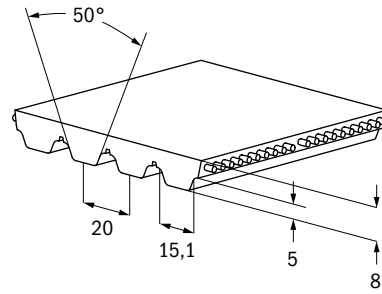
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 25        | 32        | 50        | 75        | 100       | 150       |
|---|--------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |           |
| Steel   | [N]    | 24.220    | 31.140    | 50.170    | 76.120    | 102.070   | 153.970   |
| Aramid  | [N]    | 21.798    | 28.337    | 45.153    | 68.508    | 91.863    | 138.573   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |           |           |
| Steel   | [N]    | 5.860     | 7.534     | 12.139    | 18.417    | 24.696    | 37.253    |
| Aramid  | [N]    | 1.989     | 2.585     | 4.120     | 6.251     | 8.382     | 12.643    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |           |           |           |           |           |           |
| Steel   | [N]    | 2.930     | 3.767     | 6.069     | 9.209     | 12.348    | 18.626    |
| Aramid  | [N]    | 1.492     | 1.939     | 3.090     | 4.688     | 6.286     | 9.483     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |           |
|   | [N]    | 5.450     | 6.976     | 10.900    | 16.350    | 21.800    | 32.700    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,24      | 0,31      | 0,48      | 0,73      | 0,97      | 1,45      |
| Aramid  | [kg/m] | 0,18      | 0,23      | 0,37      | 0,55      | 0,73      | 1,10      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |           |
| Steel   | [N]    | 1.465.000 | 1.883.571 | 3.034.643 | 4.604.286 | 6.173.929 | 9.313.214 |
| Aramid  | [N]    | 497.210   | 646.373   | 1.029.935 | 1.562.660 | 2.095.385 | 3.160.836 |

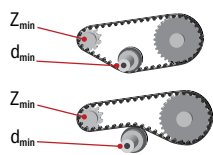
**ATL20 / PITCH: 20MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 20 mm                 |
| <b>STANDARD THICKNESS</b>                   | 8,0 mm                |
| <b>WIDTH TOLERANCE</b>                      | +2,00 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           | NA                    |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 25    |
| <b>d min</b> | 159   |
| <b>z min</b> | 25    |
| <b>d min</b> | 250   |

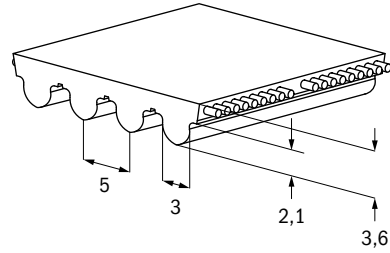
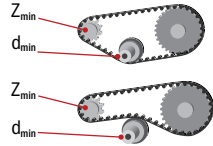
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------|----------------------|-------------------------|-----------------|
| R1           | 92                   | -5 to +70               | Standard        |
| R2           | 85                   | -10 to +60              |                 |
| R23T         | 90                   | -30 to +50              | Low Temperature |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 32        | 50        | 75        | 100       | 150        |
|---|--------|-----------|-----------|-----------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |            |
| Steel   | [N]    | 41.600    | 70.400    | 105.600   | 144.000   | 217.600    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |            |
| Steel   | [N]    | 9.106     | 15.410    | 23.115    | 31.520    | 47.631     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |            |
|   | [N]    | 6.976     | 10.900    | 16.350    | 21.800    | 32.700     |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |            |
| Steel   | [kg/m] | 0,35      | 0,54      | 0,81      | 1,08      | 1,63       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |            |
| Steel   | [N]    | 2.276.477 | 3.852.500 | 5.778.749 | 7.880.113 | 11.907.726 |

**HTD5 / PITCH: 5MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>STANDARD THICKNESS</b>                   | 3,6 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +0,5 mm               |
| > 50MM WIDTH                                | +0,75 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           |                       |
| < 100MM WIDTH                               | 480 mm                |
| > 100MM WIDTH                               | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | STEEL BASIC | ARAMID |
|--------------|-------|-------------|--------|
| <b>z min</b> | 14    | 16          | 16     |
| <b>d min</b> | 22    | 25          | 25     |
| <b>z min</b> | 14    | 16          | 16     |
| <b>d min</b> | 60    | 80          | 80     |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| R23T         | 90                   | -30 to +50              | Low Temperature       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

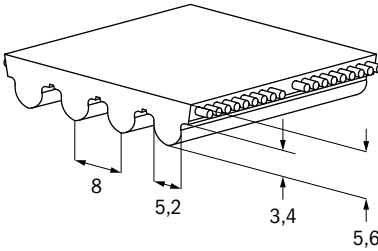
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10      | 15      | 20      | 25      | 30      | 50        | 100       | 150       |
|---|--------|---------|---------|---------|---------|---------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |         |           |           |           |
| Steel basic   | [N]    | 2.520   | 3.780   | 5.460   | 7.140   | 8.400   | 14.700    | 29.820    | 44.940    |
| Steel   | [N]    | 3.720   | 5.580   | 8.060   | 10.540  | 12.400  | 21.700    | 44.020    | 66.340    |
| Aramid  | [N]    | 2.911   | 4.635   | 6.360   | 8.085   | 9.810   | 16.709    | 33.957    | 51.205    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |         |           |           |           |
| Steel basic   | [N]    | 674     | 1.010   | 1.459   | 1.909   | 2.245   | 3.929     | 7.971     | 12.012    |
| Steel   | [N]    | 826     | 1.239   | 1.789   | 2.340   | 2.753   | 4.818     | 9.773     | 14.728    |
| Aramid  | [N]    | 383     | 610     | 837     | 1.064   | 1.290   | 2.198     | 4.467     | 6.736     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |         |           |           |           |
| Steel basic   | [N]    | 337     | 505     | 730     | 954     | 1.123   | 1.965     | 3.985     | 6.006     |
| Steel   | [N]    | 413     | 619     | 895     | 1.170   | 1.224   | 2.409     | 4.886     | 7.364     |
| Aramid  | [N]    | 287     | 457     | 627     | 798     | 968     | 1.648     | 3.350     | 5.052     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |         |           |           |           |
|   | [N]    | 450     | 675     | 900     | 1.125   | 1.350   | 2.250     | 4.500     | 6.750     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |         |           |           |           |
| Steel basic   | [kg/m] | 0,04    | 0,07    | 0,09    | 0,11    | 0,13    | 0,22      | 0,44      | 0,66      |
| Steel   | [kg/m] | 0,05    | 0,07    | 0,10    | 0,12    | 0,15    | 0,25      | 0,49      | 0,74      |
| Aramid  | [kg/m] | 0,03    | 0,04    | 0,06    | 0,07    | 0,09    | 0,15      | 0,29      | 0,44      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |         |           |           |           |
| Steel basic   | [N]    | 168.397 | 252.596 | 364.860 | 477.125 | 561.324 | 982.316   | 1.992.699 | 3.003.081 |
| Steel   | [N]    | 206.471 | 309.706 | 447.353 | 585.000 | 688.235 | 1.204.412 | 2.443.235 | 3.682.059 |
| Aramid  | [N]    | 95.715  | 152.435 | 209.155 | 265.875 | 322.595 | 549.475   | 1.116.675 | 1.683.875 |

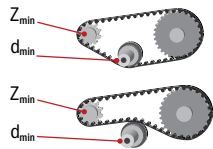
# HTD8 / PITCH: 8MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 8 mm                  |
| <b>STANDARD THICKNESS</b>                   | 5,6 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +0,75 mm              |
| > 50MM WIDTH                                | +1,00 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           |                       |
| < 100MM WIDTH                               | 552 mm                |
| > 100MM WIDTH                               | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID | STEEL HF | STAINLESS |
|--------------|-------|--------|----------|-----------|
| <b>z min</b> | 20    | 20     | 16       | 25        |
| <b>d min</b> | 50    | 50     | 40       | 80        |
| <b>z min</b> | 22    | 22     | 20       | 28        |
| <b>d min</b> | 110   | 110    | 100      | 150       |

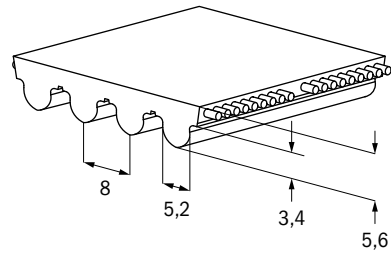
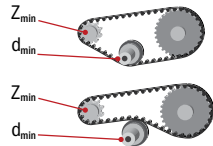
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|----------------------|------------------------|-----------------------|
| R1           | 92                   | -5 to +70              | Standard              |
| R2           | 85                   | -10 to +60             |                       |
| R23T         | 90                   | -30 to +50             | Low Temperature       |
| FDA          | 85                   | -10 to +60             | With Aramid Cord Only |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 10      | 15      | 20      | 25      | 30        | 50        | 85        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 4.750   | 7.600   | 10.450  | 14.250  | 17.100    | 29.450    | 50.350    | 59.850    | 90.250    |
| Aramid  | [N]    | 5.827   | 9.279   | 12.732  | 16.185  | 19.638    | 33.449    | 57.619    | 67.977    | 102.505   |
| Steel HF  | [N]    | 4.325   | 6.920   | 9.515   | 12.975  | 15.570    | 26.815    | 45.845    | 54.495    | 82.175    |
| Stainless   | [N]    | 3.563   | 5.700   | 7.838   | 10.688  | 12.825    | 22.088    | 37.763    | 44.888    | 67.688    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 1.247   | 1.995   | 2.743   | 3.741   | 4.489     | 7.731     | 13.218    | 15.712    | 23.693    |
| Aramid  | [N]    | 603     | 960     | 1.317   | 1.675   | 2.032     | 3.461     | 5.962     | 7.033     | 10.606    |
| Steel HF  | [N]    | 1.152   | 1.843   | 2.534   | 3.456   | 4.147     | 7.142     | 12.211    | 14.515    | 21.888    |
| Stainless   | [N]    | 935     | 1.496   | 2.058   | 2.806   | 3.367     | 5.799     | 9.914     | 11.784    | 17.770    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 624     | 998     | 1.372   | 1.871   | 2.245     | 3.866     | 6.609     | 7.856     | 11.847    |
| Aramid  | [N]    | 452     | 720     | 988     | 1.256   | 1.524     | 2.596     | 4.471     | 5.275     | 7.954     |
| Steel HF  | [N]    | 576     | 922     | 1.267   | 1.728   | 2.074     | 3.571     | 6.106     | 7.258     | 10.944    |
| Stainless   | [N]    | 468     | 748     | 1.029   | 1.403   | 1.683     | 2.899     | 4.957     | 5.892     | 8.885     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |           |           |
|   | [N]    | 930     | 1.395   | 1.860   | 2.325   | 2.790     | 4.650     | 7.905     | 9.300     | 13.950    |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,07    | 0,10    | 0,14    | 0,17    | 0,21      | 0,34      | 0,58      | 0,69      | 1,03      |
| Aramid  | [kg/m] | 0,05    | 0,07    | 0,09    | 0,12    | 0,14      | 0,24      | 0,40      | 0,47      | 0,71      |
| Steel HF  | [kg/m] | 0,07    | 0,10    | 0,13    | 0,17    | 0,20      | 0,33      | 0,56      | 0,66      | 0,99      |
| Stainless   | [kg/m] | 0,07    | 0,10    | 0,14    | 0,17    | 0,20      | 0,34      | 0,58      | 0,68      | 1,02      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 311.750 | 498.800 | 685.850 | 935.250 | 1.122.300 | 1.932.850 | 3.304.550 | 3.928.050 | 5.923.250 |
| Aramid  | [N]    | 157.500 | 250.833 | 344.167 | 437.500 | 530.833   | 904.167   | 1.557.500 | 1.837.500 | 2.770.833 |
| Steel HF  | [N]    | 288.000 | 460.800 | 633.600 | 864.000 | 1.036.800 | 1.785.600 | 3.052.800 | 3.628.800 | 5.472.000 |
| Stainless   | [N]    | 233.813 | 374.100 | 514.388 | 701.438 | 841.725   | 1.449.638 | 2.478.413 | 2.946.038 | 4.442.438 |

**HTDL8 / PITCH: 8MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 8 mm                  |
| <b>STANDARD THICKNESS</b>                   | 5,6 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-1,00 mm            |
| > 50MM WIDTH                                | +,-1,50 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | NA                    |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID | STEEL HF |
|--------------|-------|--------|----------|
| <b>z min</b> | 32    | 32     | 25       |
| <b>d min</b> | 90    | 90     | 70       |
| <b>z min</b> | 34    | 34     | 30       |
| <b>d min</b> | 150   | 150    | 130      |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------|----------------------|-------------------------|-----------------|
| R1           | 92                   | -5 to +70               | Standard        |
| R2           | 85                   | -10 to +60              |                 |
| R23T         | 90                   | -30 to +50              | Low Temperature |

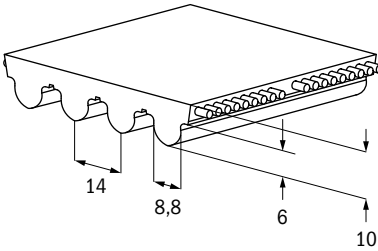
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 20        | 25        | 30        | 50        | 85        | 100       | 150       |
|---|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |           |           |
| Steel   | [N]    | 19.030    | 24.220    | 29.410    | 50.170    | 86.500    | 102.070   | 153.970   |
| Aramid  | [N]    | 17.127    | 21.798    | 26.469    | 45.153    | 77.850    | 91.863    | 138.573   |
| Steel HF  | [N]    | 21.175    | 26.950    | 32.725    | 55.825    | 96.250    | 113.575   | 171.325   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |           |           |           |
| Steel   | [N]    | 4.604     | 5.860     | 7.116     | 12.139    | 20.929    | 24.696    | 37.253    |
| Aramid  | [N]    | 1.563     | 1.989     | 2.415     | 4.120     | 7.103     | 8.382     | 12.643    |
| Steel HF  | [N]    | 3.991     | 5.079     | 6.167     | 10.521    | 18.139    | 21.404    | 32.288    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |           |           |
|   | [N]    | 1.860     | 2.325     | 2.790     | 4.650     | 7.905     | 9.300     | 13.950    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,16      | 0,20      | 0,24      | 0,39      | 0,67      | 0,79      | 1,18      |
| Aramid  | [kg/m] | 0,09      | 0,11      | 0,14      | 0,23      | 0,38      | 0,45      | 0,68      |
| Steel HF  | [kg/m] | 0,17      | 0,21      | 0,25      | 0,42      | 0,71      | 0,83      | 1,25      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |           |           |
| Steel   | [N]    | 1.151.071 | 1.465.000 | 1.778.929 | 3.034.643 | 5.232.143 | 6.173.929 | 9.313.214 |
| Aramid  | [N]    | 390.665   | 497.210   | 603.755   | 1.029.935 | 1.775.750 | 2.095.385 | 3.160.836 |
| Steel HF  | [N]    | 997.661   | 1.269.750 | 1.541.839 | 2.630.196 | 4.534.821 | 5.351.089 | 8.071.982 |

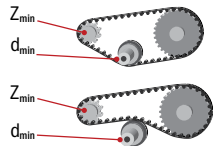
# HTD14 / PITCH: 14MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 14 mm                 |
| <b>STANDARD THICKNESS</b>                   | 10 mm                 |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-1,00 mm            |
| 50 TO 100MM WIDTH                           | +,-1,50 mm            |
| > 100 MM WIDTH                              | +,-2,00 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1.200 mm              |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID | STEEL HF |
|--------------|-------|--------|----------|
| <b>z min</b> | 26    | 26     | 23       |
| <b>d min</b> | 120   | 120    | 100      |
| <b>z min</b> | 28    | 28     | 25       |
| <b>d min</b> | 180   | 180    | 160      |

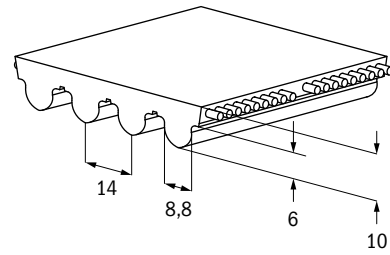
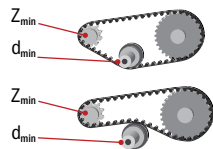
| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------|---------------------|------------------------|-----------------|
| R1           | 92                  | -5 to +70              | Standard        |
| R2           | 85                  | -10 to +60             |                 |
| R23T         | 90                  | -30 to +50             | Low Temperature |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 25        | 40        | 55        | 85        | 115       | 170       |
|---|--------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |           |
| Steel   | [N]    | 20.760    | 34.600    | 48.440    | 74.390    | 102.070   | 152.240   |
| Aramid  | [N]    | 18.995    | 31.327    | 43.658    | 68.321    | 92.984    | 138.199   |
| Steel HF  | [N]    | 23.100    | 38.500    | 53.900    | 82.775    | 113.575   | 169.400   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |           |           |
| Steel   | [N]    | 5.156     | 8.593     | 12.031    | 18.476    | 25.350    | 37.811    |
| Aramid  | [N]    | 1.733     | 2.858     | 3.983     | 6.234     | 8.484     | 12.609    |
| Steel HF  | [N]    | 4.470     | 7.449     | 10.429    | 16.016    | 21.975    | 32.776    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |           |           |           |           |           |           |
| Steel   | [N]    | 2.578     | 4.297     | 6.015     | 9.238     | 12.675    | 18.905    |
| Aramid  | [N]    | 1.300     | 2.144     | 2.988     | 4.675     | 6.363     | 9.457     |
| Steel HF  | [N]    | 2.235     | 3.725     | 5.214     | 8.008     | 10.988    | 16.388    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |           |
|   | [N]    | 4.313     | 6.900     | 9.488     | 14.663    | 19.838    | 29.325    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,27      | 0,43      | 0,60      | 0,92      | 1,24      | 1,84      |
| Aramid  | [kg/m] | 0,21      | 0,34      | 0,46      | 0,71      | 0,97      | 1,43      |
| Steel HF  | [kg/m] | 0,28      | 0,45      | 0,62      | 0,96      | 1,29      | 1,91      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |           |
| Steel   | [N]    | 1.289.000 | 2.148.333 | 3.007.667 | 4.618.917 | 6.337.583 | 9.452.667 |
| Aramid  | [N]    | 433.283   | 714.562   | 995.841   | 1.558.398 | 2.120.956 | 3.152.312 |
| Steel HF  | [N]    | 1.117.380 | 1.862.300 | 2.607.220 | 4.003.945 | 5.493.785 | 8.194.120 |

**HTDL14 / PITCH: 14MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 14 mm                 |
| <b>STANDARD THICKNESS</b>                   | 10 mm                 |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +1,00 mm              |
| 50 TO 100MM WIDTH                           | +1,50 mm              |
| > 100 MM WIDTH                              | +2,00 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A                   |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL |
|--------------|-------|
| <b>z min</b> | 34    |
| <b>d min</b> | 160   |
| <b>z min</b> | 36    |
| <b>d min</b> | 200   |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------|---------------------|------------------------|-----------------|
| R1           | 92                  | -5 to +70              | Standard        |
| R2           | 85                  | -10 to +60             |                 |
| R23T         | 90                  | -30 to +50             | Low Temperature |

**TECHNICAL DATA**

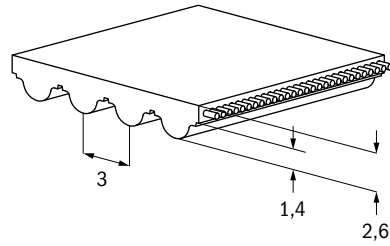
| STANDARD WIDTH (MM)   | UNIT   | 55        | 85        | 115       | 170        |
|---|--------|-----------|-----------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |            |
| Steel   | [N]    | 76.800    | 121.600   | 163.200   | 246.400    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |            |
| Steel   | [N]    | 16.811    | 26.617    | 35.723    | 53.935     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |            |
|   | [N]    | 9.488     | 14.663    | 19.838    | 29.325     |
| <b>BELT WEIGHT</b>  |        |           |           |           |            |
| Steel   | [kg/m] | 0,68      | 1,04      | 1,41      | 2,09       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |            |
| Steel   | [N]    | 4.202.727 | 6.654.318 | 8.930.795 | 13.483.750 |



# HPL3 / PITCH: 3MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 3 mm                  |
| <b>STANDARD THICKNESS</b>                   | 2,6 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-0,5 mm             |
| > 50MM WIDTH                                | +,-0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A                   |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

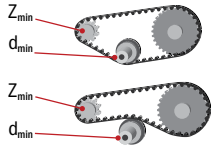


## PULLEY DEFINITION

HPL3 BELT RUNS IN GATES 3MGT PULLEY PROFILE

MIN PULLEY DIAMETER:

|              | STEEL |
|--------------|-------|
| <b>z min</b> | 25    |
| <b>d min</b> | 24    |
| <b>z min</b> | 27    |
| <b>d min</b> | 60    |



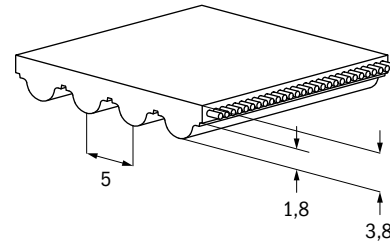
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |

## TECHNICAL DATA

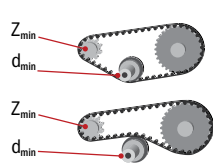
| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32      | 50      | 75        | 100       |
|---|--------|---------|---------|---------|---------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |
| Steel   | [N]    | 4.275   | 7.125   | 9.120   | 14.535  | 21.945    | 29.355    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |
| Steel   | [N]    | 1.056   | 1.761   | 2.253   | 3.591   | 6.335     | 7.253     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |
|   | [N]    | 448     | 700     | 896     | 1.400   | 2.100     | 2.800     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |
| Steel   | [kg/m] | 0,05    | 0,07    | 0,09    | 0,15    | 0,22      | 0,29      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |
| Steel   | [N]    | 264.075 | 440.125 | 563.360 | 897.855 | 1.583.690 | 1.813.315 |

**HPL5 / PITCH: 5MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>STANDARD THICKNESS</b>                   | 3,8 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +0,5 mm               |
| > 50MM WIDTH                                | +0,75 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A                   |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**PULLEY DEFINITION**

HPL5 BELT RUNS IN GATES 5MGT PULLEY PROFILE

**MIN PULLEY DIAMETER:**

|              | STEEL |
|--------------|-------|
| <b>z min</b> | 24    |
| <b>d min</b> | 39    |
| <b>z min</b> | 28    |
| <b>d min</b> | 100   |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE  |
|--------------|---------------------|------------------------|----------|
| R1           | 92                  | -5 to +70              | Standard |

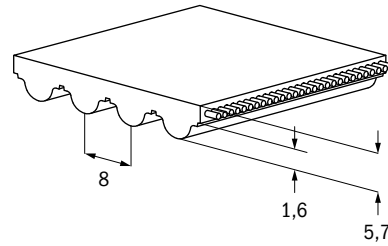
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 25      | 30        | 50        | 75        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |
| Steel   | [N]    | 12.975  | 15.570    | 26.815    | 40.655    | 54.495    | 82.175    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |           |
| Steel   | [N]    | 3.456   | 4.147     | 7.142     | 10.829    | 14.515    | 21.888    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |
|   | [N]    | 1.138   | 1.365     | 2.275     | 3.413     | 4.550     | 6.825     |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,12    | 0,14      | 0,23      | 0,35      | 0,46      | 0,69      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |
| Steel   | [N]    | 864.000 | 1.036.800 | 1.785.600 | 2.707.200 | 3.628.800 | 5.472.000 |

# HPL8 / PITCH: 8MM

## PRODUCT SPECIFICATIONS

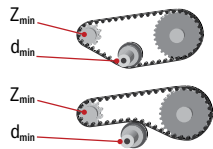
|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 8 mm                  |
| <b>STANDARD THICKNESS</b>                   | 5,7 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +,-1,0 mm             |
| > 50MM WIDTH                                | +,-1,5 mm             |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A                   |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



## PULLEY DEFINITION

HPL8 BELT RUNS IN GATES HTD8 AND 8MR PULLEY PROFILE

MIN PULLEY DIAMETER:



|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 32    | 25       |
| <b>d min</b> | 90    | 70       |
| <b>z min</b> | 34    | 30       |
| <b>d min</b> | 150   | 130      |

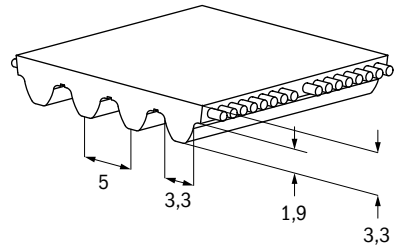
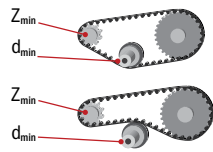
| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE  |
|--------------|---------------------|------------------------|----------|
| R1           | 92                  | -5 to +70              | Standard |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 20        | 25        | 30        | 50        | 85        | 100       | 150       |
|---|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |           |           |
| Steel   | [N]    | 19.030    | 24.220    | 29.410    | 50.170    | 86.500    | 102.070   | 153.970   |
| Steel HF  | [N]    | 21.175    | 26.950    | 32.725    | 55.825    | 96.250    | 113.575   | 171.325   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |           |           |           |
| Steel   | [N]    | 4.604     | 5.860     | 7.116     | 12.139    | 20.929    | 24.696    | 37.253    |
| Steel HF  | [N]    | 3.991     | 5.079     | 6.167     | 10.521    | 18.139    | 21.404    | 32.288    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 15 TEETH IN MESH</b> |        |           |           |           |           |           |           |           |
|   | [N]    | 1.900     | 2.375     | 2.850     | 4.750     | 8.075     | 9.500     | 14.250    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,16      | 0,20      | 0,24      | 0,39      | 0,67      | 0,79      | 1,18      |
| Steel HF  | [kg/m] | 0,17      | 0,21      | 0,25      | 0,42      | 0,71      | 0,83      | 1,25      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |           |           |
| Steel   | [N]    | 1.151.071 | 1.465.000 | 1.778.929 | 3.034.643 | 5.232.143 | 6.173.929 | 9.313.214 |
| Steel HF  | [N]    | 997.661   | 1.269.750 | 1.541.839 | 2.630.196 | 4.534.821 | 5.351.089 | 8.071.982 |

**STD5 / PITCH: 5MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>STANDARD THICKNESS</b>                   | 3,3 mm                |
| <b>WIDTH TOLERANCE</b>                      | +0,5 mm               |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 480 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 14    | 16     |
| <b>d min</b> | 22    | 25     |
| <b>z min</b> | 14    | 16     |
| <b>d min</b> | 60    | 80     |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |
| R2           | 85                   | -10 to +60              |          |

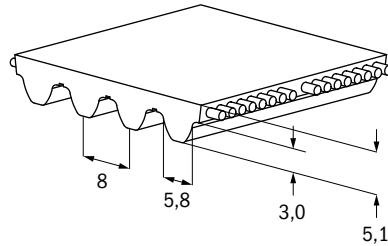
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10      | 15      | 20      | 25      | 30      | 50        |
|---|--------|---------|---------|---------|---------|---------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |         |           |
| Steel   | [N]    | 3.720   | 5.580   | 8.060   | 10.540  | 12.400  | 21.700    |
| Aramid  | [N]    | 2.911   | 4.635   | 6.360   | 8.085   | 9.810   | 16.709    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |         |           |
| Steel   | [N]    | 826     | 1.239   | 1.789   | 2.340   | 2.753   | 4.818     |
| Aramid  | [N]    | 383     | 610     | 837     | 1.064   | 1.290   | 2.198     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |         |           |
| Steel   | [N]    | 413     | 619     | 895     | 1.170   | 1.376   | 2.409     |
| Aramid  | [N]    | 287     | 457     | 627     | 798     | 968     | 1.648     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |         |           |
|   | [N]    | 410     | 615     | 820     | 1.025   | 1.230   | 2.050     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |         |           |
| Steel   | [kg/m] | 0,04    | 0,06    | 0,08    | 0,09    | 0,11    | 0,19      |
| Aramid  | [kg/m] | 0,03    | 0,04    | 0,06    | 0,07    | 0,09    | 0,15      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |         |           |
| Steel   | [N]    | 206.471 | 309.706 | 447.353 | 585.000 | 688.235 | 1.204.412 |
| Aramid  | [N]    | 95.715  | 152.435 | 209.155 | 265.875 | 322.595 | 549.475   |

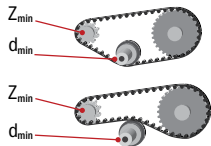
# STD8 / PITCH: 8MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 8 mm                  |
| <b>STANDARD THICKNESS</b>                   | 5,1 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +0,75 mm              |
| > 50MM WIDTH                                | +1,00 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           |                       |
| < 100 MM WIDTH                              | 552 mm                |
| > 100 MM WIDTH                              | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID | STEEL HF | STAINLESS |
|--------------|-------|--------|----------|-----------|
| <b>z min</b> | 20    | 20     | 16       | 25        |
| <b>d min</b> | 50    | 50     | 40       | 80        |
| <b>z min</b> | 22    | 22     | 20       | 28        |
| <b>d min</b> | 110   | 110    | 100      | 150       |

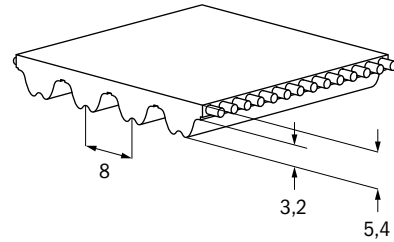
| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| R23T         | 90                  | -30 to +50             | Low Temperature       |
| FDA          | 85                  | -10 to +60             | With Aramid cord only |

### TECHNICAL DATA

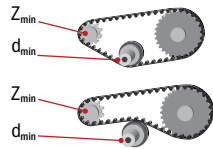
| STANDARD WIDTH (MM)   | UNIT   | 10      | 15      | 20      | 25      | 30        | 50        | 85        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 5.700   | 9.500   | 12.350  | 14.250  | 19.000    | 34.200    | 57.000    | 68.400    | 102.600   |
| Aramid  | [N]    | 5.827   | 9.279   | 12.732  | 16.185  | 19.638    | 33.449    | 57.619    | 67.977    | 102.505   |
| Steel HF  | [N]    | 5.190   | 8.650   | 11.245  | 12.975  | 17.300    | 31.140    | 51.900    | 62.280    | 93.420    |
| Stainless   | [N]    | 4.275   | 7.125   | 9.263   | 10.688  | 14.250    | 25.650    | 42.750    | 51.300    | 76.950    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 1.496   | 2.494   | 3.242   | 3.741   | 4.988     | 8.978     | 14.964    | 17.957    | 26.935    |
| Aramid  | [N]    | 630     | 1.003   | 1.377   | 1.750   | 2.123     | 3.617     | 6.230     | 7.350     | 11.083    |
| Steel HF  | [N]    | 1.382   | 2.304   | 2.995   | 3.456   | 4.608     | 8.294     | 13.824    | 16.589    | 24.883    |
| Stainless   | [N]    | 1.122   | 1.871   | 2.432   | 2.806   | 3.741     | 6.734     | 11.223    | 13.468    | 20.201    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 748     | 1.247   | 1.621   | 1.871   | 2.494     | 4.489     | 7.482     | 8.978     | 13.468    |
| Aramid  | [N]    | 473     | 753     | 1.033   | 1.313   | 1.593     | 2.713     | 4.673     | 5.513     | 8.313     |
| Steel HF  | [N]    | 691     | 1.152   | 1.498   | 1.728   | 2.304     | 4.147     | 6.912     | 8.294     | 12.442    |
| Stainless   | [N]    | 561     | 935     | 1.216   | 1.403   | 1.871     | 3.367     | 5.612     | 6.734     | 10.101    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |           |           |
|   | [N]    | 880     | 1.320   | 1.760   | 2.200   | 2.640     | 4.400     | 7.480     | 8.800     | 13.200    |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,07    | 0,10    | 0,14    | 0,17    | 0,21      | 0,34      | 0,58      | 0,69      | 1,03      |
| Aramid  | [kg/m] | 0,05    | 0,07    | 0,09    | 0,12    | 0,14      | 0,24      | 0,40      | 0,47      | 0,71      |
| Steel HF  | [kg/m] | 0,07    | 0,10    | 0,13    | 0,17    | 0,20      | 0,33      | 0,56      | 0,66      | 0,99      |
| Stainless   | [kg/m] | 0,07    | 0,10    | 0,14    | 0,17    | 0,20      | 0,34      | 0,58      | 0,68      | 1,02      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 374.100 | 623.500 | 810.550 | 935.250 | 1.247.000 | 2.244.600 | 3.741.000 | 4.489.200 | 6.733.800 |
| Aramid  | [N]    | 157.500 | 250.833 | 344.167 | 437.500 | 530.833   | 904.167   | 1.557.500 | 1.837.500 | 2.770.833 |
| Steel HF  | [N]    | 345.600 | 460.800 | 633.600 | 864.000 | 1.036.800 | 1.785.600 | 3.052.800 | 3.628.800 | 5.472.000 |
| Stainless   | [N]    | 280.575 | 467.625 | 607.913 | 701.438 | 935.250   | 1.683.450 | 2.805.750 | 3.366.900 | 5.050.350 |

**GPP8 / PITCH: 8MM****PRODUCT SPECIFICATIONS**

|   |             |
|---|-------------|
| <b>PITCH</b>                                | 8 mm        |
| <b>STANDARD THICKNESS</b>                   | 5,4 mm      |
| <b>WIDTH TOLERANCE</b>                      | + - 0,50 mm |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 960 mm      |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m       |
| <b>STANDARD COLOR</b>                       | White       |
| <b>FDA/EU APPROVAL</b>                      | No          |
| <b>POLYAMIDE FABRIC</b>                     |             |
| STANDARD                                    | NT          |
| OPTIONAL                                    | NTB         |

**PULLEY DEFINITION**

GPP8 BELT RUNS IN RPP8 AND HTD8M PULLEY PROFILE

**MIN PULLEY DIAMETER:**

|              | STEEL | STEEL HF | STAINLESS |
|--------------|-------|----------|-----------|
| <b>z min</b> | 20    | 16       | 25        |
| <b>d min</b> | 50    | 41       | 64        |
| <b>z min</b> | 22    | 20       | 28        |
| <b>d min</b> | 110   | 100      | 150       |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------|---------------------|------------------------|-----------------|
| R1           | 92                  | -5 to +70              | Standard        |
| R23T         | 90                  | -30 to +50             | Low Temperature |

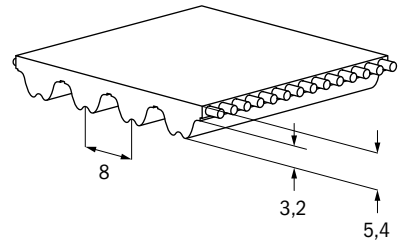
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10      | 15      | 20      | 25      | 30        | 50        | 85        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 5.700   | 8.550   | 12.350  | 15.200  | 19.000    | 32.300    | 56.050    | 66.500    | 98.800    |
| Steel HF  | [N]    | 5.190   | 7.785   | 11.245  | 13.840  | 17.300    | 29.410    | 51.035    | 60.550    | 89.960    |
| Stainless   | [N]    | 4.275   | 6.413   | 9.263   | 11.400  | 14.250    | 24.225    | 42.038    | 49.875    | 74.100    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 1.403   | 2.104   | 3.040   | 3.741   | 4.676     | 7.950     | 13.795    | 16.367    | 24.317    |
| Steel HF  | [N]    | 1.296   | 1.944   | 2.808   | 3.456   | 4.320     | 7.344     | 12.744    | 15.120    | 22.464    |
| Stainless   | [N]    | 1.052   | 1.578   | 2.280   | 2.806   | 3.507     | 5.962     | 10.346    | 12.275    | 18.237    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |           |           |
| Steel   | [N]    | 701     | 1.052   | 1.520   | 1.871   | 2.338     | 3.975     | 6.897     | 8.183     | 12.158    |
| Steel HF  | [N]    | 648     | 972     | 1.404   | 1.728   | 2.160     | 3.672     | 6.372     | 7.560     | 11.232    |
| Stainless   | [N]    | 526     | 798     | 1.140   | 1.403   | 1.754     | 2.981     | 5.173     | 6.138     | 9.119     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |           |           |
|   | [N]    | 920     | 1.380   | 1.840   | 2.300   | 2.760     | 4.600     | 7.820     | 9.200     | 13.800    |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,05    | 0,08    | 0,10    | 0,13    | 0,15      | 0,25      | 0,42      | 0,50      | 0,75      |
| Steel HF  | [kg/m] | 0,05    | 0,07    | 0,09    | 0,12    | 0,14      | 0,23      | 0,39      | 0,47      | 0,70      |
| Stainless   | [kg/m] | 0,05    | 0,07    | 0,10    | 0,12    | 0,15      | 0,25      | 0,42      | 0,50      | 0,74      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 350.719 | 526.078 | 759.891 | 935.250 | 1.169.063 | 1.987.406 | 3.448.734 | 4.091.719 | 6.079.125 |
| Steel HF  | [kg/m] | 324.000 | 486.000 | 702.000 | 864.000 | 1.080.000 | 1.836.000 | 3.186.000 | 3.780.000 | 5.616.000 |
| Stainless   | [kg/m] | 263.039 | 394.559 | 569.918 | 701.438 | 876.797   | 1.490.555 | 2.586.551 | 3.068.789 | 4.559.344 |

# GPP8-RSL / PITCH: 8MM

### PRODUCT SPECIFICATIONS

|   |            |
|---|------------|
| <b>PITCH</b>                                | 8 mm       |
| <b>STANDARD THICKNESS</b>                   | 5,4 mm     |
| <b>WIDTH TOLERANCE</b>                      | + -0,50 mm |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m      |
| <b>STANDARD COLOR</b>                       | White      |
| <b>FDA/EU APPROVAL</b>                      | No         |
| <b>POLYAMIDE FABRIC</b>                     |            |
| STANDARD                                    | NT         |
| OPTIONAL                                    | NTB        |

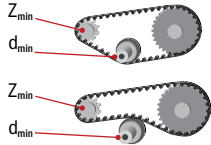


### PULLEY DEFINITION

GPP8 BELT RUNS IN RPP8 AND HTD8M PULLEY PROFILE FOR HEAVY LIFTING AND HIGH DYNAMIC APPLICATION PLEASE CONTACT OUR APPLICATION ENGINEERS

#### MIN PULLEY DIAMETER:

|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 32    | 25       |
| <b>d min</b> | 82    | 64       |
| <b>z min</b> | 35    | 28       |
| <b>d min</b> | 150   | 130      |



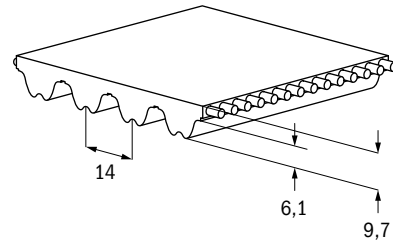
| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------|---------------------|------------------------|-----------------|
| R1           | 92                  | -5 to +70              | Standard        |
| R23T         | 90                  | -30 to +50             | Low Temperature |

### TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 15      | 20        | 25        | 30        | 50        | 85        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |           |           |
| Steel   | [N]    | 13.840  | 19.030    | 25.950    | 31.140    | 51.900    | 91.690    | 103.800   | 155.700   |
| Steel HF  | [N]    | 15.400  | 21.175    | 28.875    | 34.650    | 57.750    | 102.025   | 115.500   | 173.250   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |           |           |           |
| Steel   | [N]    | 3.349   | 4.604     | 6.279     | 7.534     | 12.557    | 22.184    | 25.114    | 37.671    |
| Steel HF  | [N]    | 2.902   | 3.991     | 5.442     | 6.530     | 10.884    | 19.228    | 21.767    | 32.651    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |           |           |
|   | [N]    | 1.380   | 1.840     | 2.300     | 2.760     | 4.600     | 7.820     | 9.200     | 13.800    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,11    | 0,15      | 0,18      | 0,22      | 0,37      | 0,63      | 0,72      | 1,09      |
| Steel HF  | [kg/m] | 0,11    | 0,15      | 0,18      | 0,22      | 0,37      | 0,63      | 0,72      | 1,09      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |           |           |
| Steel   | [N]    | 837.143 | 1.151.071 | 1.569.643 | 1.883.571 | 3.139.286 | 5.546.071 | 6.278.571 | 9.417.857 |
| Steel HF  | [N]    | 725.571 | 997.661   | 1.360.446 | 1.632.536 | 2.720.893 | 4.806.911 | 5.441.786 | 8.162.679 |

**GPP14 / PITCH: 14MM****PRODUCT SPECIFICATIONS**

|   |          |
|---|----------|
| <b>PITCH</b>                                | 14 mm    |
| <b>STANDARD THICKNESS</b>                   | 9,7 mm   |
| <b>WIDTH TOLERANCE</b>                      | +1,00 mm |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A      |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m     |
| <b>STANDARD COLOR</b>                       | White    |
| <b>FDA/EU APPROVAL</b>                      | No       |
| <b>POLYAMIDE FABRIC</b>                     |          |
| STANDARD                                    | NT       |
| OPTIONAL                                    | NTB      |

**PULLEY DEFINITION**

GPP14 BELT RUNS IN RPP14 AND HTD14M PULLEY PROFILES  
FOR HEAVY LIFTING AND HIGH DYNAMIC APPLICATION  
PLEASE CONTACT OUR APPLICATION ENGINEERS

**MIN PULLEY DIAMETER:**

|  |              | STEEL |
|--|--------------|-------|
|   | <b>z min</b> | 32    |
|  | <b>d min</b> | 143   |
|  | <b>z min</b> | 32    |
|  | <b>d min</b> | 200   |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------|----------------------|-------------------------|-----------------|
| R1           | 92                   | -5 to +70               | Standard        |
| R23T         | 90                   | -30 to +50              | Low Temperature |

**TECHNICAL DATA**

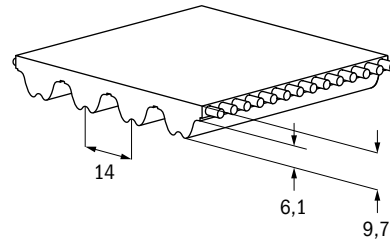
| STANDARD WIDTH (MM)   | UNIT   | 40        | 55        | 85        | 115        | 150        | 170        |
|---|--------|-----------|-----------|-----------|------------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |            |            |            |
| Steel   | [N]    | 64.600    | 87.400    | 136.800   | 186.200    | 247.000    | 273.600    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |            |            |            |
| Steel   | [N]    | 17.850    | 24.150    | 37.800    | 51.450     | 68.250     | 75.600     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |            |            |            |
|   | [N]    | 6.900     | 9.488     | 14.663    | 19.838     | 25.875     | 29.325     |
| <b>BELT WEIGHT</b>  |        |           |           |           |            |            |            |
| Steel   | [kg/m] | 0,50      | 0,69      | 1,07      | 1,44       | 1,88       | 2,13       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |            |            |            |
| Steel   | [N]    | 4.462.500 | 6.037.500 | 9.450.000 | 12.862.500 | 17.062.500 | 18.900.000 |



# GPP14-RSL / PITCH: 14MM

### PRODUCT SPECIFICATIONS

|   |          |
|---|----------|
| <b>PITCH</b>                                | 14 mm    |
| <b>STANDARD THICKNESS</b>                   | 9,7 mm   |
| <b>WIDTH TOLERANCE</b>                      | +1,00 mm |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A      |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m     |
| <b>STANDARD COLOR</b>                       | White    |
| <b>FDA/EU APPROVAL</b>                      | No       |
| <b>POLYAMIDE FABRIC</b>                     |          |
| STANDARD                                    | NT       |
| OPTIONAL                                    | NTB      |



### PULLEY DEFINITION

GPP14-RSL BELT REQUIRES A SPECIAL PULLEY PROFILE  
PLEASE CONTACT OUR APPLICATION ENGINEERS

#### MIN PULLEY DIAMETER:

|  |              | STEEL |
|--|--------------|-------|
|  | <b>z min</b> | 34    |
|  | <b>d min</b> | 152   |
|  | <b>z min</b> | 34    |
|  | <b>d min</b> | 250   |

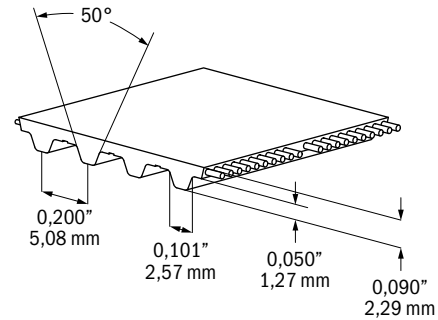
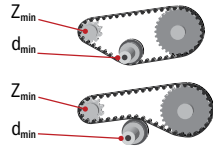
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------|----------------------|-------------------------|-----------------|
| R1           | 92                   | -5 to +70               | Standard        |
| R23T         | 90                   | -30 to +50              | Low Temperature |

### TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 40        | 55        | 85         | 115        | 150        | 200        |
|---|--------|-----------|-----------|------------|------------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |            |            |            |            |
| Steel   | [N]    | 82.500    | 112.500   | 180.000    | 247.500    | 322.500    | 427.500    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |            |            |            |            |
| Steel   | [N]    | 19.621    | 26.756    | 42.810     | 58.864     | 76.701     | 101.674    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |            |            |            |            |
|   | [N]    | 6.900     | 9.488     | 14.663     | 19.838     | 25.875     | 29.325     |
| <b>BELT WEIGHT</b>  |        |           |           |            |            |            |            |
| Steel   | [kg/m] | 0,56      | 0,76      | 1,18       | 1,60       | 2,08       | 2,78       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |            |            |            |            |
| Steel   | [N]    | 4.905.312 | 6.689.062 | 10.702.499 | 14.715.936 | 19.175.311 | 25.418.435 |

**XL / PITCH: 0,20" / 5,08MM****PRODUCT SPECIFICATIONS**

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>PITCH</b>                      | 0,200" / 5,08 mm      |
| <b>STANDARD THICKNESS</b>         | 0,090" / 2,29 mm      |
| <b>WIDTH TOLERANCE</b>            |                       |
| < 2" / 50 MM WIDTH                | +0,020" / +0,5 mm     |
| > 2" / 50 MM WIDTH                | +0,030" / +0,75 mm    |
| <b>MINIMUM WELDED BELT LENGTH</b> | 19,2" / 487,68 mm     |
| <b>STANDARD ROLL LENGTH</b>       | 328 ft / 100 m        |
| <b>STANDARD COLOR</b>             | White                 |
| <b>FDA/EU APPROVAL</b>            | Option                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL            | ARAMID           |
|--------------|------------------|------------------|
| <b>z min</b> | 10               | 10               |
| <b>d min</b> | 0,64" / 16,25 mm | 0,64" / 16,25 mm |
| <b>z min</b> | 15               | 15               |
| <b>d min</b> | 1,125" / 28,6 mm | 1,125" / 28,6 mm |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

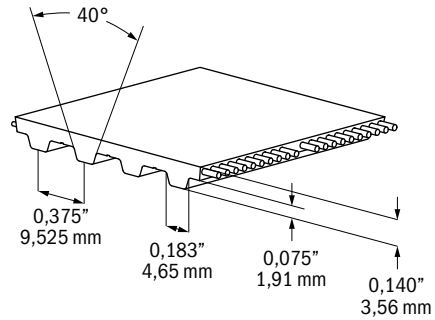
**TECHNICAL DATA**

| STANDARD WIDTH ("/MM)                                       | UNIT   | 0,25"/6,35MM | 0,31"/7,874MM | 0,38"/9,65MM | 0,50"/12,7MM | 0,75"/19,05MM | 1"/25,4MM | 2"/50,8MM | 4"/101,6MM |
|---|--------|--------------|---------------|--------------|--------------|---------------|-----------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |              |               |              |              |               |           |           |            |
| Steel   | [N]    | 750          | 875           | 1.125        | 1.625        | 2.500         | 3.375     | 6.875     | 13.875     |
| Aramid  | [N]    | 976          | 1.238         | 1.525        | 2.074        | 3.172         | 4.270     | 8.662     | 17.446     |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |              |               |              |              |               |           |           |            |
| Steel   | [N]    | 190          | 221           | 284          | 411          | 632           | 853       | 1.738     | 3.509      |
| Aramid  | [N]    | 213          | 270           | 332          | 452          | 691           | 930       | 1.887     | 3.800      |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |              |               |              |              |               |           |           |            |
| Steel   | [N]    | 95           | 111           | 142          | 205          | 316           | 427       | 869       | 1.754      |
| Aramid  | [N]    | 159          | 202           | 249          | 339          | 518           | 698       | 1.415     | 2.850      |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |              |               |              |              |               |           |           |            |
|   | [N]    | 157          | 194           | 235          | 314          | 470           | 627       | 1.254     | 2.508      |
| <b>BELT WEIGHT</b>  |        |              |               |              |              |               |           |           |            |
| Steel   | [kg/m] | 0,01         | 0,02          | 0,02         | 0,03         | 0,04          | 0,06      | 0,11      | 0,22       |
| Aramid  | [kg/m] | 0,01         | 0,01          | 0,02         | 0,02         | 0,04          | 0,05      | 0,10      | 0,19       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |              |               |              |              |               |           |           |            |
| Steel   | [N]    | 47.413       | 55.316        | 71.120       | 102.729      | 158.044       | 213.360   | 434.622   | 877.147    |
| Aramid  | [N]    | 53.151       | 67.436        | 83.049       | 112.947      | 172.742       | 232.537   | 471.718   | 950.080    |

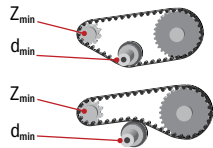
**L / PITCH: 0,375" / 9,525MM**

**PRODUCT SPECIFICATIONS**

|                                   |                        |
|-----------------------------------|------------------------|
| <b>PITCH</b>                      | 0,375" / 9,525 mm      |
| <b>STANDARD THICKNESS</b>         | 0,140" / 3,56 mm       |
| <b>WIDTH TOLERANCE</b>            |                        |
| < 2" / 50 MM WIDTH                | +,-0,020" / +,-0,5 mm  |
| > 2" / 50 MM WIDTH                | +,-0,030" / +,-0,75 mm |
| <b>MINIMUM WELDED BELT LENGTH</b> | 19,2" / 487,68 mm      |
| <b>STANDARD ROLL LENGTH</b>       | 328 ft / 100 m         |
| <b>STANDARD COLOR</b>             | Clear, Optional White  |
| <b>FDA/EU APPROVAL</b>            | Option                 |
| <b>POLYAMIDE FABRIC</b>           | Optional NT, NB & NTB  |



**MIN PULLEY DIAMETER:**



|              | STEEL            | ARAMID           |
|--------------|------------------|------------------|
| <b>z min</b> | 10               | 10               |
| <b>d min</b> | 1,19" / 30,25 mm | 1,19" / 30,25 mm |
| <b>z min</b> | 14               | 14               |
| <b>d min</b> | 2,375" / 60,3 mm | 2,375" / 60,3 mm |

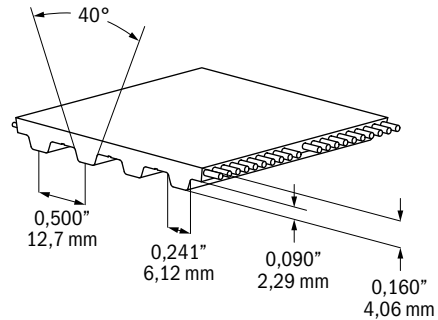
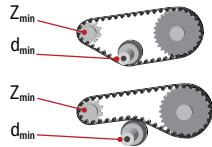
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

**TECHNICAL DATA**

| STANDARD WIDTH ("/MM)                                       | UNIT   | 0,38"/9,65MM | 0,50"/12,7MM | 0,75"/19,05MM | 1"/25,4MM | 1,5"/38,1MM | 2"/50,8MM | 4"/101,6MM |
|---|--------|--------------|--------------|---------------|-----------|-------------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |              |              |               |           |             |           |            |
| Steel   | [N]    | 2.280        | 3.135        | 4.845         | 6.555     | 9.975       | 13.395    | 27.075     |
| Aramid  | [N]    | 2.672        | 3.674        | 5.678         | 7.682     | 11.690      | 15.698    | 31.730     |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |              |              |               |           |             |           |            |
| Steel   | [N]    | 574          | 790          | 1.221         | 1.652     | 2.513       | 3.375     | 6.821      |
| Aramid  | [N]    | 428          | 588          | 909           | 1.229     | 1.871       | 2.512     | 5.078      |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |              |              |               |           |             |           |            |
| Steel   | [N]    | 287          | 395          | 610           | 826       | 1.257       | 1.687     | 3.411      |
| Aramid  | [N]    | 321          | 441          | 681           | 922       | 1.403       | 1.884     | 3.808      |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |              |              |               |           |             |           |            |
|   | [N]    | 505          | 674          | 1.010         | 1.347     | 2.021       | 2.694     | 5.388      |
| <b>BELT WEIGHT</b>  |        |              |              |               |           |             |           |            |
| Steel   | [kg/m] | 0,03         | 0,04         | 0,06          | 0,08      | 0,11        | 0,15      | 0,30       |
| Aramid  | [kg/m] | 0,03         | 0,04         | 0,06          | 0,08      | 0,11        | 0,15      | 0,30       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |              |              |               |           |             |           |            |
| Steel   | [N]    | 143.609      | 197.463      | 305.170       | 412.877   | 628.291     | 843.705   | 1.705.362  |
| Aramid  | [N]    | 106.901      | 146.989      | 227.164       | 307.340   | 467.691     | 628.043   | 1.269.448  |

**H / PITCH: 0,50" / 12,7MM****PRODUCT SPECIFICATIONS**

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>PITCH</b>                      | 0,500" / 12,7mm       |
| <b>STANDARD THICKNESS</b>         | 0,16" / 4,06 mm       |
| <b>WIDTH TOLERANCE</b>            |                       |
| < 2" / 50 MM WIDTH                | +0,020" / +0,5 mm     |
| > 2" / 50 MM WIDTH                | +0,030" / +0,75 mm    |
| <b>MINIMUM WELDED BELT LENGTH</b> |                       |
| < 4" / 100MM WIDTH                | 19,125" / 482,6 mm    |
| > 4" / 100MM WIDTH                | 38" / 965,2 mm        |
| <b>STANDARD ROLL LENGTH</b>       | 328 ft / 100 m        |
| <b>STANDARD COLOR</b>             | White                 |
| <b>FDA/EU APPROVAL</b>            | Option                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL           | ARAMID          | STEEL HF        |
|--------------|-----------------|-----------------|-----------------|
| <b>z min</b> | 14              | 14              | 12              |
| <b>d min</b> | 2,23" / 56,6 mm | 2,23" / 56,6 mm | 1,91" / 48,5 mm |
| <b>z min</b> | 20              | 20              | 15              |
| <b>d min</b> | 3,15" / 80 mm   | 3,15" / 80 mm   | 2,36" / 60 mm   |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

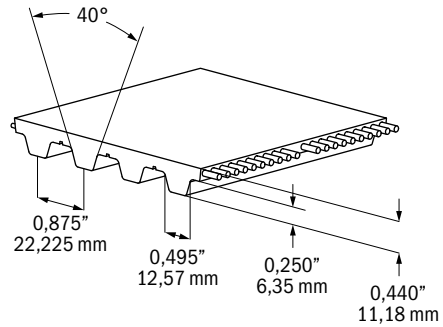
**TECHNICAL DATA**

| STANDARD WIDTH ("/MM)                                       | UNIT   | 0,50" / 12,7MM | 0,75" / 19,05MM | 1" / 25,4MM | 1,5" / 38,1MM | 2" / 50,8MM | 3" / 76,2MM | 4" / 101,6MM | 6" / 152,4MM |
|---|--------|----------------|-----------------|-------------|---------------|-------------|-------------|--------------|--------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |                |                 |             |               |             |             |              |              |
| Steel   | [N]    | 3.360          | 5.040           | 7.140       | 10.920        | 14.700      | 22.260      | 29.820       | 44.940       |
| Aramid  | [N]    | 3.773          | 5.929           | 8.085       | 12.397        | 16.709      | 25.333      | 33.957       | 51.205       |
| Steel HF  | [N]    | 4.960          | 7.440           | 10.540      | 16.120        | 21.700      | 32.860      | 44.020       | 66.340       |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |                |                 |             |               |             |             |              |              |
| Steel   | [N]    | 912            | 1.369           | 1.939       | 2.966         | 3.992       | 6.045       | 8.098        | 12.205       |
| Aramid  | [N]    | 504            | 792             | 1.081       | 1.657         | 2.233       | 3.386       | 4.538        | 6.843        |
| Steel HF  | [N]    | 1.119          | 1.678           | 2.377       | 3.636         | 4.895       | 7.412       | 9.929        | 14.964       |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |                |                 |             |               |             |             |              |              |
| Steel   | [N]    | 456            | 684             | 970         | 1.483         | 1.996       | 3.023       | 4.049        | 6.102        |
| Aramid  | [N]    | 378            | 594             | 810         | 1.243         | 1.675       | 2.539       | 3.404        | 5.132        |
| Steel HF  | [N]    | 559            | 839             | 1.189       | 1.818         | 2.447       | 3.706       | 4.965        | 7.482        |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |                |                 |             |               |             |             |              |              |
|   | [N]    | 825            | 1.238           | 1.650       | 2.475         | 3.300       | 4.950       | 6.600        | 9.900        |
| <b>BELT WEIGHT</b>  |        |                |                 |             |               |             |             |              |              |
| Steel   | [kg/m] | 0,05           | 0,08            | 0,10        | 0,15          | 0,20        | 0,30        | 0,40         | 0,61         |
| Aramid  | [kg/m] | 0,04           | 0,06            | 0,08        | 0,12          | 0,16        | 0,24        | 0,33         | 0,49         |
| Steel HF  | [kg/m] | 0,05           | 0,08            | 0,11        | 0,16          | 0,22        | 0,33        | 0,44         | 0,66         |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |                |                 |             |               |             |             |              |              |
| Steel   | [N]    | 228.122        | 342.183         | 484.759     | 741.396       | 998.033     | 1.511.307   | 2.024.582    | 3.051.130    |
| Aramid  | [N]    | 126.060        | 198.095         | 270.129     | 414.198       | 558.267     | 846.404     | 1.134.542    | 1.710.817    |
| Steel HF  | [N]    | 279.699        | 419.548         | 594.360     | 909.021       | 1.223.682   | 1.853.005   | 2.482.327    | 3.740.972    |

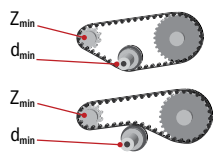
**XH / PITCH: 0,875" / 22,225MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 0,875" / 22,225 mm    |
| <b>STANDARD THICKNESS</b>                   | 0,440" / 11,18 mm     |
| <b>WIDTH TOLERANCE</b>                      | +0,040" / +-1,00 mm   |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 30,4" / 1000,76 mm    |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL             | ARAMID            |
|--------------|-------------------|-------------------|
| <b>z min</b> | 18                | 18                |
| <b>d min</b> | 5,01" / 127,75 mm | 5,01" / 127,75 mm |
| <b>z min</b> | 20                | 20                |
| <b>d min</b> | 5,875" / 149,2 mm | 5,875" / 149,2 mm |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|----------------------|------------------------|-----------------------|
| R1           | 92                   | -5 to +70              | Standard              |
| R2           | 85                   | -10 to +60             |                       |
| FDA          | 85                   | -10 to +60             | With Aramid Cord Only |

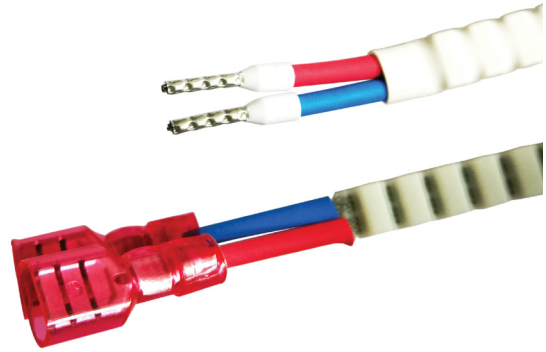
**TECHNICAL DATA**

| STANDARD WIDTH ("/MM)                                       | UNIT   | 1"/25,4MM | 1,5"/38,1MM | 2"/50,8MM | 3"/76,2MM | 4"/101,6MM | 6"/152,4MM |
|---|--------|-----------|-------------|-----------|-----------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |             |           |           |            |            |
| Steel   | [N]    | 14.250    | 21.850      | 29.450    | 44.650    | 59.850     | 90.250     |
| Aramid  | [N]    | 16.185    | 24.817      | 33.449    | 50.713    | 67.977     | 102.505    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |             |           |           |            |            |
| Steel   | [N]    | 3.801     | 5.828       | 7.855     | 11.909    | 15.964     | 24.072     |
| Aramid  | [N]    | 1.778     | 2.726       | 3.675     | 5.571     | 7.468      | 11.261     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |           |             |           |           |            |            |
| Steel   | [N]    | 1.900     | 2.914       | 3.928     | 5.955     | 7.982      | 12.036     |
| Aramid  | [N]    | 1.134     | 2.045       | 2.756     | 4.178     | 5.601      | 8.446      |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |             |           |           |            |            |
|   | [N]    | 3.285     | 4.928       | 6.570     | 9.855     | 13.140     | 19.710     |
| <b>BELT WEIGHT</b>  |        |           |             |           |           |            |            |
| Steel   | [kg/m] | 0,27      | 0,40        | 0,54      | 0,81      | 1,08       | 1,62       |
| Aramid  | [kg/m] | 0,23      | 0,35        | 0,46      | 0,69      | 0,92       | 1,39       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |             |           |           |            |            |
| Steel   | [N]    | 950.214   | 1.456.995   | 1.963.776 | 2.977.337 | 3.990.899  | 6.018.022  |
| Aramid  | [N]    | 444.500   | 681.567     | 918.633   | 1.392.767 | 1.866.900  | 2.815.167  |

# E-BELT

## GATES TPU E-BELT TRANSMIT ELECTRICAL POWER AND SIGNALS

Gates TPU e-belts are Synchro-Power Linear belts that can transmit electric power or signals while incorporating the high tensile strength of the steel reinforcement. The steel cords are exposed at the belt ends for electrical connector attachment. The open-ended e-Belts can be cut to custom length. Several timing belt pitches and flat belts are available.



### PRODUCT SPECIFICATIONS

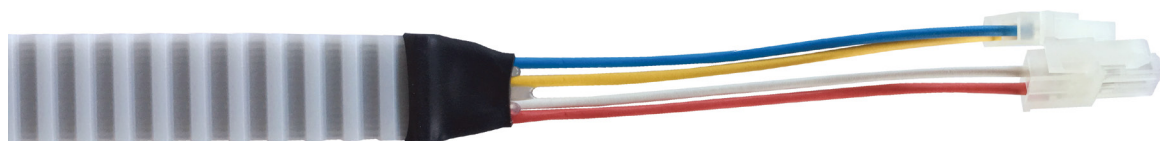
|                                 |   |
|---------------------------------|---|
| <b>PITCH</b>                    | T5 / T10 / T20 / AT5 / ATL5 / AT10 / ATL10 / F20 / WR5 / WRT10 / WRAT10 |
| <b>CORD</b>                     | Steel, Steel HF, Stainless Steel  |
| <b>COLOR</b>                    | White, F20 Black  |
| <b>FDA/EU APPROVAL</b>          | No  |
| <b>POLYURETHANE</b>             | 92° Shore A   |
| <b>POLYAMIDE FABRIC</b>         | N/A   |
| <b>TEMPERATURE RANGE</b>        | -5 °C to +60 °C   |
| <b>MAXIMUM VOLTAGE</b>          | 24V DC  |
| <b>MAXIMUM ELECTRICAL POWER</b> | Depending on cord construction  |
| <b>OTHER TECHNICAL DATA</b>     | Depending on belt construction  |

### FEATURES + BENEFITS

- Belt with exposed steel cords
- Optional applied connectors
- Synchronous belt pitches or flat belt
- Electric power transmission up to 24V DC
- Maximum power depends upon steel cord construction
- Electrical signal transmission
- Steel reinforcement options for a wide range of applications
- Available within WR Belt series with fully encapsulated cord
- EU, RoHS, and REACH compliant
- Engineering support for custom designs

Gates e-Belts supply limited electric power to small motors or actuators and can transmit electrical signals. The maximum power is determined by the construction and the number of steel cords used for the electrical transmission. Gates TPU delivers customized solutions with your specified connectors applied to the belt.

## USING GATES E-BELT CAN SAVE COST AND SPACE FOR SEPARATE ELECTRICAL CABLES AND CABLE GUIDING SYSTEMS





# WR – WATER RESISTANT BELTS

## LINEAR WR

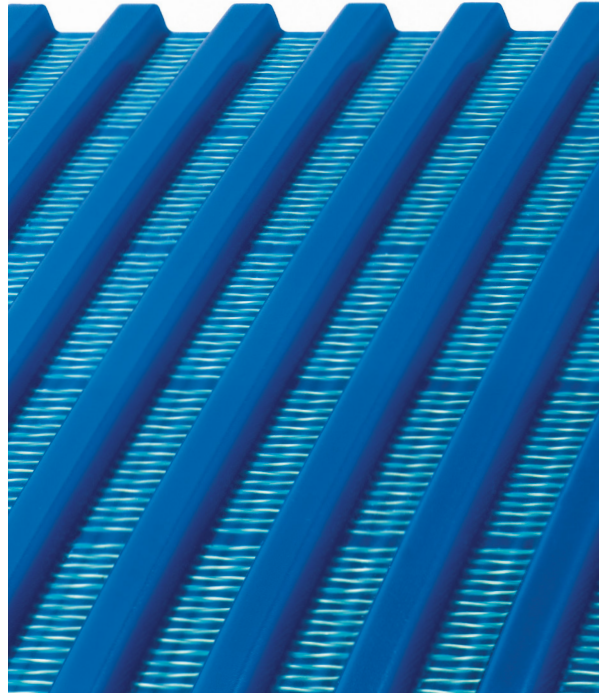
Gates Synchro-Power Linear WR series belts are designed for applications in highly corrosive environments and/or for the requirements in applications with direct food contact and the related cleaning processes.

The fully encapsulated cord is not exposed to the environment, prevents hidden contaminations and is easy to clean.

Extruded with wear resistant polyurethane the belt can be equipped with steel or Aramid cord. Various cord options offer fit for purpose tensile strength and stiffness at small pulley diameters.

Backings and profiles suitable for food contact are available for customized conveying and transportation solutions.

**SYNCHRO-POWER LINEAR WR SERIES BELTS ARE COMMONLY USED AS ENDLESS WELDED BELT IN CONVEYING AND PROCESSING APPLICATIONS OR IN HIGHLY CORROSIVE ENVIRONMENTS.**



### ATTRIBUTES

- Fully encapsulated cord
- Excellent resistance to chemicals and corrosion
- Steel or Aramid reinforcement
- Certified for wet and dry food contact
- Meets FDA and EU food regulations
- High level of hygienic integrity, easy to clean

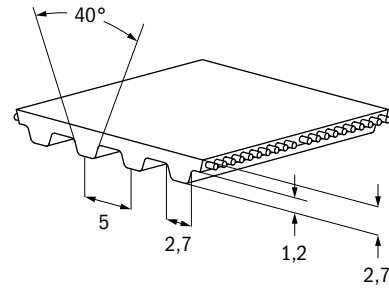
### APPLICATIONS

- In corrosive environments: outdoor equipment, sunshades, chemical industry
- Food conveying applications

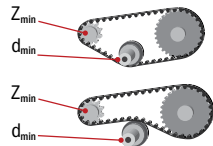
# WR5 / PITCH: 5MM

**PRODUCT SPECIFICATIONS**

|   |                      |
|---|----------------------|
| <b>PITCH</b>                                | 5 mm                 |
| <b>STANDARD THICKNESS</b>                   | 2,7 mm               |
| <b>WIDTH TOLERANCE</b>                      |                      |
| < 50MM WIDTH                                | + -0,50 mm           |
| > 50MM WIDTH                                | + -0,75 mm           |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 500 mm               |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                |
| <b>STANDARD COLOR</b>                       | Blue, optional White |
| <b>FDA/EU APPROVAL</b>                      | Option               |
| <b>POLYAMIDE FABRIC</b>                     | No                   |



**MIN PULLEY DIAMETER:**



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 10    | 10     |
| <b>d min</b> | 30    | 30     |
| <b>z min</b> | 15    | 15     |
| <b>d min</b> | 30    | 30     |

| POLYURETHANE | HARDNESS [ 'SHORE A ] | TEMPERATURE RANGE [ °C ] | FEATURE               |
|--------------|-----------------------|--------------------------|-----------------------|
| R1           | 92                    | -5 to +70                | Standard              |
| FDA          | 85                    | -10 to +60               | With Aramid Cord Only |

**TECHNICAL DATA**

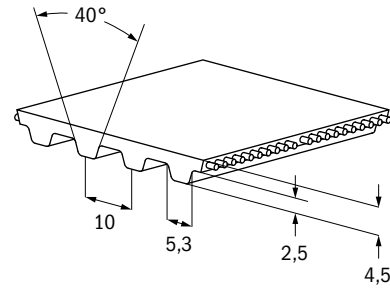
| STANDARD WIDTH (MM)   | UNIT   | 10     | 16      | 25      | 32      | 50      | 75      | 100     |
|---|--------|--------|---------|---------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 1.250  | 2.000   | 3.375   | 4.250   | 6.875   | 10.375  | 13.875  |
| Aramid  | [N]    | 3.162  | 5.245   | 8.670   | 10.800  | 17.050  | 25.730  | 34.410  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 311    | 498     | 840     | 1.058   | 1.711   | 2.582   | 3.453   |
| Aramid  | [N]    | 346    | 574     | 916     | 1.181   | 1.865   | 2.814   | 3.764   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 156    | 249     | 420     | 529     | 856     | 1.291   | 1.727   |
| Aramid  | [N]    | 259    | 430     | 687     | 886     | 1.399   | 2.111   | 2.823   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |        |         |         |         |         |         |         |
|   | [N]    | 250    | 400     | 625     | 800     | 1.250   | 1.875   | 2.500   |
| <b>BELT WEIGHT</b>  |        |        |         |         |         |         |         |         |
| Steel   | [kg/m] | 0,02   | 0,04    | 0,06    | 0,07    | 0,11    | 0,17    | 0,22    |
| Aramid  | [kg/m] | 0,02   | 0,03    | 0,05    | 0,06    | 0,10    | 0,15    | 0,20    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 77.778 | 124.444 | 210.000 | 264.444 | 427.778 | 645.556 | 863.333 |
| Aramid  | [N]    | 86.464 | 143.428 | 228.875 | 295.334 | 466.227 | 703.579 | 940.931 |



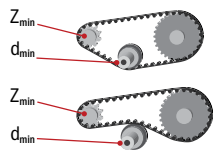
**WRT10 / PITCH: 10MM**

**PRODUCT SPECIFICATIONS**

|   |                               |
|---|-------------------------------|
| <b>PITCH</b>                                | 10 mm                         |
| <b>STANDARD THICKNESS</b>                   | 4,5 mm                        |
| <b>WIDTH TOLERANCE</b>                      |                               |
| < 50MM WIDTH                                | +/-0,50 mm                    |
| > 50MM WIDTH                                | +/-0,75 mm                    |
| <b>MINIMUM WELDED BELT LENGTH</b>           |                               |
| < 100MM WIDTH                               | 500 mm                        |
| > 100MM WIDTH                               | 960 mm                        |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                         |
| <b>STANDARD COLOR</b>                       | Standard Blue, optional White |
| <b>FDA/EU APPROVAL</b>                      | Option                        |
| <b>POLYAMIDE FABRIC</b>                     | No                            |



**MIN PULLEY DIAMETER:**



|              | STEEL | ARAMID | STEEL HF |
|--------------|-------|--------|----------|
| <b>z min</b> | 14    | 14     | 12       |
| <b>d min</b> | 45    | 45     | 38       |
| <b>z min</b> | 18    | 18     | 15       |
| <b>d min</b> | 80    | 80     | 60       |

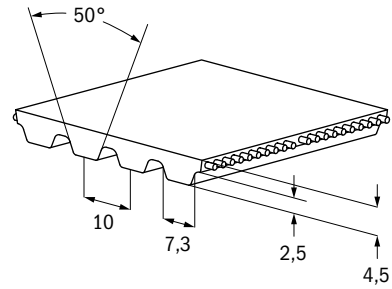
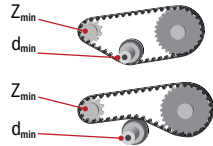
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 12      | 16      | 25      | 32      | 50        | 75        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 2.940   | 4.200   | 7.140   | 9.240   | 14.700    | 22.260    | 29.820    | 44.940    |
| Aramid  | [N]    | 3.601   | 4.980   | 8.085   | 10.500  | 16.709    | 25.333    | 33.957    | 51.205    |
| Steel HF  | [N]    | 4.340   | 6.200   | 10.540  | 13.640  | 21.700    | 32.860    | 44.020    | 66.340    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 786     | 1.123   | 1.909   | 2.470   | 3.929     | 5.950     | 7.971     | 12.012    |
| Aramid  | [N]    | 474     | 655     | 1.064   | 1.381   | 2.198     | 3.332     | 4.467     | 6.736     |
| Steel HF  | [N]    | 964     | 1.376   | 2.340   | 3.028   | 4.818     | 7.295     | 9.773     | 14.728    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 393     | 561     | 954     | 1.235   | 1.965     | 2.975     | 3.985     | 6.006     |
| Aramid  | [N]    | 355     | 491     | 798     | 1.036   | 1.648     | 2.499     | 3.350     | 5.052     |
| Steel HF  | [N]    | 482     | 688     | 1.170   | 1.214   | 2.409     | 3.648     | 4.886     | 7.364     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |           |
|   | [N]    | 683     | 910     | 1.423   | 1.821   | 2.845     | 4.268     | 5.690     | 8.535     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |           |
| Steel   | [kg/m] | 0,05    | 0,06    | 0,09    | 0,11    | 0,18      | 0,27      | 0,36      | 0,54      |
| Aramid  | [kg/m] | 0,04    | 0,06    | 0,09    | 0,11    | 0,18      | 0,27      | 0,36      | 0,54      |
| Steel HF  | [kg/m] | 0,05    | 0,07    | 0,11    | 0,15    | 0,23      | 0,35      | 0,47      | 0,70      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |           |
| Steel   | [N]    | 196.463 | 280.662 | 477.125 | 617.456 | 982.316   | 1.487.507 | 1.992.699 | 3.003.081 |
| Aramid  | [N]    | 118.403 | 163.779 | 265.875 | 345.283 | 549.475   | 833.075   | 1.116.675 | 1.683.875 |
| Steel HF  | [N]    | 240.882 | 344.118 | 585.000 | 757.059 | 1.204.412 | 1.823.824 | 3.443.235 | 3.682.059 |

**WRAT10 / PITCH: 10MM****PRODUCT SPECIFICATIONS**

|                                   |                               |
|-----------------------------------|-------------------------------|
| <b>PITCH</b>                      | 10 mm                         |
| <b>STANDARD THICKNESS</b>         | 4,5 mm                        |
| <b>WIDTH TOLERANCE</b>            |                               |
| < 50MM WIDTH                      | + -0,75 mm                    |
| > 50MM WIDTH                      | + -1,00 mm                    |
| <b>MINIMUM WELDED BELT LENGTH</b> |                               |
| < 100MM WIDTH                     | 500 mm                        |
| > 100MM WIDTH                     | 960 mm                        |
| <b>STANDARD ROLL LENGTH</b>       | 100 m                         |
| <b>STANDARD COLOR</b>             | Standard Blue, optional White |
| <b>FDA/EU APPROVAL</b>            | Option                        |
| <b>POLYAMIDE FABRIC</b>           | No                            |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 15    | 15     |
| <b>d min</b> | 50    | 50     |
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 120   | 120    |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

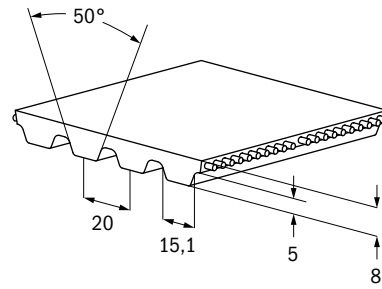
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 8.550   | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Aramid  | [N]    | 9.970   | 16.185  | 21.019    | 33.449    | 50.713    | 67.977    | 102.505   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 2.245   | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Aramid  | [N]    | 1.078   | 1.750   | 2.273     | 3.617     | 5.483     | 7.350     | 11.083    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 1.122   | 1.871   | 2.369     | 3.866     | 5.861     | 7.856     | 11.847    |
| Aramid  | [N]    | 809     | 1.313   | 1.705     | 2.713     | 4.113     | 5.513     | 8.313     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |           |           |           |           |           |
|   | [N]    | 1.651   | 2.580   | 3.302     | 5.160     | 7.740     | 10.320    | 15.480    |
| <b>BELT WEIGHT</b>  |        |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,09    | 0,14    | 0,18      | 0,29      | 0,43      | 0,57      | 0,86      |
| Aramid  | [kg/m] | 0,07    | 0,11    | 0,13      | 0,21      | 0,32      | 0,42      | 0,63      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 561.150 | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Aramid  | [N]    | 269.500 | 437.500 | 568.167   | 904.167   | 1.370.833 | 1.837.500 | 2.770.833 |

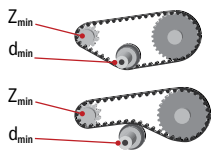
**WRATL20 / PITCH: 20MM**

**PRODUCT SPECIFICATIONS**

|   |         |
|---|---------|
| <b>PITCH</b>                                | 20 mm   |
| <b>STANDARD THICKNESS</b>                   | 8,0 mm  |
| <b>WIDTH TOLERANCE</b>                      | +2,0 mm |
| <b>MINIMUM WELDED BELT LENGTH</b>           | N/A     |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m    |
| <b>STANDARD COLOR</b>                       | White   |
| <b>FDA/EU APPROVAL</b>                      | No      |
| <b>POLYAMIDE FABRIC</b>                     | No      |



**MIN PULLEY DIAMETER:**



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 25    |
| <b>d min</b> | 190   |
| <b>Z min</b> | 25    |
| <b>d min</b> | 250   |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 50        | 75        | 100       | 150        | 155        |
|---|--------|-----------|-----------|-----------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |            |            |
| Steel   | [N]    | 70.400    | 105.600   | 144.000   | 217.600    | 224.000    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |            |            |
| Steel   | [N]    | 15.410    | 23.115    | 31.520    | 47.631     | 49.032     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |            |            |
|   | [N]    | 10.900    | 16.350    | 21.800    | 32.700     | 33.790     |
| <b>BELT WEIGHT</b>  |        |           |           |           |            |            |
| Steel   | [kg/m] | 0,54      | 0,81      | 1,08      | 1,63       | 1,68       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |            |            |
| Steel   | [N]    | 3.852.500 | 5.778.749 | 7.880.113 | 11.907.726 | 12.257.953 |



# GATES TPU SYNCHRO-CLEAN

## MODERN GATES TECHNOLOGY SOLVES FOOD PROCESSING CHALLENGES

With decades of experience developing synchronous timing belt systems, Gates TPU Food Belting is the next generation for food processing belts.

- Embedded tension cords virtually eliminate stretch
- Robust pin splice speeds belt fastening and removal
- Special extrusion process improves cleanability and limits contamination areas
- Split-tooth weld delivers greater strength

Gates TPU Food Belting is high-performance, high-quality, easy-to-clean, and allows customisation options to meet your specific food processing needs.



### FDA APPROVED

Meets material requirements for wet food contact.

### EU COMPLIANT

Meets material requirements for wet food contact.

### USDA ACCEPTED

For meat, poultry and dairy processing equipment.



GATES TPU TOOK ADVANTAGE OF ITS 30 YEARS OF TENSIONED TIMING BELTS TO REDESIGN THE “BLUE BELT” BY ADDING KEVLAR TENSION MEMBERS.

### ADVANTAGES

- Prevents stretch under load
- Prevents continuation of accidental belt cut
- Belt can be run tensioned or un-tensioned

### BENEFITS

- Ease of cleaning and reduced risk of food contamination
- Able to clean-in-place (CIP)
- Water, cleaning labor and waste water savings
- 35%, 54% and 35% respectively when compared to plastic modular belt



ASK FOR THE GATES TPU SYNCHRO-CLEAN CATALOG.

# SELF-TRACKING BELTS

## TRACKING BELTS

Gates TPU Self Tracking Belts are composed of our standard polyurethane belts and our specially designed polyurethane V-Guides, which provide highest flexibility and allow the use of small pulley diameters. Self-tracking belts can be manufactured in two different production processes depending on your need:

- **FABRICATED V-GUIDES ARE APPLIED TO STANDARD BELT VIA A SECONDARY OPERATION AND CAN BE COMBINED WITH ANY BELT TYPE AND BELT WIDTH.**
- **INTEGRAL V-GUIDES ARE INTEGRATED BY CO-EXTRUSION IN THE BELT PRODUCTION PROCESS AND ENSURE HIGHER STRENGTH AND CONSISTENCY.**



### ATTRIBUTES

- V-Guides can be added to nearly every belt type
- Synchronous operations
- Operation without flanged pulleys possible
- Reliable tracking which is not affected by lateral forces
- Reduction of lateral movement

### APPLICATIONS

- Where lateral forces apply and pulleys with flanges cannot be used
- Long length conveying or linear / rotary positioning, where tracking is an issue
- Conveying applications where design considerations prevent the use of pulley flanges

### PROCESSING OPTIONS

- Backings Further information on page 96
- Profiles Further information on page 102
- Special processing Further information on page 108

**FOR METRIC TOOTH PITCH BELTS**

| K6-SECTION                   | K10-SECTION | K13-SECTION |
|------------------------------|-------------|-------------|
| <b>BELT DIMENSIONS</b>       |             |             |
|                              |             |             |
| <b>PULLEY DIMENSIONS</b>     |             |             |
|                              |             |             |
| <b>SLIDER BED DIMENSIONS</b> |             |             |
|                              |             |             |

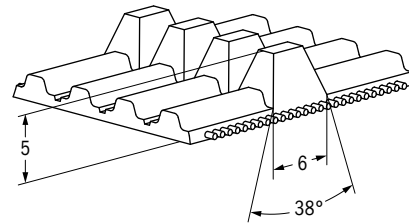
**FOR IMPERIAL TOOTH PITCH BELTS**

| O-SECTION                    | A-SECTION |
|------------------------------|-----------|
| <b>BELT DIMENSIONS</b>       |           |
|                              |           |
| <b>PULLEY DIMENSIONS</b>     |           |
|                              |           |
| <b>SLIDER BED DIMENSIONS</b> |           |
|                              |           |

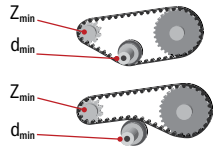
# T5V / PITCH: 5MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>INTEGRATED V-GUIDE</b>                   | K6                    |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +/-0,50 mm            |
| > 50MM WIDTH                                | +/-0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 60    | 60     |
| <b>z min</b> | 28    | 28     |
| <b>d min</b> | 80    | 80     |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

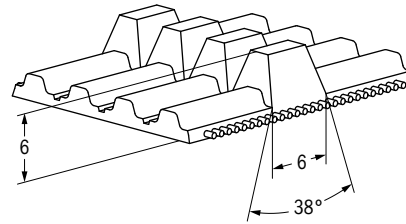
## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32      | 50      | 75      | 100     |
|---|--------|---------|---------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |         |         |
| Steel   | [N]    | 2.000   | 3.375   | 4.250   | 6.875   | 10.375  | 13.875  |
| Aramid  | [N]    | 4.960   | 8.370   | 10.800  | 17.050  | 25.730  | 34.410  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |         |         |
| Steel   | [N]    | 498     | 840     | 1.058   | 1.711   | 2.582   | 3.453   |
| Aramid  | [N]    | 543     | 916     | 1.181   | 1.865   | 2.814   | 3.764   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |         |         |
| Steel   | [N]    | 249     | 420     | 529     | 856     | 1.291   | 1.727   |
| Aramid  | [N]    | 407     | 687     | 886     | 1.399   | 2.111   | 2.823   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |         |         |
|   | [N]    | 250     | 475     | 650     | 1.100   | 1.725   | 2.350   |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |         |         |
| Steel   | [kg/m] | 0,07    | 0,08    | 0,09    | 0,13    | 0,19    | 0,24    |
| Aramid  | [kg/m] | 0,06    | 0,07    | 0,08    | 0,12    | 0,17    | 0,22    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |         |         |
| Steel   | [N]    | 124.444 | 210.000 | 264.444 | 427.778 | 645.556 | 863.333 |
| Aramid  | [N]    | 135.630 | 228.875 | 295.334 | 466.227 | 703.579 | 940.931 |

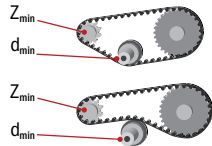
# T10VS / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>INTEGRATED V-GUIDE</b>                   | K6                    |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -0,50 mm            |
| > 50MM WIDTH                                | + -0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 20    | 20     |
| <b>d min</b> | 60    | 60     |
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 80    | 80     |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

## TECHNICAL DATA

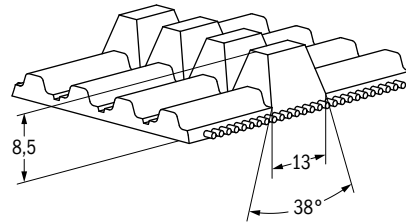
| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32      | 50      | 75        | 100       | 150       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 4.200   | 7.140   | 9.240   | 14.700  | 22.260    | 29.820    | 44.940    |
| Aramid  | [N]    | 5.670   | 9.163   | 11.880  | 18.865  | 28.567    | 38.269    | 57.673    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 1.123   | 1.909   | 2.470   | 3.929   | 5.950     | 7.971     | 12.012    |
| Aramid  | [N]    | 658     | 1.064   | 1.379   | 2.190   | 3.316     | 4.442     | 6.694     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 561     | 954     | 1.235   | 1.965   | 2.975     | 3.985     | 6.006     |
| Aramid  | [N]    | 494     | 798     | 1.034   | 1.642   | 2.487     | 3.331     | 5.020     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |
|   | [N]    | 569     | 1.081   | 1.479   | 2.504   | 3.926     | 5.349     | 8.194     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |
| Steel   | [kg/m] | 0,09    | 0,13    | 0,16    | 0,24    | 0,35      | 0,46      | 0,67      |
| Aramid  | [kg/m] | 0,06    | 0,11    | 0,13    | 0,20    | 0,27      | 0,36      | 0,54      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 280.662 | 477.125 | 617.456 | 982.316 | 1.487.507 | 1.992.699 | 3.003.081 |
| Aramid  | [N]    | 164.530 | 265.875 | 344.699 | 547.390 | 828.904   | 1.110.419 | 1.673.449 |



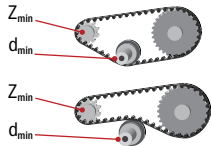
# T10V / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>INTEGRATED V-GUIDE</b>                   | K13                   |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -0,50 mm            |
| > 50MM WIDTH                                | + -0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50m Optional 100m     |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 80    | 80     |
| <b>z min</b> | 28    | 28     |
| <b>d min</b> | 80    | 80     |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

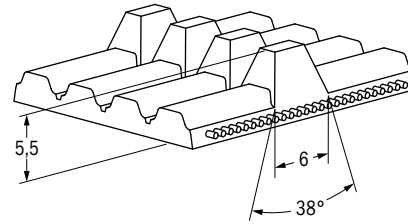
## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 25      | 32      | 50      | 75        | 100       | 150       |
|---|--------|---------|---------|---------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |           |           |           |
| Steel   | [N]    | 7.140   | 9.240   | 14.700  | 22.260    | 29.820    | 44.940    |
| Aramid  | [N]    | 9.163   | 11.880  | 18.865  | 28.567    | 38.269    | 57.673    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |           |           |           |
| Steel   | [N]    | 1.909   | 2.470   | 3.929   | 5.950     | 7.971     | 12.012    |
| Aramid  | [N]    | 1.064   | 1.379   | 2.190   | 3.316     | 4.442     | 6.694     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |           |           |           |
| Steel   | [N]    | 954     | 1.235   | 1.965   | 2.975     | 3.985     | 6.006     |
| Aramid  | [N]    | 798     | 1.034   | 1.642   | 2.487     | 3.331     | 5.020     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |           |           |           |
|   | [N]    | 683     | 1.081   | 2.105   | 3.528     | 4.950     | 7.795     |
| <b>BELT WEIGHT</b>  |        |         |         |         |           |           |           |
| Steel   | [kg/m] | 0,18    | 0,21    | 0,29    | 0,40      | 0,50      | 0,72      |
| Aramid  | [kg/m] | 0,16    | 0,18    | 0,25    | 0,34      | 0,43      | 0,61      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |           |           |           |
| Steel   | [N]    | 477.125 | 617.456 | 928.316 | 1.487.507 | 1.992.699 | 3.003.081 |
| Aramid  | [N]    | 265.875 | 344.699 | 547.390 | 828.904   | 1.110.419 | 1.673.449 |

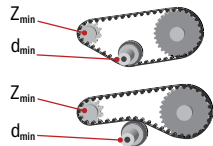
**AT5V / PITCH: 5MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>INTEGRATED V-GUIDE</b>                   | K6                    |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -0,50 mm            |
| > 50MM WIDTH                                | + -0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 60    | 60     |
| <b>z min</b> | 28    | 28     |
| <b>d min</b> | 80    | 80     |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

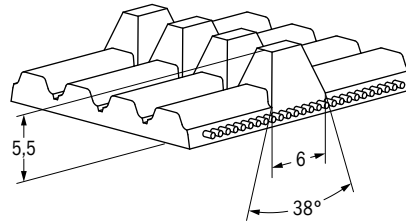
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32      | 50      |
|---|--------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |
| Steel   | [N]    | 4.275   | 7.125   | 9.120   | 14.535  |
| Aramid  | [N]    | 5.224   | 8.350   | 10.782  | 17.034  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |
| Steel   | [N]    | 1.056   | 1.761   | 2.253   | 3.591   |
| Aramid  | [N]    | 757     | 1.210   | 1.562   | 2.468   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |
| Steel   | [N]    | 528     | 880     | 1.127   | 1.796   |
| Aramid  | [N]    | 568     | 908     | 1.172   | 1.851   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |
|   | [N]    | 480     | 912     | 1.248   | 2.112   |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |
| Steel   | [kg/m] | 0,08    | 0,10    | 0,12    | 0,18    |
| Aramid  | [kg/m] | 0,07    | 0,09    | 0,11    | 0,16    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |
| Steel   | [N]    | 264.075 | 440.125 | 563.360 | 897.855 |
| Aramid  | [N]    | 189.244 | 302.500 | 390.588 | 617.100 |

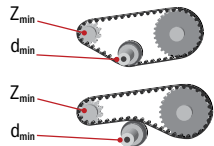
**ATL5V / PITCH: 5MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 5 mm                  |
| <b>INTEGRATED V-GUIDE</b>                   | K6                    |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -0,50 mm            |
| > 50MM WIDTH                                | + -0,75 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 960 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 25    |
| <b>d min</b> | 60    |
| <b>z min</b> | 28    |
| <b>d min</b> | 80    |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE  |
|--------------|---------------------|------------------------|----------|
| R1           | 92                  | -5 to +70              | Standard |
| R2           | 85                  | -10 to +60             |          |

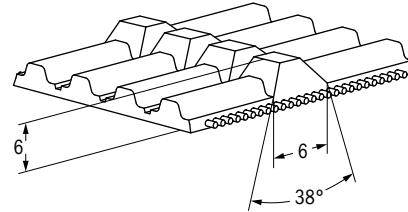
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32      | 50        |
|---|--------|---------|---------|---------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |           |
| Steel   | [N]    | 6.200   | 10.540  | 13.640  | 21.700    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |           |
| Steel   | [N]    | 1.376   | 2.340   | 3.028   | 4.818     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |           |
| Steel   | [N]    | 688     | 1.170   | 1.514   | 2.409     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |           |
|   | [N]    | 480     | 912     | 1.248   | 2.112     |
| <b>BELT WEIGHT</b>  |        |         |         |         |           |
| Steel   | [kg/m] | 0,08    | 0,11    | 0,14    | 0,20      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |           |
| Steel   | [N]    | 344.118 | 585.000 | 757.059 | 1.204.412 |

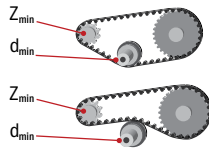
# AT10VS / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>INTEGRATED V-GUIDE</b>                   | K6                    |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -0,75 mm            |
| > 50MM WIDTH                                | + -1,00 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1.000 mm              |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 20    | 20     |
| <b>d min</b> | 80    | 80     |
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 120   | 120    |

| POLYURETHANE | HARDNESS [*SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

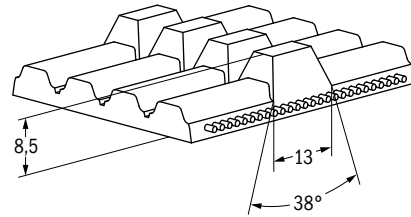
## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |
| Steel   | [N]    | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Aramid  | [N]    | 16.185  | 21.019    | 33.449    | 50.713    | 67.977    | 102.505   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |           |
| Steel   | [N]    | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Aramid  | [N]    | 1.750   | 2.273     | 3.617     | 5.483     | 7.350     | 11.083    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |           |           |           |           |           |
| Steel   | [N]    | 1.871   | 2.369     | 3.866     | 5.861     | 7.856     | 11.847    |
| Aramid  | [N]    | 1.313   | 1.705     | 2.713     | 4.113     | 5.513     | 8.313     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |
|   | [N]    | 1.961   | 2.683     | 4.541     | 7.121     | 9.701     | 14.861    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,21    | 0,25      | 0,35      | 0,50      | 0,64      | 0,93      |
| Aramid  | [kg/m] | 0,17    | 0,20      | 0,28      | 0,38      | 0,41      | 0,62      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |
| Steel   | [N]    | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Aramid  | [N]    | 437.500 | 568.167   | 904.167   | 1.370.833 | 1.837.500 | 2.770.833 |

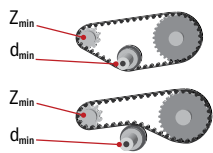
# AT10V / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 10 mm                 |
| <b>INTEGRATED V-GUIDE</b>                   | K13                   |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -0,75 mm            |
| > 50MM WIDTH                                | + -1,00 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1.000 mm              |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50m Optional 100m     |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID | STEEL HF | STAINLESS |
|--------------|-------|--------|----------|-----------|
| <b>z min</b> | 25    | 25     | 20       | 32        |
| <b>d min</b> | 80    | 80     | 60       | 130       |
| <b>z min</b> | 28    | 28     | 25       | 35        |
| <b>d min</b> | 120   | 120    | 100      | 150       |

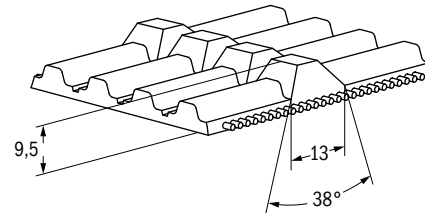
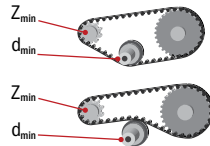
| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|----------------------|------------------------|-----------------------|
| R1           | 92                   | -5 to +70              | Standard              |
| R2           | 85                   | -10 to +60             |                       |
| FDA          | 85                   | -10 to +60             | With Aramid Cord Only |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |
| Steel   | [N]    | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Aramid  | [N]    | 16.185  | 21.019    | 33.449    | 50.713    | 67.977    | 102.505   |
| Steel HF  | [N]    | 12.975  | 16.435    | 26.815    | 40.655    | N/A       | N/A       |
| Stainless   | [N]    | 10.688  | 13.538    | 22.088    | 33.488    | N/A       | N/A       |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |           |
| Steel   | [N]    | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Aramid  | [N]    | 1.750   | 2.273     | 3.617     | 5.483     | 7.350     | 11.083    |
| Steel HF  | [N]    | 3.456   | 4.378     | 7.142     | 10.829    | N/A       | N/A       |
| Stainless   | [N]    | 2.806   | 3.554     | 5.799     | 8.791     | N/A       | N/A       |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |           |           |           |           |           |
| Steel   | [N]    | 1.871   | 2.369     | 3.866     | 5.861     | 7.856     | 11.847    |
| Aramid  | [N]    | 1.313   | 1.705     | 2.713     | 4.113     | 5.513     | 8.313     |
| Steel HF  | [N]    | 1.728   | 2.189     | 3.571     | 5.414     | N/A       | N/A       |
| Stainless   | [N]    | 1.403   | 1.777     | 2.899     | 4.396     | N/A       | N/A       |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |
|   | [N]    | 1.238   | 1.961     | 3.818     | 6.398     | 8.978     | 14.138    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,21    | 0,25      | 0,35      | 0,50      | 0,64      | 0,93      |
| Aramid  | [kg/m] | 0,17    | 0,20      | 0,28      | 0,38      | 0,49      | 0,68      |
| Steel HF  | [kg/m] | 0,20    | 0,24      | 0,34      | 0,48      | N/A       | N/A       |
| Stainless   | [kg/m] | 0,21    | 0,25      | 0,35      | 0,49      | N/A       | N/A       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |
| Steel   | [N]    | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.500 |
| Aramid  | [N]    | 437.500 | 568.167   | 904.167   | 1.370.833 | 1.837.500 | 2.770.833 |
| Steel HF  | [N]    | 864.000 | 1.094.400 | 1.785.600 | 2.707.200 | N/A       | N/A       |
| Stainless   | [N]    | 701.438 | 888.488   | 1.449.639 | 2.197.839 | N/A       | N/A       |

**AT20V / PITCH: 20MM****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 20 mm                 |
| <b>INTEGRATED V-GUIDE</b>                   | K13                   |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | + -1,0 mm             |
| > 50MM WIDTH                                | + -1,50 mm            |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1.000 mm              |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 50 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 20    | 20     |
| <b>d min</b> | 127.3 | 127.3  |
| <b>z min</b> | 25    | 25     |
| <b>d min</b> | 180   | 180    |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |

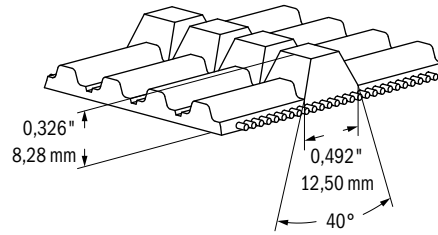
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 32        | 50        | 75        | 100       | 150       |
|---|--------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |
| Steel   | [N]    | 31.140    | 50.170    | 76.120    | 102.070   | 153.970   |
| Aramid  | [N]    | 28.337    | 45.153    | 68.508    | 91.863    | 138.573   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |           |
| Steel   | [N]    | 7.534     | 12.139    | 18.417    | 24.696    | 37.253    |
| Aramid  | [N]    | 2.585     | 4.120     | 6.251     | 8.382     | 12.643    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |           |           |           |           |           |
| Steel   | [N]    | 3.767     | 6.069     | 9.209     | 12.139    | 18.626    |
| Aramid  | [N]    | 1.939     | 3.090     | 4.688     | 6.286     | 9.483     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |
|   | [N]    | 4.142     | 8.066     | 13.516    | 18.966    | 29.866    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |
| Steel   | [kg/m] | 0,31      | 0,48      | 0,73      | 0,97      | 1,45      |
| Aramid  | [kg/m] | 0,23      | 0,37      | 0,55      | 0,73      | 1,10      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |
| Steel   | [N]    | 1.883.571 | 3.034.643 | 4.604.286 | 6.173.929 | 9.313.214 |
| Aramid  | [N]    | 646.373   | 1.029.935 | 1.562.660 | 2.095.385 | 3.160.836 |

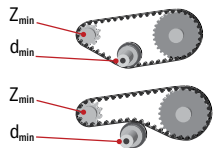
**HV / PITCH: 0.50"**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 0,500" / 12,7mm       |
| <b>INTEGRATED V-GUIDE</b>                   | A-Section             |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 2" / 50 MM WIDTH                          | +0,020" / +0,5 mm     |
| > 2" / 50 MM WIDTH                          | +0,030" / +0,75 mm    |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 36" / 914,4 mm        |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 20    | 20     |
| <b>d min</b> | 80    | 80     |
| <b>z min</b> | 22    | 22     |
| <b>d min</b> | 120   | 120    |

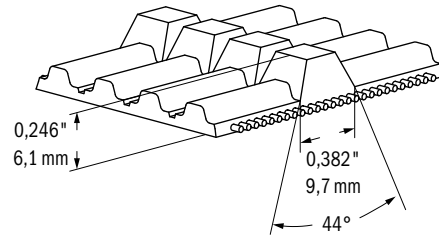
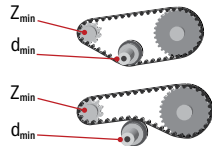
| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE               |
|--------------|---------------------|------------------------|-----------------------|
| R1           | 92                  | -5 to +70              | Standard              |
| R2           | 85                  | -10 to +60             |                       |
| FDA          | 85                  | -10 to +60             | With Aramid Cord Only |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 1,5"/38,1MM | 2"/50,8MM | 3"/76,2MM | 4"/101,6MM | 6"/152,4MM |
|---|--------|-------------|-----------|-----------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |             |           |           |            |            |
| Steel   | [N]    | 10.920      | 14.700    | 22.260    | 29.820     | 44.940     |
| Aramid  | [N]    | 14.014      | 18.865    | 28.567    | 38.269     | 57.673     |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |             |           |           |            |            |
| Steel   | [N]    | 2.919       | 3.929     | 5.950     | 7.971      | 12.012     |
| Aramid  | [N]    | 1.657       | 2.127     | 3.221     | 4.315      | 6.503      |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |             |           |           |            |            |
| Steel   | [N]    | 1.459       | 1.965     | 2.975     | 3.985      | 6.006      |
| Aramid  | [N]    | 1.185       | 1.595     | 2.416     | 3.236      | 4.877      |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |             |           |           |            |            |
|   | [N]    | 1.663       | 2.488     | 4.138     | 5.788      | 9.088      |
| <b>BELT WEIGHT</b>  |        |             |           |           |            |            |
| Steel   | [kg/m] | 0,22        | 0,27      | 0,37      | 0,47       | 0,67       |
| Aramid  | [kg/m] | 0,19        | 0,23      | 0,31      | 0,39       | 0,56       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |             |           |           |            |            |
| Steel   | [N]    | 729.721     | 982.316   | 1.487.507 | 1.992.699  | 3.003.081  |
| Aramid  | [N]    | 395.014     | 531.750   | 805.221   | 1.078.693  | 1.625.636  |

**HVO / PITCH: 0.50"****PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 0,500" / 12,7mm       |
| <b>INTEGRATED V-GUIDE</b>                   | 0-Section             |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 2" / 50 MM WIDTH                          | +0,020" / +0,5 mm     |
| > 2" / 50 MM WIDTH                          | +0,030" / +0,75 mm    |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 36" / 914,4 mm        |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 200 ft / 61 m         |
| <b>STANDARD COLOR</b>                       | Clear                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |

**MIN PULLEY DIAMETER:**

|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 20    | 20     |
| <b>d min</b> | 80    | 80     |
| <b>z min</b> | 22    | 22     |
| <b>d min</b> | 120   | 120    |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE               |
|--------------|----------------------|-------------------------|-----------------------|
| R1           | 92                   | -5 to +70               | Standard              |
| R2           | 85                   | -10 to +60              |                       |
| FDA          | 85                   | -10 to +60              | With Aramid Cord Only |

**TECHNICAL DATA**

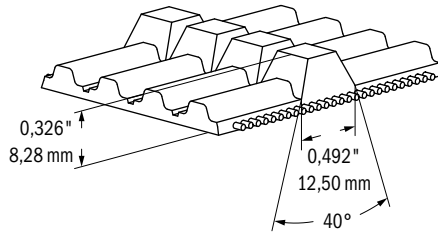
| STANDARD WIDTH ("/MM)                                       | UNIT   | 1,5"/38,1MM | 2"/50,8MM | 3"/76,2MM | 4"/101,6MM | 6"/152,4MM |
|---|--------|-------------|-----------|-----------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |             |           |           |            |            |
| Steel   | [N]    | 10.920      | 14.700    | 22.260    | 29.820     | 44.940     |
| Aramid  | [N]    | 14.014      | 18.865    | 28.567    | 38.269     | 57.673     |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |             |           |           |            |            |
| Steel   | [N]    | 2.919       | 3.929     | 5.950     | 7.971      | 12.012     |
| Aramid  | [N]    | 1.657       | 2.127     | 3.221     | 4.315      | 6.503      |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |             |           |           |            |            |
| Steel   | [N]    | 1.459       | 1.965     | 2.975     | 3.985      | 6.006      |
| Aramid  | [N]    | 1.185       | 1.595     | 2.416     | 3.236      | 4.877      |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |             |           |           |            |            |
|   | [N]    | 1.845       | 2.670     | 4.320     | 5.970      | 9.270      |
| <b>BELT WEIGHT</b>  |        |             |           |           |            |            |
| Steel   | [kg/m] | 0,19        | 0,25      | 0,35      | 0,45       | 0,65       |
| Aramid  | [kg/m] | 0,16        | 0,21      | 0,29      | 0,37       | 0,56       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |             |           |           |            |            |
| Steel   | [N]    | 729.721     | 982.316   | 1.487.507 | 1.992.699  | 3.003.081  |
| Aramid  | [N]    | 395.014     | 531.750   | 805.221   | 1.078.693  | 1.625.636  |



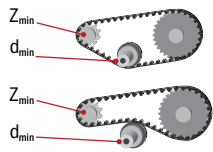
**WHV / PITCH: 0,50" / 12,7MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 0,500" / 12,7mm       |
| <b>INTEGRATED V-GUIDE</b>                   | A-Section             |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 43,5" / 1104,9 mm     |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 200 feet / 61 m       |
| <b>STANDARD COLOR</b>                       | Clear                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | ARAMID            |
|--------------|-------------------|
| <b>z min</b> | 14                |
| <b>d min</b> | 2,23" / 56,64 mm  |
| <b>z min</b> | 14                |
| <b>d min</b> | 13,12" / 79,24 mm |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |
| R2           | 85                   | -10 to +60              |          |
| FDA          | 85                   | -10 to +60              |          |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 6" / 152,4 MM | 8" / 203,2 MM | 10" / 254 MM | 12" / 304,8 MM | 14" / 355,6 MM | 18" / 457,2 MM |
|---|--------|---------------|---------------|--------------|----------------|----------------|----------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |               |               |              |                |                |                |
| Aramid  | [N]    | 25.333        | 34.496        | 43.120       | 51.744         | 60.368         | 77.077         |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |               |               |              |                |                |                |
| Aramid  | [N]    | 6.750         | 9.191         | 11.489       | 13.787         | 16.085         | 20.537         |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |               |               |              |                |                |                |
| Aramid  | [N]    | 3.375         | 4.596         | 5.745        | 6.894          | 8.042          | 10.269         |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |               |               |              |                |                |                |
|   | [N]    | 9.075         | 12.375        | 15.675       | 18.975         | 22.275         | 28.875         |
| <b>BELT WEIGHT</b>  |        |               |               |              |                |                |                |
| Aramid  | [kg/m] | 0,5           | 0,7           | 0,8          | 1,0            | 1,1            | 1,4            |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |               |               |              |                |                |                |
| Aramid  | [N]    | 843.744       | 1.148.928     | 1.436.160    | 1.723.392      | 2.010.624      | 2.567.136      |



# GATES TPU PINLOK

## MECHANICAL JOINING SYSTEM

Gates PinLok™ is mechanical belt joining system that allows belt installation without machine disassembly.

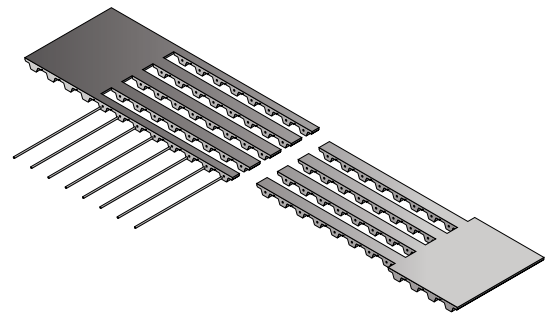
- Ideal for applications where it is difficult to install & replace belts
- Easy on-site assembly
- Available in various pitches up to 100mm width
- Works with steel or Aramid cord
- Available for belt with special backings or profiles



### PRODUCT SPECIFICATIONS

|                            |          |
|----------------------------|----------|
| <b>MAXIMUM BELT SPEED</b>  | 2 m/s    |
| <b>SERVICE TEMPERATURE</b> | 0 -50 °C |
| <b>MINIMUM LENGTH</b>      |          |
| < 50MM WIDTH               | 600mm    |
| 75 AND 100MM WIDTH         | 1000mm   |

### PINLOK (SECTION)



|                      | MINIMUM NUMBER OF PULLEY TEETH | MINIMUM BACK BEND DIAMETER |
|----------------------|--------------------------------|----------------------------|
| <b>T10</b>           | 16                             | 80                         |
| <b>T10V, T10VS</b>   | 25                             | 80                         |
| <b>T20</b>           | 16                             | 120                        |
| <b>AT5</b>           | 20                             | 80                         |
| <b>AT10, HTD8M</b>   | 16                             | 120                        |
| <b>AT10V, AT10VS</b> | 25                             | 120                        |
| <b>H</b>             | 16                             | 80                         |
| <b>HV</b>            | 25                             | 80                         |

### TECHNICAL DATA

| PITCH / STANDARD WIDTH (MM) | 16  | 25  | 32   | 50   | 75   | 100  |
|-----------------------------|-----|-----|------|------|------|------|
| AT5                         | 280 | 525 |      |      |      |      |
| T10, T10V*, T10VS*          |     | 395 | 450  | 825  | 1250 | 1675 |
| AT10                        |     | 660 | 770  | 1365 | 1760 | 2070 |
| HTD8M                       |     | 660 | 770  | 1365 |      |      |
| AT10V, AT10VS*, T20         |     |     | 770  | 1365 | 1760 | 2070 |
| PITCH / STANDARD WIDTH (MM) |     | 1"  | 1,5" | 2"   | 3"   | 4"   |
| H, HV**                     |     | 395 | 450  | 825  | 1250 | 1675 |

Allowable Tension is valid for all available cord constructions.  
 \* T10V, T10VS and AT10VS are available in 32mm and 50mm only  
 \*\* HV available in 1" and 2" only

# SYNCHRO-POWER FLAT

## FLAT BELTS

Gates TPU flat belts made from high strength polyurethane are produced in standard rolls or open ended belts and are commonly used in lifting and pulling applications. Flat belts are typically attached at one or both ends with clamping plates or with our new FIX-FLAT clamping system

Our flat belts are suited for a wide range of mechanical requirements. We offer various combinations of polyurethane types and cords to support the diverse needs of the market.

We also have a range of belts specially designed for applications in the food processing industry that are FDA and EU approved.

**OUR LATEST DEVELOPMENT FIX-FLAT, THE FLAT BELT CLAMP, ENABLES THE SECURE CLAMPING OF ANY FLAT BELTS AT BOTH ENDS EASILY, QUICKLY AND SAFELY.**



### FEATURES

- Smooth, vibration free operation
- High strength combined with low elongation
- Sealed belt edges result in no cord fraying
- Easy belt guide with flanged pulleys or guiding rails
- No re-tensioning required

### TYPICAL APPLICATIONS:

- Heavy load lifting or lowering
- Exercise machines
- Applications with small pulley diameters

### PROCESSING OPTIONS:

- Backings Further information on page 96
- Profiles Further information on page 102
- Special processing Further information on page 108

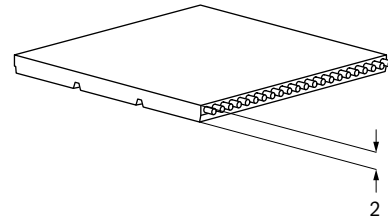
### CLAMP CONNECTION

- Clamp FIX-FLAT Further information on page 63

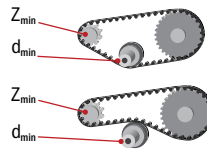
## F 20

## PRODUCT SPECIFICATIONS

|                                      |                       |
|--------------------------------------|-----------------------|
| STANDARD THICKNESS                   | 2 mm                  |
| MINIMUM WELDED BELT LENGTH           | 880 mm                |
| WIDTH TOLERANCE                      |                       |
| < 50MM WIDTH                         | +/- 0,5 mm            |
| > 50MM WIDTH                         | +/- 0,75 mm           |
| STANDARD ROLL LENGTH (TOLERANCE ±1%) | 100 m                 |
| STANDARD COLOR                       | Black                 |
| FDA/EU APPROVAL                      | No                    |
| POLYAMIDE FABRIC                     | Optional NT, NB & NTB |



## MIN PULLEY DIAMETER:



|                       | STEEL | ARAMID | STEEL HF | STEEL RSL | ARAMID RKV | STEEL RHF | STEEL NIRO |
|-----------------------|-------|--------|----------|-----------|------------|-----------|------------|
| Pulley on Flight side | 35    | 35     | 30       | 48        | 48         | 38        | 64         |
| Idler on the back     | 60    | 60     | 50       | 72        | 72         | 57        | 96         |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE  |
|--------------|---------------------|------------------------|----------|
| R1           | 92                  | -5 to +70              | Standard |
| R2           | 85                  | -10 to +60             |          |

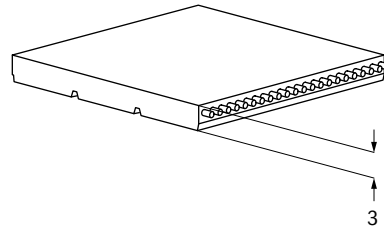
## TECHNICAL DATA

| STANDARD WIDTH (MM)                          | UNIT   | 10      | 16      | 25      | 50        | 75        | 100       | 150       |
|--|--------|---------|---------|---------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>        |        |         |         |         |           |           |           |           |
| Steel  | [N]    | 2.604   | 4.418   | 7.140   | 14.700    | 22.260    | 29.820    | 44.940    |
| Aramid                                       | [N]    | 2.911   | 4.980   | 8.085   | 16.709    | 25.333    | 33.957    | 51.205    |
| Steel HF                                     | [N]    | 3.844   | 6.522   | 10.540  | 21.700    | 32.860    | 44.020    | 66.340    |
| Steel RSL                                    | [N]    | 5.130   | 8.778   | 14.250  | 29.450    | 44.650    | 59.850    | 90.250    |
| Aramid RKV                                   | [N]    | 5.827   | 9.970   | 16.158  | 33.449    | 50.713    | 67.977    | 102.505   |
| Steel RHF                                    | [N]    | 4.671   | 7.993   | 12.975  | 26.815    | 40.655    | 54.495    | 82.175    |
| Steel NIRO                                   | [N]    | 3.848   | 6.584   | 10.688  | 22.068    | 33.488    | 44.888    | 67.688    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>     |        |         |         |         |           |           |           |           |
| Steel  | [N]    | 842     | 1.403   | 2.386   | 4.912     | 7.438     | 9.963     | 15.015    |
| Aramid                                       | [N]    | 443     | 798     | 1.329   | 2.747     | 4.165     | 5.583     | 8.419     |
| Steel HF                                     | [N]    | 1.032   | 1.721   | 2.925   | 6.022     | 9.119     | 12.216    | 18.410    |
| Steel RSL                                    | [N]    | 1.559   | 2.806   | 4.676   | 9.664     | 14.652    | 19.640    | 29.616    |
| Aramid RKV                                   | [N]    | 729     | 1.313   | 2.188   | 4.521     | 6.854     | 9.188     | 13.854    |
| Steel RHF                                    | [N]    | 1.440   | 2.592   | 4.320   | 8.928     | 13.536    | 18.144    | 27.360    |
| Steel NIRO                                   | [N]    | 1.169   | 2.104   | 3.507   | 7.248     | 10.989    | 14.730    | 22.212    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b> |        |         |         |         |           |           |           |           |
| Steel  | [N]    | 421     | 702     | 1.193   | 2.456     | 3.719     | 4.982     | 7.508     |
| Aramid                                       | [N]    | 222     | 399     | 665     | 1.347     | 2.083     | 2.792     | 4.210     |
| Steel HF                                     | [N]    | 516     | 860     | 1.463   | 3.011     | 4.560     | 6.108     | 9.205     |
| Steel RSL                                    | [N]    | 779     | 1.403   | 2.338   | 4.832     | 7.326     | 9.820     | 14.808    |
| Aramid RKV                                   | [N]    | 365     | 656     | 1.094   | 2.260     | 3.427     | 4.594     | 6.927     |
| Steel RHF                                    | [N]    | 720     | 1.296   | 2.160   | 4.464     | 6.768     | 9.072     | 13.680    |
| Steel NIRO                                   | [N]    | 585     | 1.052   | 1.754   | 3.624     | 5.495     | 7.365     | 11.106    |
| <b>BELT WEIGHT</b>                           |        |         |         |         |           |           |           |           |
| Steel  | [kg/m] | 0.03    | 0.05    | 0.07    | 0.15      | 0.22      | 0.30      | 0.45      |
| Aramid                                       | [kg/m] | 0.02    | 0.04    | 0.06    | 0.11      | 0.17      | 0.23      | 0.34      |
| Steel HF                                     | [kg/m] | 0.03    | 0.05    | 0.08    | 0.17      | 0.25      | 0.33      | 0.50      |
| Steel RSL                                    | [kg/m] | 0.04    | 0.06    | 0.09    | 0.19      | 0.28      | 0.38      | 0.57      |
| Aramid RKV                                   | [kg/m] | 0.02    | 0.04    | 0.05    | 0.11      | 0.16      | 0.22      | 0.33      |
| Steel RHF                                    | [kg/m] | 0.04    | 0.06    | 0.09    | 0.18      | 0.26      | 0.35      | 0.53      |
| Steel NIRO                                   | [kg/m] | 0.04    | 0.06    | 0.09    | 0.19      | 0.28      | 0.37      | 0.56      |
| <b>SPECIFIC BELT STIFFNESS</b>               |        |         |         |         |           |           |           |           |
| Steel  | [N]    | 168.397 | 280.662 | 477.125 | 982.316   | 1.487.507 | 1.992.699 | 3.003.081 |
| Aramid                                       | [N]    | 88.625  | 159.525 | 265.875 | 549.475   | 833.075   | 1.116.675 | 1.683.875 |
| Steel HF                                     | [N]    | 206.471 | 344.118 | 585.000 | 1.204.412 | 1.823.824 | 2.443.235 | 3.682.059 |
| Steel RSL                                    | [N]    | 311.750 | 561.150 | 935.250 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Aramid RKV                                   | [N]    | 145.833 | 262.500 | 437.500 | 904.167   | 1.370.833 | 1.837.500 | 2.770.833 |
| Steel RHF                                    | [N]    | 288.000 | 518.400 | 864.000 | 1.785.600 | 2.707.200 | 3.628.800 | 5.472.000 |
| Steel NIRO                                   | [N]    | 233.813 | 420.863 | 701.438 | 1.449.639 | 2.197.839 | 2.946.040 | 4.442.441 |

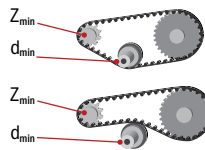
# F30

## PRODUCT SPECIFICATIONS

|   |                       |
|---|-----------------------|
| <b>STANDARD THICKNESS</b>                   | 3 mm                  |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 880 mm                |
| <b>WIDTH TOLERANCE</b>                      |                       |
| < 50MM WIDTH                                | +/- 1,0 mm            |
| > 50MM WIDTH                                | +/- 1,5 mm            |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 100 m                 |
| <b>STANDARD COLOR</b>                       | Black                 |
| <b>FDA/EU APPROVAL</b>                      | No                    |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



### MIN PULLEY DIAMETER:



|                              | STEEL | ARAMID | ARAMID RKV | STEEL HF | STEEL RSL |
|------------------------------|-------|--------|------------|----------|-----------|
| <b>Pulley on Flight side</b> | 80    | 60     | 80         | 64       | 160       |
| <b>Idler on the back</b>     | 120   | 120    | 120        | 96       | 240       |

| POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE  |
|--------------|---------------------|------------------------|----------|
| R1           | 92                  | -5 to +70              | Standard |
| R2           | 85                  | -10 to +60             |          |

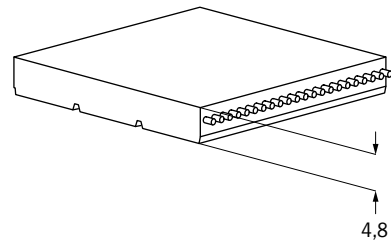
## TECHNICAL DATA

| STANDARD WIDTH (MM)                          | UNIT   | 10      | 16        | 25        | 50        | 75        | 100       | 150        |
|--|--------|---------|-----------|-----------|-----------|-----------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>        |        |         |           |           |           |           |           |            |
| Steel  | [N]    | 8.650   | 14.878    | 24.220    | 50.170    | 76.120    | 102.070   | 153.970    |
| Aramid                                       | [N]    | 2.910   | 4.980     | 8.085     | 16.709    | 25.333    | 33.957    | 51.205     |
| Aramid RKV                                   | [N]    | 7.785   | 13.390    | 21.798    | 45.153    | 65.508    | 91.863    | 138.573    |
| Steel HF                                     | [N]    | 9.625   | 16.555    | 26.950    | 55.825    | 84.700    | 113.575   | 171.325    |
| Steel RSL                                    | [N]    | 11.520  | 20.352    | 33.600    | 70.400    | 107.200   | 144.000   | 217.600    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>     |        |         |           |           |           |           |           |            |
| Steel  | [N]    | 2.616   | 4.186     | 7.325     | 15.173    | 23.021    | 30.870    | 46.566     |
| Aramid                                       | [N]    | 443     | 798       | 1.329     | 2.747     | 4.165     | 5.583     | 8.419      |
| Aramid RKV                                   | [N]    | 781     | 1.250     | 2.188     | 4.531     | 6.875     | 9.219     | 13.906     |
| Steel HF                                     | [N]    | 2.267   | 3.628     | 6.349     | 13.151    | 19.953    | 26.755    | 40.360     |
| Steel RSL                                    | [N]    | 4.446   | 7.114     | 8.892     | 19.563    | 29.345    | 40.016    | 60.469     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b> |        |         |           |           |           |           |           |            |
| Steel  | [N]    | 1.308   | 2.093     | 3.663     | 7.587     | 11.511    | 15.435    | 23.283     |
| Aramid                                       | [N]    | 222     | 399       | 665       | 1.374     | 2.083     | 2.792     | 4.210      |
| Aramid RKV                                   | [N]    | 391     | 625       | 1.094     | 2.266     | 3.438     | 4.609     | 6.953      |
| Steel HF                                     | [N]    | 1.134   | 1.814     | 3.174     | 6.575     | 9.977     | 13.378    | 20.180     |
| Steel RSL                                    | [N]    | N/A     | N/A       | N/A       | N/A       | N/A       | N/A       | N/A        |
| <b>BELT WEIGHT</b>                           |        |         |           |           |           |           |           |            |
| Steel  | [kg/m] | 0,06    | 0,09      | 0,15      | 0,29      | 0,44      | 0,59      | 0,88       |
| Aramid                                       | [kg/m] | 0,03    | 0,05      | 0,08      | 0,15      | 0,23      | 0,31      | 0,46       |
| Aramid RKV                                   | [kg/m] | 0,03    | 0,05      | 0,08      | 0,16      | 0,24      | 0,32      | 0,48       |
| Steel HF                                     | [kg/m] | 0,06    | 0,10      | 0,16      | 0,32      | 0,48      | 0,64      | 0,96       |
| Steel RSL                                    | [kg/m] | 0,07    | 0,11      | 0,18      | 0,35      | 0,53      | 0,70      | 1,06       |
| <b>SPECIFIC BELT STIFFNESS</b>               |        |         |           |           |           |           |           |            |
| Steel  | [N]    | 523.214 | 837.143   | 1.465.000 | 3.034.643 | 4.604.286 | 6.173.929 | 9.313.214  |
| Aramid                                       | [N]    | 88.625  | 159.525   | 265.875   | 549.475   | 833.075   | 1.116.675 | 1.683.875  |
| Aramid RKV                                   | [N]    | 156.250 | 250.000   | 437.500   | 906.250   | 1.375.000 | 1.843.750 | 2.781.250  |
| Steel HF                                     | [N]    | 453.482 | 725.571   | 1.269.750 | 2.630.196 | 3.990.643 | 5.351.089 | 8.071.982  |
| Steel RSL                                    | [N]    | 889.249 | 1.422.798 | 1.778.498 | 3.912.696 | 5.869.043 | 8.003.241 | 12.093.786 |

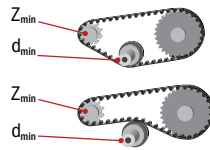
## F48

## PRODUCT SPECIFICATIONS

|                                      |                       |
|--------------------------------------|-----------------------|
| STANDARD THICKNESS                   | 4,8 mm                |
| WIDTH TOLERANCE                      | +/- 2,0 mm            |
| STANDARD ROLL LENGTH (TOLERANCE ±1%) | 50 m                  |
| STANDARD COLOR                       | Black                 |
| FDA/EU APPROVAL                      | No                    |
| POLYAMIDE FABRIC                     | Optional NT, NB & NTB |



## MIN PULLEY DIAMETER:



|                       | STEEL |
|-----------------------|-------|
| Pulley on Flight side | 150   |
| Idler on the back     | 225   |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |
| R2           | 85                   | -10 to +60              |          |

## TECHNICAL DATA

| STANDARD WIDTH (MM)                          | UNIT   | 25        | 50        | 75        | 100        | 150        |
|--|--------|-----------|-----------|-----------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>        |        |           |           |           |            |            |
| Steel  | [N]    | 45.000    | 97.500    | 150.000   | 202.500    | 307.500    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>     |        |           |           |           |            |            |
| Steel  | [N]    | 13.378    | 28.986    | 44.594    | 60.201     | 91.417     |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b> |        |           |           |           |            |            |
| Steel  | [N]    | N/A       | N/A       | N/A       | N/A        | N/A        |
| <b>BELT WEIGHT</b>                           |        |           |           |           |            |            |
| Steel  | [kg/m] | 0,27      | 0,54      | 0,81      | 1,08       | 1,62       |
| <b>SPECIFIC BELT STIFFNESS</b>               |        |           |           |           |            |            |
| Steel  | [N]    | 2.675.622 | 5.797.181 | 8.918.740 | 12.040.299 | 18.283.417 |



# LRB-45 LIVE ROLLER DRIVE BELT

## HIGH SPEED ANAD DURABLE INTRALOGISTICS BELT SOLUTION

The LRB-45 belt is an open ended flat belt with a high grip top side to the live rollers and a low friction and anti-static fabric bottom side to improve safety and reliability. Aramid reinforcement ensures a safe and longer lifespan operation for our customers' warehouse and distribution conveyors.



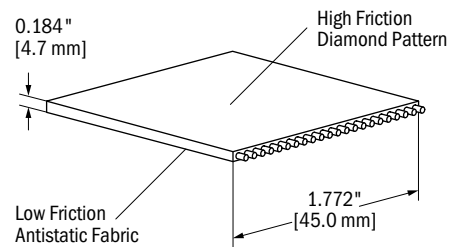
### LRB-45 (SECTION)

#### PRODUCT SPECIFICATIONS

|                                | METRIC                         | IMPERIAL                       |
|--------------------------------|--------------------------------|--------------------------------|
| <b>STANDARD THICKNESS</b>      | 4.7 +/- 0.2 mm                 | 0.184 +/- 0.008 in             |
| <b>STANDARD ROLL LENGTH*</b>   | up to 152 m                    | 500 ft                         |
| <b>STANDARD COLOR</b>          | Black                          | Black                          |
| <b>CORD</b>                    | Aramid                         | Aramid                         |
| <b>MINIMUM PULLEY DIAMETER</b> | 100 mm                         | 3.94 in                        |
| <b>FDA/EU APPROVAL</b>         | No                             | No                             |
| <b>POLYURETHANE</b>            | 92° Shore A                    | 92° Shore A                    |
| <b>TOP SURFACE</b>             | Knurled Polyurethane           | Knurled Polyurethane           |
| <b>BOTTOM SURFACE</b>          | Antistatic Fabric              | Antistatic Fabric              |
| <b>OPERATING TEMPERATURE</b>   | -25°C to +80°C                 | -13°F to 175°F                 |
| <b>SPLICE</b>                  | Interleaved finger heat welded | Interleaved finger heat welded |
| <b>RECOMMEND FINGER LENGTH</b> | 155 mm (min.)                  | 6.1 in (min.)                  |

#### TECHNICAL DATA

|                                  |             |                  |
|----------------------------------|-------------|------------------|
| <b>STANDARD WIDTH</b>            | 45 +0/-1 mm | 1.77 +0/-0.04 in |
| <b>ULTIMATE TENSILE STRENGTH</b> | 33300 N     | 7490 lbf         |
| <b>ALLOWABLE BELT TENSION</b>    | 4450 N      | 1000 lbf         |
| <b>SPECIFIC BELT WEIGHT</b>      | 0,21 kg/m   | 1.52lb/ft        |
| <b>SPECIFIC BELT STIFFNESS</b>   | 731.370 N   | 164,420 lbf      |



#### FEATURES + BENEFITS

- High friction, knurled diamond pattern on top ensures high grip and less slip on the rollers
- Low friction antistatic fabric on the bottom prevents static load buildup
- Aramid cord design for lower stretch and longer life compared to competitor belts
- Designed to be spliced with OEM equipment
- Available in roll lengths up to 660 ft (200 meters)



# CLAMP CONNECTION FIX-FLAT

## FIX FLAT

OUR LATEST DEVELOPMENT FIX-FLAT, THE FLAT BELT CLAMP, ENABLES THE SECURE CLAMPING OF ANY FLAT BELTS AT BOTH ENDS EASILY, QUICKLY AND SAFELY.

The patented Flat Belt Clamp holds all types of Flat Belts easily and safely. The FIX-FLAT process is suitable for all Flat belt constructions.

MORE INFORMATION IS AVAILABLE ON REQUEST.

### FEATURES

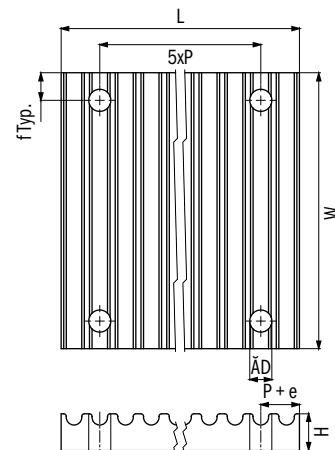
- Suitable for all types of flat belts.
- Easy
- Safe
- Fast



| FIX FLAT CLAMP DIMENSIONS |     |    |    |    |   |    |               |               |               |                |                |
|---------------------------|-----|----|----|----|---|----|---------------|---------------|---------------|----------------|----------------|
| DIMENSION [MM]            | L   | H  | D  | P  | e | f  | W             |               |               |                |                |
|                           |     |    |    |    |   |    | Belt width 25 | Belt width 50 | Belt width 75 | Belt width 100 | Belt width 150 |
| HTD8                      | 66  | 15 | 9  | 8  | 5 | 8  | 50            | 75            | 100           | 125            | 175            |
| HTD14                     | 116 | 22 | 11 | 14 | 9 | 10 | 56            | 81            | 106           | 131            | 181            |

CLAMPING F30 STEEL RSL OR F48 STEEL: 2 CLAMPING PLATES ARE REQUIRED

| TYPE           | PITCH |
|----------------|-------|
| F20 Steel      | HTD8  |
| F20 ARAMID     | HTD8  |
| F20 Steel HF   | HTD8  |
| F20 Steel RSL  | HTD8  |
| F20 ARAMID RKV | HTD8  |
| F20 RHF        | HTD8  |
| F20 NIRO       | HTD8  |
| F30 Steel      | HTD14 |
| F30 ARAMID     | HTD8  |
| F30 ARAMID RKV | HTD14 |
| F30 STEEL HF   | HTD14 |
| F30 Steel RSL  | HTD14 |
| F48 STEEL      | HTD14 |





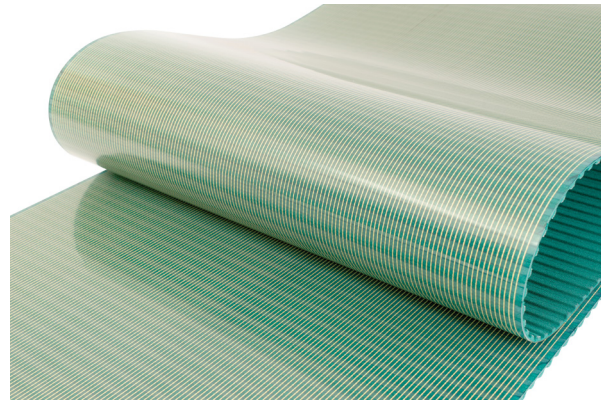


# SYNCHRO-POWER WIDE

## WIDE BELTS

Gates TPU Wide Belts are ideal for conveying applications that require greater than 150mm width, precise product positioning, and smooth-running operation. The high strength aramid cords ensure even tension characteristics. The high quality polyurethane is cut resistant and non-marking, making this belt ideal for abrasive environments.

**GATES TPU WIDE BELTS OFFER AN ALTERNATIVE TO PLASTIC MODULAR AND CONVEYOR BELTING WITH OUR EASY TO CLEAN, ABRASION RESISTANT, SMOOTH DRIVE WIDE BELTS.**



### ATTRIBUTES

- Easy to clean
- Cut resistant
- Widths up to 450 mm available
- Suitable for synchronous conveying applications
- No cord exposure at the edges of the belt
- Low-noise, smooth operation
- FDA and EU food approval for various pitches

### APPLICATIONS

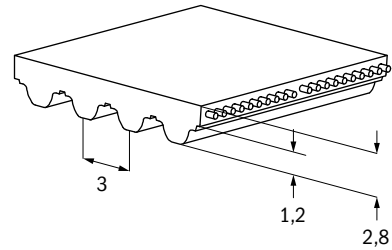
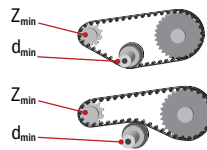
- Synchronous conveying applications
- Bulk conveying
- Food and confectionary conveying
- Clean room or wash down environments
- Hygienic applications

### PROCESSING OPTIONS

- Backings Further information on page 96
- Profiles Further information on page 102
- Special processing Further information on page 108

**GMT3 / PITCH: 3MM****PRODUCT SPECIFICATIONS**

|   |                     |
|---|---------------------|
| <b>PITCH</b>                                | 3 mm                |
| <b>STANDARD THICKNESS</b>                   | 2,8 mm              |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1.200 mm            |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 60 m                |
| <b>STANDARD COLOR</b>                       | Blue Optional White |
| <b>FDA/EU APPROVAL</b>                      | Option              |
| <b>POLYAMIDE FABRIC</b>                     | NA                  |

**MIN PULLEY DIAMETER:**

|              | <b>ARAMID</b> |
|--------------|---------------|
| <b>z min</b> | 19            |
| <b>d min</b> | 18            |
| <b>z min</b> | 19            |
| <b>d min</b> | 30            |

| <b>POLYURETHANE</b> | <b>HARDNESS [° SHORE A]</b> | <b>TEMPERATURE RANGE [° C]</b> |
|---------------------|-----------------------------|--------------------------------|
| R2                  | 85                          | -10 to +60                     |
| FDA                 | 85                          | -10 to +60                     |

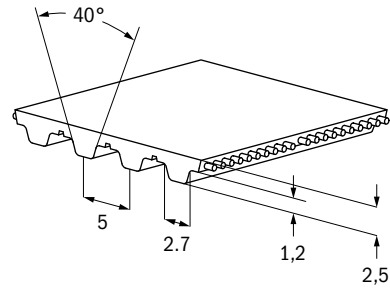
**TECHNICAL DATA**

| <b>STANDARD WIDTH (MM)</b>                                  | <b>UNIT</b> | <b>50</b> | <b>100</b> | <b>150</b> | <b>200</b> | <b>250</b> | <b>300</b> | <b>350</b> | <b>450</b> |
|---|-------------|-----------|------------|------------|------------|------------|------------|------------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |             |           |            |            |            |            |            |            |            |
| Aramid  | [N]         | 3.363     | 6.851      | 10.338     | 13.826     | 17.313     | 20.801     | 24.288     | 30.018     |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |             |           |            |            |            |            |            |            |            |
| Aramid  | [N]         | 498       | 1.014      | 1.530      | 2.046      | 2.561      | 3.077      | 3.593      | 4.441      |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |             |           |            |            |            |            |            |            |            |
| Aramid  | [N]         | 373       | 760        | 1.147      | 1.534      | 1.921      | 2.308      | 2.695      | 3.331      |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |             |           |            |            |            |            |            |            |            |
|   | [N]         | 1.200     | 2.400      | 3.600      | 4.800      | 6.000      | 7.200      | 8.400      | 10.800     |
| <b>BELT WEIGHT</b>  |             |           |            |            |            |            |            |            |            |
| Aramid  | [kg/m]      | 0,1       | 0,2        | 0,3        | 0,4        | 0,5        | 0,6        | 0,7        | 0,9        |
| <b>SPECIFIC BELT STIFFNESS</b>                              |             |           |            |            |            |            |            |            |            |
| Aramid  | [N]         | 124.389   | 253.385    | 382.381    | 511.377    | 640.373    | 769.369    | 898.365    | 1.110.287  |

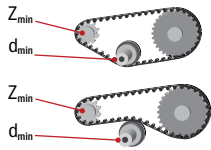
**WT5 / PITCH: 5MM**

**PRODUCT SPECIFICATIONS**

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>PITCH</b>                      | 5 mm                  |
| <b>STANDARD THICKNESS</b>         | 2,5 mm                |
| <b>MINIMUM WELDED BELT LENGTH</b> | 810 mm                |
| <b>STANDARD ROLL LENGTH</b>       | 100 m                 |
| <b>STANDARD COLOR</b>             | White, Optional Clear |
| <b>FDA/EU APPROVAL</b>            | Option                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | ARAMID |
|--------------|--------|
| <b>z min</b> | 10     |
| <b>d min</b> | 15.91  |
| <b>z min</b> | 10     |
| <b>d min</b> | 30     |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |
| R2           | 85                   | -10 to +60              |          |
| FDA          | 85                   | -10 to +60              |          |

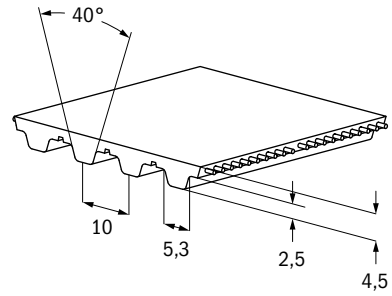
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 150     | 200     |
|---|--------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |
| Aramid  | [N]    | 25.730  | 34.410  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |
| Aramid  | [N]    | 2.814   | 3.764   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |
| Aramid  | [N]    | 2.111   | 2.823   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |
|   | [N]    | 3.750   | 5.000   |
| <b>BELT WEIGHT</b>  |        |         |         |
| Aramid  | [kg/m] | 0,3     | 0,4     |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |
| Aramid  | [N]    | 703.579 | 940.931 |

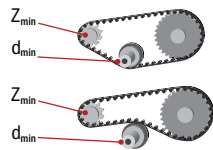
**WT10 / PITCH: 10MM**

**PRODUCT SPECIFICATIONS**

|                                      |                       |
|--------------------------------------|-----------------------|
| PITCH                                | 10 mm                 |
| STANDARD THICKNESS                   | 4,5 mm                |
| MINIMUM WELDED BELT LENGTH           | 1.100 mm              |
| STANDARD ROLL LENGTH (TOLERANCE ±1%) | 60 m                  |
| STANDARD COLOR                       | Clear                 |
| FDA/EU APPROVAL                      | Option                |
| POLYAMIDE FABRIC                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | ARAMID |
|--------------|--------|
| <b>z min</b> | 14     |
| <b>d min</b> | 44.56  |
| <b>z min</b> | 14     |
| <b>d min</b> | 80     |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |
| R2           | 85                   | -10 to +60              |          |
| FDA          | 85                   | -10 to +60              |          |

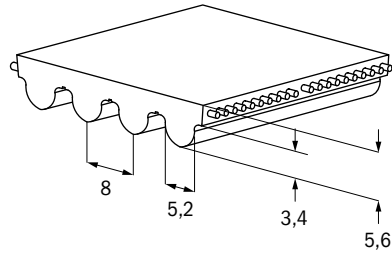
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 150     | 200       | 250       | 300       | 450       |
|---|--------|---------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |
| Aramid  | [N]    | 25.333  | 33.957    | 42.581    | 51.205    | 77.077    |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |           |           |           |           |
| Aramid  | [N]    | 6.750   | 9.048     | 11.346    | 13.644    | 20.537    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |           |           |           |           |
| Aramid  | [N]    | 3.375   | 4.524     | 5.673     | 6.822     | 10.269    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |
|   | [N]    | 8.535   | 11.380    | 14.225    | 17.070    | 25.605    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |
| Aramid  | [kg/m] | 0,6     | 0,8       | 1,0       | 1,2       | 1,8       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |
| Aramid  | [N]    | 843.744 | 1.130.976 | 1.418.208 | 1.705.440 | 2.567.136 |

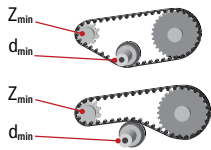
**WHTD8M / PITCH: 8MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 8 mm                  |
| <b>STANDARD THICKNESS</b>                   | 5,6 mm                |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 952 mm                |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 60 m                  |
| <b>STANDARD COLOR</b>                       | White                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**



|              | ARAMID |
|--------------|--------|
| <b>z min</b> | 20     |
| <b>d min</b> | 51     |
| <b>z min</b> | 20     |
| <b>d min</b> | 120    |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| R1           | 92                   | -5 to +70               | Standard |
| R2           | 85                   | -10 to +60              |          |
| FDA          | 85                   | -10 to +60              |          |

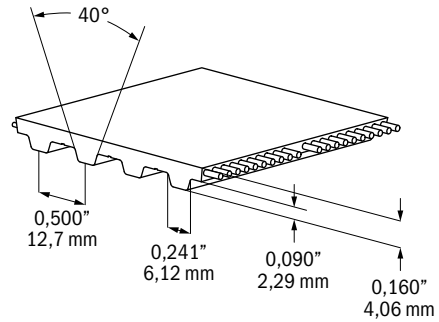
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 150       | 200       | 250       | 300       | 450       |
|---|--------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |
| Aramid  | [N]    | 102.505   | 137.033   | 171.561   | 206.089   | 309.673   |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |           |           |           |           |           |
| Aramid  | [N]    | 16.625    | 22.225    | 27.825    | 33.425    | 50.225    |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |           |           |           |           |           |
| Aramid  | [N]    | 8.313     | 11.113    | 13.913    | 16.713    | 25.113    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |
|   | [N]    | 13.950    | 18.600    | 23.250    | 27.900    | 41.850    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |
| Aramid  | [kg/m] | 0,7       | 0,9       | 1,2       | 1,4       | 2,1       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |
| Aramid  | [N]    | 2.770.833 | 3.704.167 | 4.637.500 | 5.570.833 | 8.370.833 |

**WH / PITCH: 0,500" / 12,7MM**

**PRODUCT SPECIFICATIONS**

|   |                       |
|---|-----------------------|
| <b>PITCH</b>                                | 0,500" / 12,7 mm      |
| <b>STANDARD THICKNESS</b>                   | 0,160" / 4,06 mm      |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 43,5" / 1104,9 mm     |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 200 feet / 61 m       |
| <b>STANDARD COLOR</b>                       | Clear                 |
| <b>FDA/EU APPROVAL</b>                      | Option                |
| <b>POLYAMIDE FABRIC</b>                     | Optional NT, NB & NTB |



**MIN PULLEY DIAMETER:**

|              | <b>ARAMID</b>    |  |
|--------------|------------------|--|
| <b>z min</b> | 14               |  |
| <b>d min</b> | 2,23" / 56,64 mm |  |
| <b>z min</b> | 14               |  |
| <b>d min</b> | 3,12" / 79,24 mm |  |

| <b>POLYURETHANE</b> | <b>HARDNESS [°SHORE A]</b> | <b>TEMPERATURE RANGE [°C]</b> | <b>FEATURE</b> |
|---------------------|----------------------------|-------------------------------|----------------|
| R1                  | 92                         | -5 to +70                     | Standard       |
| R2                  | 85                         | -10 to +60                    |                |
| FDA                 | 85                         | -10 to +60                    |                |

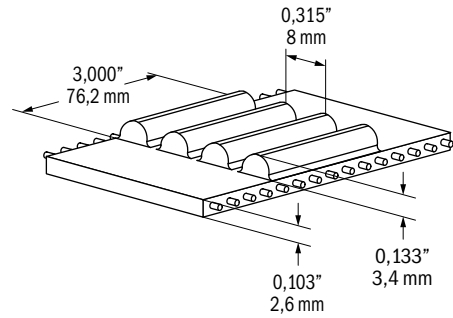
**TECHNICAL DATA**

| <b>STANDARD WIDTH ("/MM)</b>                                | <b>UNIT</b> | <b>6"/152,4MM</b> | <b>8"/203,2MM</b> | <b>10"/254MM</b> | <b>12"/304,8MM</b> | <b>14"/355,6MM</b> | <b>18"/457,2MM</b> |
|---|-------------|-------------------|-------------------|------------------|--------------------|--------------------|--------------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |             |                   |                   |                  |                    |                    |                    |
| Aramid  | [N]         | 25.333            | 34.496            | 43.120           | 51.744             | 60.368             | 77.077             |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |             |                   |                   |                  |                    |                    |                    |
| Aramid  | [N]         | 6.750             | 9.191             | 11.489           | 13.787             | 16.085             | 20.537             |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |             |                   |                   |                  |                    |                    |                    |
| Aramid  | [N]         | 3.375             | 4.596             | 5.745            | 6.894              | 8.042              | 10.269             |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |             |                   |                   |                  |                    |                    |                    |
|   | [N]         | 9.900             | 13.200            | 16.500           | 19.800             | 23.100             | 29.700             |
| <b>BELT WEIGHT</b>  |             |                   |                   |                  |                    |                    |                    |
| Aramid  | [kg/m]      | 0,5               | 0,7               | 0,8              | 1,0                | 1,1                | 1,4                |
| <b>SPECIFIC BELT STIFFNESS</b>                              |             |                   |                   |                  |                    |                    |                    |
| Aramid  | [N]         | 843.744           | 1.148.928         | 1.436.160        | 1.723.392          | 2.010.624          | 2.567.136          |

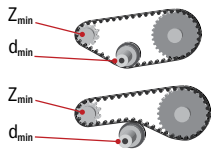
**CC8 / PITCH: 8MM**

**PRODUCT SPECIFICATIONS**

|   |          |
|---|----------|
| <b>PITCH</b>                                | 8 mm     |
| <b>STANDARD THICKNESS</b>                   | 6 mm     |
| <b>MINIMUM WELDED BELT LENGTH</b>           | 1004 mm  |
| <b>STANDARD ROLL LENGTH (TOLERANCE ±1%)</b> | 61 m     |
| <b>STANDARD COLOR</b>                       | PosiBlue |
| <b>FDA/EU APPROVAL</b>                      | FDA Only |
| <b>POLYAMIDE FABRIC</b>                     | NA       |



CC8 RUNS IN HTD8 PULLEYS  
MIN PULLEY DIAMETER:



|              | ARAMID |
|--------------|--------|
| <b>z min</b> | 20     |
| <b>d min</b> | 51     |
| <b>z min</b> | 20     |
| <b>d min</b> | 120    |

| POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE  |
|--------------|----------------------|-------------------------|----------|
| FG           | 90                   | -5 to +70               | Standard |

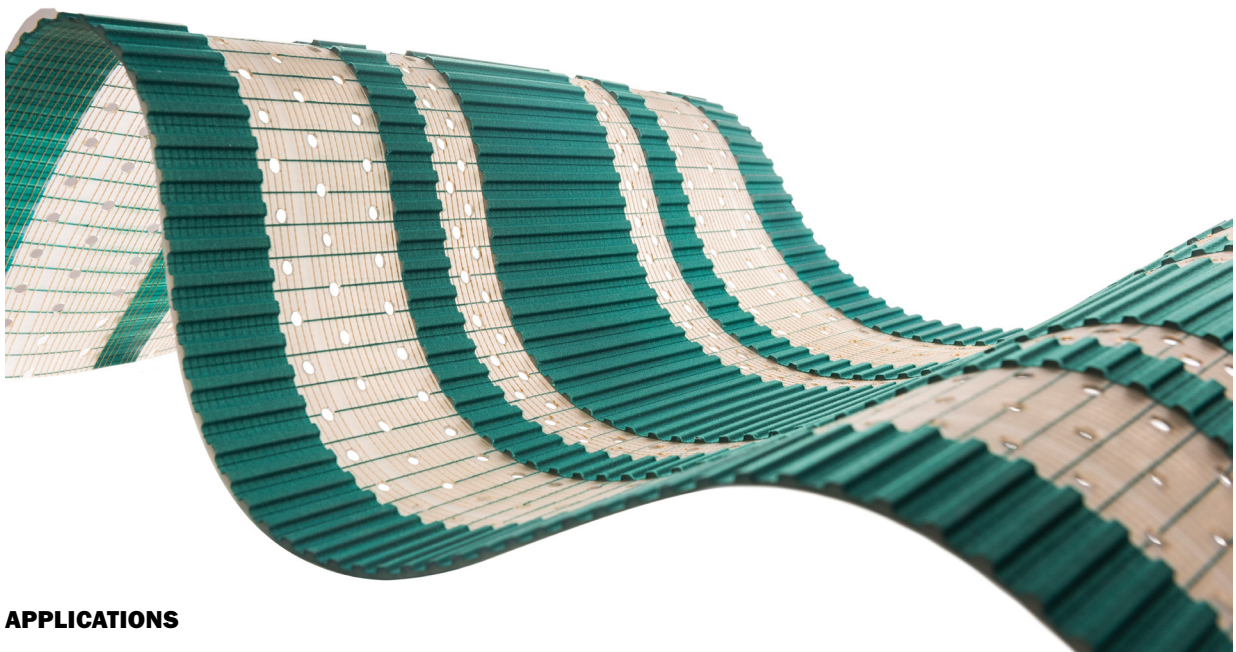
**TECHNICAL DATA**

| STANDARD WIDTH (\"/>  |        |         |         |         |         |         |
|---|--------|---------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |         |
| Aramid  | [N]    | 16.170  | 18.326  | 20.482  | 22.638  | 24.794  |
| <b>ALLOWABLE BELT FORCE / OPEN ENDED</b>                    |        |         |         |         |         |         |
| Aramid  | [N]    | 3.231   | 3.662   | 4.093   | 4.524   | 4.955   |
| <b>ALLOWABLE BELT FORCE / ENDLESS WELDED</b>                |        |         |         |         |         |         |
| Aramid  | [N]    | 1.616   | 1.831   | 2.047   | 2.262   | 2.477   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |         |
|   | [N]    | 6.975   | 6.975   | 6.975   | 6.975   | 6.975   |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |         |
| Aramid  | [kg/m] | 0,67    | 0,84    | 1,01    | 1,17    | 1,51    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |         |
| Aramid  | [N]    | 538.560 | 610.368 | 682.176 | 753.984 | 825.792 |



# MECHANICAL FABRICATION PROCESSES

Gates TPU offers a wide range of TPU Wide Belt modifications within our full range of fabrication options. Gates TPU wide belt solutions include grinding edges to tight tolerances, punching or machining holes and slots, and CNC machining of 3-dimensional contours.



## APPLICATIONS

- Vacuum conveying belts - machined tooth side & perforations
- Precision machined belts for precise product movement
- Distinct product orientation and location within automated processing



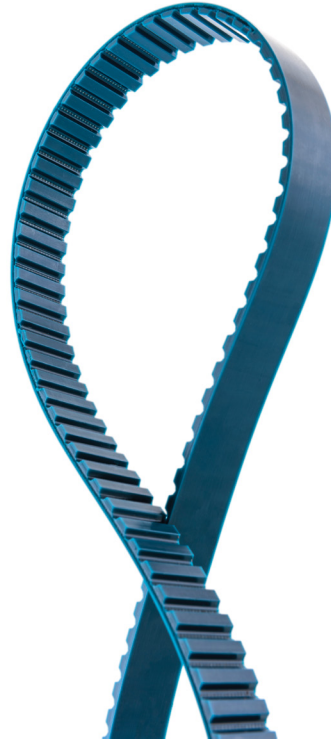
# SYNCHRO-POWER SLEEVE

## SLEEVE BELTS

Gates TPU Synchro-Power Sleeve Belts are designed to meet the higher strength and stiffness requirements that certain power transmission and high-performance positioning applications demand.

Our Synchro-Power Sleeves belts are cast on fixed molds and have continuously wound steel cords that provide more strength and stiffness than a welded belt can provide. They are manufactured in various exact sizes, constructions, and pitches to fulfill customer requirements.

**CAST ENDLESS BELTS OFFER PREMIUM CAPACITY FOR POWER TRANSMISSIONS AND ROTARY POSITIONING APPLICATIONS WHILE MEETING A BROAD RANGE OF LOADS, SPEEDS, AND APPLICATION REQUIREMENTS.**



### ATTRIBUTES

- High quality thermo-set polyurethane construction
- Helically wound steel cords for high strength, truly endless power transmission capabilities.
- Excellent abrasion resistance
- Smooth, low noise, non-marking operation
- High tooth strength reduces deforming under load
- Excellent resistance to chemicals

### APPLICATIONS

- Paper processing industry
- Wood processing industry
- Glass processing industry
- Textile industry
- Packaging machines
- Exercise equipment

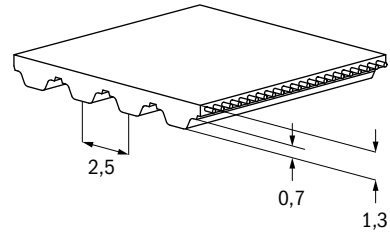
### FURTHER INFORMATION

- Backings Further information on page 96
- Special processing Further information on page 108

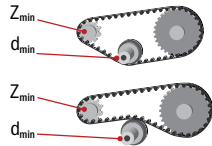
# T2,5 / PITCH: 2,5MM

## PRODUCT SPECIFICATIONS

|                          |           |
|--------------------------|-----------|
| PITCH                    | 2,5 mm    |
| STANDARD THICKNESS       | 1,3 mm    |
| STANDARD POLYURETHANE R3 | 84°ShoreA |
| STANDARD COLOR           | Blue      |
| FDA/EU APPROVAL          | No        |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 10    | 10     |
| <b>d min</b> | 7,96  | 7,96   |
| <b>z min</b> | 10    | 10     |
| <b>d min</b> | 15    | 15     |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 4    | 6    | 8     | 10    | 12    | 16    | 20    | 25    | 32    | 50    |
|---|--------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |      |      |       |       |       |       |       |       |       |       |
| Steel   | [N]    | 340  | 540  | 740   | 1.000 | 1.200 | 1.680 | 2.080 | 2.680 | 3.400 | 5.400 |
| Aramid  | [N]    | 500  | 800  | 1.095 | 1.500 | 1.800 | 2.500 | 3.100 | 4.000 | 5.100 | 8.100 |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |      |      |       |       |       |       |       |       |       |       |
| Steel   | [N]    | 85   | 135  | 180   | 250   | 300   | 420   | 520   | 670   | 850   | 1.350 |
| Aramid  | [N]    | 100  | 160  | 220   | 300   | 360   | 500   | 620   | 800   | 1.020 | 1.620 |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |      |      |       |       |       |       |       |       |       |       |
|   | [N]    | 32   | 48   | 64    | 80    | 96    | 128   | 160   | 200   | 256   | 400   |
| <b>BELT WEIGHT</b>  |        |      |      |       |       |       |       |       |       |       |       |
| Steel   | [kg/m] | 0,01 | 0,01 | 0,01  | 0,01  | 0,01  | 0,02  | 0,03  | 0,03  | 0,04  | 0,07  |
| Aramid  | [kg/m] | 0,01 | 0,01 | 0,01  | 0,01  | 0,01  | 0,02  | 0,02  | 0,02  | 0,03  | 0,05  |

# T2,5 / PITCH: 2,5MM

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 120         | 200        | 48              |
| 145         | 200        | 58              |
| 160         | 200        | 64              |
| 177.5       | 200        | 71              |
| 180         | 200        | 72              |
| 200         | 200        | 80              |
| 210         | 200        | 84              |
| 230         | 200        | 92              |
| 245         | 200        | 98              |
| 265         | 200        | 106             |
| 277.5       | 200        | 111             |
| 285         | 200        | 114             |
| 290         | 200        | 116             |
| 305         | 200        | 122             |

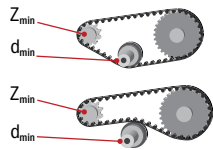
| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 317.5       | 200        | 127             |
| 330         | 380        | 132             |
| 342.5       | 380        | 137             |
| 380         | 380        | 152             |
| 420         | 380        | 168             |
| 480         | 380        | 192             |
| 500         | 380        | 200             |
| 540         | 380        | 216             |
| 600         | 380        | 240             |
| 620         | 380        | 248             |
| 650         | 380        | 260             |
| 780         | 380        | 312             |
| 915         | 380        | 366             |
| 950         | 380        | 380             |

**T5 / PITCH: 5MM**

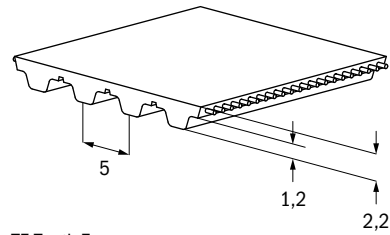
**PRODUCT SPECIFICATIONS**

|                                 |            |
|---------------------------------|------------|
| <b>PITCH</b>                    | 5 mm       |
| <b>STANDARD THICKNESS</b>       | 2,2 mm     |
| <b>STANDARD THICKNESS DL</b>    | 3,4 mm     |
| <b>STANDARD POLYURETHANE R3</b> | 84° ShoreA |
| <b>STANDARD COLOR</b>           | Blue       |
| <b>FDA/EU APPROVAL</b>          | No         |

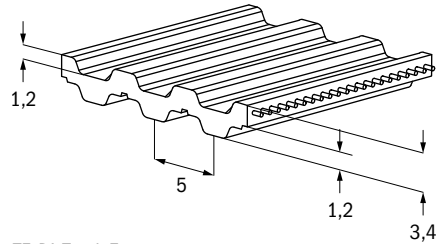
**MIN PULLEY DIAMETER:**



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 10    |
| <b>d min</b> | 15,92 |
| <b>z min</b> | 10    |
| <b>d min</b> | 30    |



T5 Tooth Form



T5-DL Tooth Form

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 4    | 6     | 8     | 10    | 12    | 16    | 20    | 25    | 32    | 50     | 75     |
|---|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |      |       |       |       |       |       |       |       |       |        |        |
| Steel   | [N]    | 570  | 880   | 1.180 | 1.500 | 1.880 | 2.640 | 3.360 | 4.240 | 5.500 | 8.600  | 13.200 |
| Aramid  | [N]    | 820  | 1.250 | 1.685 | 2.150 | 2.700 | 3.750 | 4.850 | 6.100 | 7.900 | 12.400 | 18.900 |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |      |       |       |       |       |       |       |       |       |        |        |
| Steel   | [N]    | 135  | 220   | 295   | 375   | 470   | 660   | 840   | 1.060 | 1.375 | 2.150  | 3.300  |
| Aramid  | [N]    | 155  | 250   | 330   | 430   | 540   | 750   | 970   | 1.220 | 1.580 | 2.480  | 3.780  |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |      |       |       |       |       |       |       |       |       |        |        |
|   | [N]    | 100  | 150   | 200   | 250   | 300   | 400   | 500   | 625   | 800   | 1.250  | 1.875  |
| <b>BELT WEIGHT</b>  |        |      |       |       |       |       |       |       |       |       |        |        |
| Steel   | [kg/m] | 0,01 | 0,01  | 0,02  | 0,02  | 0,02  | 0,03  | 0,04  | 0,05  | 0,07  | 0,11   | 0,16   |
| Aramid  | [kg/m] | 0,01 | 0,01  | 0,01  | 0,02  | 0,02  | 0,02  | 0,03  | 0,04  | 0,05  | 0,08   | 0,12   |
| Steel DL  | [kg/m] | 0,01 | 0,01  | 0,02  | 0,02  | 0,03  | 0,04  | 0,05  | 0,06  | 0,08  | 0,13   | 0,19   |
| Aramid DL   | [kg/m] | 0,01 | 0,01  | 0,02  | 0,02  | 0,02  | 0,03  | 0,04  | 0,05  | 0,06  | 0,10   | 0,15   |

**T5**

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 165         | 200        | 33              |
| 185         | 200        | 37              |
| 200         | 200        | 40              |
| 215         | 200        | 43              |
| 220         | 200        | 44              |
| 225         | 200        | 45              |
| 245         | 200        | 49              |
| 250         | 200        | 50              |
| 255         | 200        | 51              |
| 260         | 200        | 52              |
| 270         | 200        | 54              |
| 275         | 200        | 55              |
| 280         | 200        | 56              |
| 295         | 200        | 59              |
| 300         | 200        | 60              |
| 305         | 200        | 61              |
| 320         | 200        | 64              |
| 325         | 380        | 65              |
| 330         | 380        | 66              |
| 340         | 380        | 68              |
| 350         | 380        | 70              |
| 355         | 380        | 71              |
| 365         | 380        | 73              |
| 375         | 380        | 75              |
| 390         | 380        | 78              |
| 400         | 380        | 80              |
| 410         | 380        | 82              |
| 420         | 380        | 84              |
| 425         | 380        | 85              |
| 430         | 380        | 86              |
| 440         | 380        | 88              |
| 445         | 380        | 89              |
| 450         | 380        | 90              |
| 455         | 380        | 91              |
| 460         | 380        | 92              |
| 475         | 380        | 95              |
| 480         | 380        | 96              |
| 500         | 380        | 100             |

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 510         | 380        | 102             |
| 525         | 380        | 105             |
| 545         | 380        | 109             |
| 550         | 380        | 110             |
| 560         | 380        | 112             |
| 575         | 380        | 115             |
| 590         | 380        | 118             |
| 600         | 380        | 120             |
| 610         | 380        | 122             |
| 620         | 380        | 124             |
| 625         | 380        | 125             |
| 630         | 380        | 126             |
| 640         | 380        | 128             |
| 650         | 380        | 130             |
| 660         | 380        | 132             |
| 675         | 380        | 135             |
| 690         | 380        | 138             |
| 700         | 380        | 140             |
| 720         | 380        | 144             |
| 725         | 380        | 145             |
| 750         | 380        | 150             |
| 780         | 380        | 156             |
| 800         | 380        | 160             |
| 815         | 380        | 163             |
| 840         | 380        | 168             |
| 850         | 380        | 170             |
| 900         | 380        | 180             |
| 940         | 380        | 188             |
| 990         | 380        | 198             |
| 1000        | 380        | 200             |
| 1075        | 380        | 215             |
| 1100        | 380        | 220             |
| 1215        | 380        | 243             |
| 1315        | 380        | 263             |
| 1350        | 380        | 270             |
| 1380        | 380        | 276             |
| 1440        | 380        | 288             |

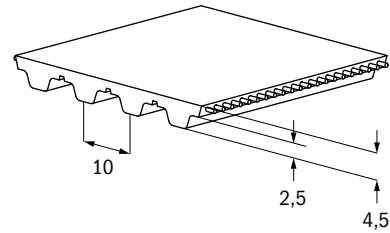
**DL T5**

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 300         | 200        | 60              |
| 400         | 380        | 80              |
| 410         | 380        | 82              |
| 450         | 380        | 90              |
| 460         | 380        | 92              |
| 480         | 380        | 96              |
| 500         | 380        | 100             |
| 515         | 380        | 103             |
| 550         | 380        | 110             |
| 590         | 380        | 118             |
| 600         | 380        | 120             |
| 620         | 380        | 124             |
| 650         | 380        | 130             |
| 700         | 380        | 140             |
| 750         | 380        | 150             |
| 815         | 380        | 163             |
| 900         | 380        | 180             |
| 940         | 380        | 188             |
| 1100        | 380        | 220             |

# T10 / PITCH: 10MM

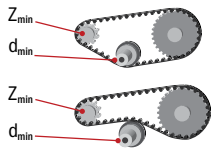
## PRODUCT SPECIFICATIONS

|                                 |            |
|---------------------------------|------------|
| <b>PITCH</b>                    | 10 mm      |
| <b>STANDARD THICKNESS</b>       | 4,5 mm     |
| <b>STANDARD THICKNESS DL</b>    | 7,0 mm     |
| <b>STANDARD POLYURETHANE R3</b> | 84° ShoreA |
| <b>STANDARD COLOR</b>           | Blue       |
| <b>FDA/EU APPROVAL</b>          | No         |

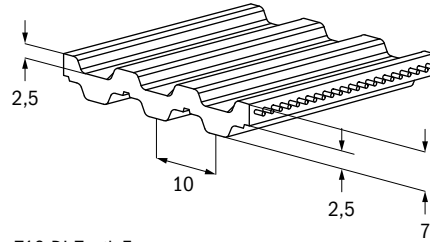


T10 Tooth Form

### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 12    | 12     |
| <b>d min</b> | 38,2  | 38,2   |
| <b>z min</b> | 12    | 12     |
| <b>d min</b> | 60    | 60     |



T10-DL Tooth Form

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 10    | 12    | 16    | 20    | 25     | 32     | 50     | 75     |
|---|--------|-------|-------|-------|-------|--------|--------|--------|--------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |       |       |       |       |        |        |        |        |
| Steel   | [N]    | 3.360 | 4.200 | 5.900 | 7.600 | 9.700  | 12.600 | 20.200 | 30.700 |
| Aramid  | [N]    | 4.000 | 5.000 | 7.000 | 9.000 | 11.500 | 15.000 | 24.000 | 36.500 |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |       |       |       |       |        |        |        |        |
| Steel   | [N]    | 840   | 1.050 | 1.475 | 1.900 | 2.425  | 3.150  | 5.050  | 7.675  |
| Aramid  | [N]    | 800   | 1.000 | 1.400 | 1.800 | 2.300  | 3.000  | 4.800  | 7.300  |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |       |       |       |       |        |        |        |        |
|   | [N]    | 569   | 683   | 911   | 1.138 | 1.423  | 1.821  | 2.846  | 4.269  |
| <b>BELT WEIGHT</b>  |        |       |       |       |       |        |        |        |        |
| Steel   | [kg/m] | 0,04  | 0,05  | 0,07  | 0,09  | 0,11   | 0,14   | 0,23   | 0,34   |
| Aramid  | [kg/m] | 0,03  | 0,04  | 0,05  | 0,06  | 0,08   | 0,10   | 0,16   | 0,24   |
| Steel DL  | [kg/m] | 0,06  | 0,07  | 0,09  | 0,11  | 0,14   | 0,18   | 0,29   | 0,44   |
| Aramid DL   | [kg/m] | 0,04  | 0,05  | 0,07  | 0,09  | 0,11   | 0,14   | 0,23   | 0,34   |

**T10**

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 260         | 200        | 26              |
| 320         | 200        | 32              |
| 370         | 380        | 37              |
| 400         | 380        | 40              |
| 410         | 380        | 41              |
| 440         | 380        | 44              |
| 450         | 380        | 45              |
| 500         | 380        | 50              |
| 530         | 380        | 53              |
| 550         | 380        | 55              |
| 560         | 380        | 56              |
| 600         | 380        | 60              |
| 610         | 380        | 61              |
| 630         | 380        | 63              |
| 650         | 380        | 65              |
| 660         | 380        | 66              |
| 690         | 380        | 69              |
| 700         | 380        | 70              |
| 720         | 380        | 72              |
| 750         | 380        | 75              |
| 780         | 380        | 78              |
| 800         | 380        | 80              |
| 810         | 380        | 81              |
| 840         | 380        | 84              |
| 850         | 380        | 85              |
| 880         | 380        | 88              |
| 890         | 380        | 89              |
| 900         | 380        | 90              |
| 910         | 380        | 91              |
| 920         | 380        | 92              |
| 950         | 380        | 95              |
| 960         | 380        | 96              |
| 970         | 380        | 97              |

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 980         | 380        | 98              |
| 1000        | 380        | 100             |
| 1010        | 380        | 101             |
| 1050        | 380        | 105             |
| 1080        | 380        | 108             |
| 1100        | 380        | 110             |
| 1110        | 380        | 111             |
| 1140        | 380        | 114             |
| 1150        | 380        | 115             |
| 1200        | 380        | 120             |
| 1210        | 380        | 121             |
| 1240        | 380        | 124             |
| 1250        | 380        | 125             |
| 1300        | 380        | 130             |
| 1320        | 380        | 132             |
| 1350        | 380        | 135             |
| 1390        | 380        | 139             |
| 1400        | 380        | 140             |
| 1420        | 380        | 142             |
| 1440        | 380        | 144             |
| 1450        | 380        | 145             |
| 1460        | 380        | 146             |
| 1500        | 380        | 150             |
| 1560        | 380        | 156             |
| 1600        | 200        | 160             |
| 1610        | 200        | 161             |
| 1700        | 200        | 170             |
| 1750        | 200        | 175             |
| 1780        | 200        | 178             |
| 1800        | 200        | 180             |
| 1880        | 200        | 188             |
| 1960        | 200        | 196             |
| 2250        | 200        | 225             |

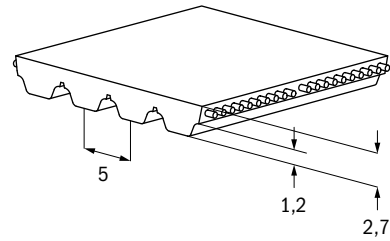
**DL T10**

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 600         | 380        | 60              |
| 630         | 380        | 63              |
| 660         | 380        | 66              |
| 700         | 380        | 70              |
| 750         | 380        | 75              |
| 800         | 380        | 80              |
| 840         | 380        | 84              |
| 900         | 380        | 90              |
| 980         | 380        | 98              |
| 1000        | 380        | 100             |
| 1100        | 380        | 110             |
| 1200        | 380        | 120             |
| 1210        | 380        | 121             |
| 1300        | 380        | 130             |
| 1320        | 380        | 132             |
| 1420        | 380        | 142             |
| 1600        | 200        | 160             |
| 1610        | 200        | 161             |
| 1700        | 200        | 170             |
| 1880        | 200        | 188             |

# AT5 / PITCH: 5MM

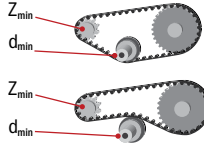
## PRODUCT SPECIFICATIONS

|                                 |           |
|---------------------------------|-----------|
| <b>PITCH</b>                    | 5 mm      |
| <b>STANDARD THICKNESS</b>       | 2,7 mm    |
| <b>STANDARD POLYURETHANE R3</b> | 84°ShoreA |
| <b>STANDARD COLOR</b>           | Blue      |
| <b>FDA/EU APPROVAL</b>          | No        |



### MIN PULLEY DIAMETER:

|              | STEEL |
|--------------|-------|
| <b>z min</b> | 15    |
| <b>d min</b> | 23,87 |
| <b>z min</b> | 15    |
| <b>d min</b> | 50    |



## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 4    | 6     | 8     | 10    | 12    | 16    | 20    | 25    | 32     | 50     | 75     |
|---|--------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |      |       |       |       |       |       |       |       |        |        |        |
| Steel   | [N]    | 723  | 1.420 | 2.065 | 2.860 | 3.700 | 5.100 | 6.560 | 8.300 | 10.800 | 17.100 | 26.400 |
| Aramid  | [N]    | 823  | 1.250 | 1.690 | 2.150 | 2.700 | 3.775 | 4.850 | 6.100 | 7.900  | 12.400 | 18.900 |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |      |       |       |       |       |       |       |       |        |        |        |
| Steel   | [N]    | 181  | 355   | 516   | 715   | 925   | 1.275 | 1.640 | 2.075 | 2.700  | 4.275  | 6.550  |
| Aramid  | [N]    | 157  | 250   | 334   | 430   | 540   | 755   | 970   | 1.220 | 1.580  | 2.480  | 3.780  |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |      |       |       |       |       |       |       |       |        |        |        |
|   | [N]    | 160  | 240   | 320   | 400   | 480   | 640   | 800   | 1.000 | 1.280  | 2.000  | 3.000  |
| <b>BELT WEIGHT</b>  |        |      |       |       |       |       |       |       |       |        |        |        |
| Steel   | [kg/m] | 0,01 | 0,02  | 0,02  | 0,03  | 0,04  | 0,05  | 0,06  | 0,08  | 0,10   | 0,17   | 0,25   |
| Aramid  | [kg/m] | 0,01 | 0,01  | 0,02  | 0,02  | 0,02  | 0,03  | 0,04  | 0,06  | 0,07   | 0,12   | 0,18   |

# AT5 / PITCH: 5MM

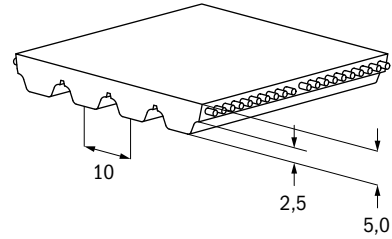
| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 225         | 200        | 45              |
| 280         | 200        | 56              |
| 300         | 200        | 60              |
| 340         | 380        | 68              |
| 375         | 380        | 75              |
| 390         | 380        | 78              |
| 420         | 380        | 84              |
| 450         | 380        | 90              |
| 455         | 380        | 91              |
| 500         | 380        | 100             |
| 545         | 380        | 109             |
| 600         | 380        | 120             |

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 610         | 380        | 122             |
| 660         | 380        | 132             |
| 710         | 380        | 142             |
| 720         | 380        | 144             |
| 750         | 380        | 150             |
| 780         | 380        | 156             |
| 825         | 380        | 165             |
| 860         | 380        | 172             |
| 975         | 380        | 195             |
| 1050        | 380        | 210             |
| 1500        | 380        | 300             |

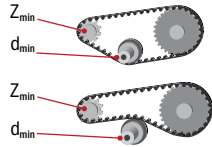
# AT10 / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|                          |           |
|--------------------------|-----------|
| PITCH                    | 10 mm     |
| STANDARD THICKNESS       | 5,0 mm    |
| STANDARD POLYURETHANE R3 | 84°ShoreA |
| STANDARD COLOR           | Blue      |
| FDA/EU APPROVAL          | No        |



### MIN PULLEY DIAMETER:



|              | STEEL | ARAMID |
|--------------|-------|--------|
| <b>z min</b> | 15    | 15     |
| <b>d min</b> | 47,75 | 47,75  |
| <b>z min</b> | 15    | 15     |
| <b>d min</b> | 120   | 120    |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 10    | 12    | 16    | 20     | 25     | 32     | 50     | 75     |
|---|--------|-------|-------|-------|--------|--------|--------|--------|--------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |       |       |       |        |        |        |        |        |
| Steel   | [N]    | 4.760 | 5.700 | 8.560 | 10.500 | 14.300 | 18.100 | 29.500 | 45.600 |
| Aramid  | [N]    | 5.500 | 6.600 | 9.900 | 12.100 | 16.500 | 20.900 | 34.100 | 52.800 |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |       |       |       |        |        |        |        |        |
| Steel   | [N]    | 1.190 | 1.425 | 2.140 | 2.625  | 3.575  | 4.525  | 7.375  | 11.450 |
| Aramid  | [N]    | 1.100 | 1.320 | 1.980 | 2.420  | 3.300  | 4.180  | 6.820  | 10.560 |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |       |       |       |        |        |        |        |        |
|   | [N]    | 890   | 1.068 | 1.424 | 1.780  | 2.225  | 2.848  | 4.450  | 6.675  |
| <b>BELT WEIGHT</b>  |        |       |       |       |        |        |        |        |        |
| Steel   | [kg/m] | 0,07  | 0,08  | 0,10  | 0,13   | 0,16   | 0,21   | 0,33   | 0,49   |
| Aramid  | [kg/m] | 0,04  | 0,05  | 0,07  | 0,09   | 0,11   | 0,14   | 0,22   | 0,33   |

# AT10 / PITCH: 10MM

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 500         | 380        | 50              |
| 560         | 380        | 56              |
| 610         | 380        | 61              |
| 660         | 380        | 66              |
| 700         | 380        | 70              |
| 730         | 380        | 73              |
| 780         | 380        | 78              |
| 800         | 380        | 80              |
| 840         | 380        | 84              |
| 890         | 380        | 89              |
| 920         | 380        | 92              |
| 960         | 380        | 96              |

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 980         | 380        | 98              |
| 1.010       | 380        | 101             |
| 1.050       | 380        | 105             |
| 1.080       | 380        | 108             |
| 1.100       | 380        | 110             |
| 1.150       | 380        | 115             |
| 1.200       | 380        | 120             |
| 1.210       | 380        | 121             |
| 1.250       | 380        | 125             |
| 1.280       | 380        | 128             |
| 1.320       | 380        | 132             |
| 1.350       | 380        | 135             |

| LENGTH [MM] | WIDTH [MM] | NUMBER OF TEETH |
|-------------|------------|-----------------|
| 1.360       | 380        | 136             |
| 1.400       | 380        | 140             |
| 1.420       | 380        | 142             |
| 1.480       | 380        | 148             |
| 1.500       | 380        | 150             |
| 1.600       | 200        | 160             |
| 1.700       | 200        | 170             |
| 1.800       | 200        | 180             |
| 1.860       | 200        | 186             |
| 1.940       | 200        | 194             |





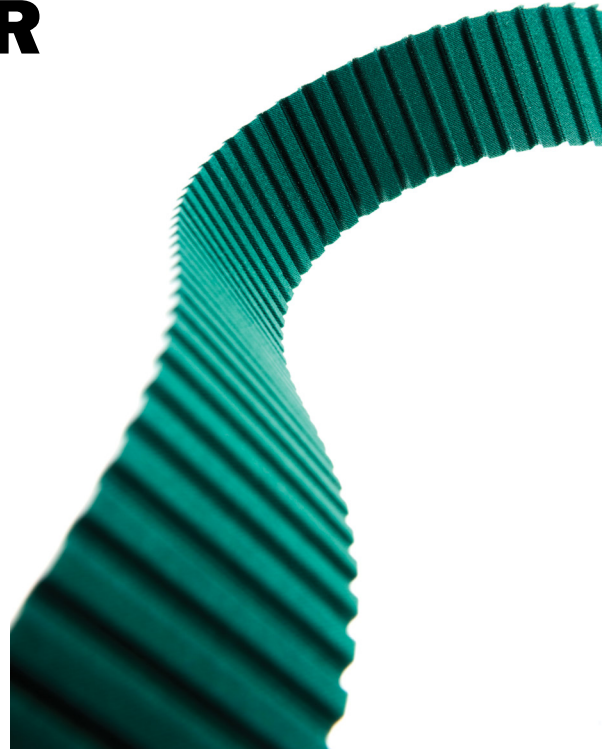
# SYNCHRO-POWER FLEX

## FLEX BELTS

Gates TPU Synchro-Power Flex Belts are designed for high power transmission drives and heavy load conveying applications.

Our flex belts are available in both standard and low-temperature urethanes to suit a range of application environments. Enhanced with our full range of backing and profile options, we are able to create customized conveying and positioning solutions.

**FLEX BELTS ARE TRULY ENDLESS EXTRUDED BELTS PRODUCED WITH HELICALLY WOUND STEEL CORDS AND ABRASION-RESISTANT POLYURETHANE, A CONSTRUCTION THAT PROVIDES LONG LASTING BELT SYSTEM SOLUTIONS FOR EVEN THE MOST DEMANDING INDUSTRIES AND APPLICATIONS.**



### ATTRIBUTES

- Extruded, thermoplastic polyurethane construction
- High performance and power transmission based on truly endless cords
- Synchronous tracking

### APPLICATIONS

- Glass & Ceramics
- Packaging
- Intralogistics
- Wood, Paper & Furniture
- Textile industry
- Machine tools
- Power transmission
- High load conveying applications

### PROCESSING OPTIONS

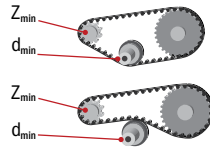
- Backings Further information on page 96
- Profiles Further information on page 102
- Special processing Further information on page 108

Further constructions are available on request.

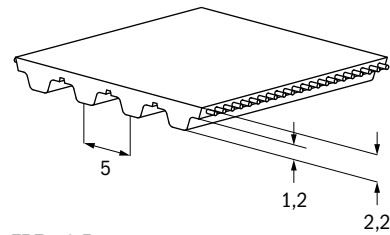
**T5 / PITCH: 5MM****PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 5 mm              |
| <b>SLEEVE WIDTH</b>               | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,5 mm           |
| > 50MM WIDTH                      | +0,75 mm          |
| <b>LENGTH RANGE</b>               | 1.520 - 12.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1750 mm           |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

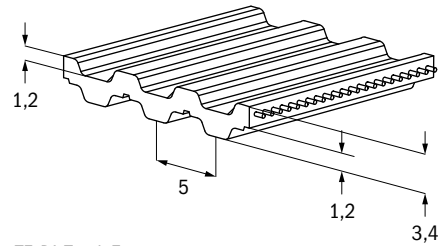
**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 10    |
| <b>d min</b> | 15,91 |
| <b>z min</b> | 15    |
| <b>d min</b> | 30    |



T5 Tooth Form



T5-DL Tooth Form

| PRODUCT LINE             | POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------------------|--------------|----------------------|-------------------------|-----------------|
| Standard                 | R23          | 90                   | -5 to +70               |                 |
| Synchro-Power Flex Polar | R23T         | 90                   | -30 to +50              | Low Temperature |

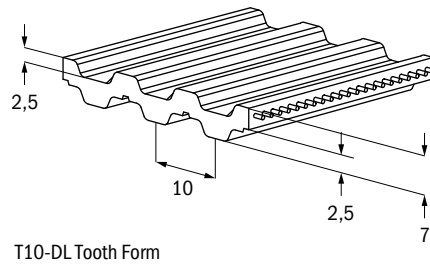
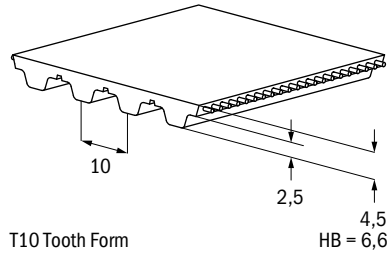
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10     | 16      | 25      | 32      | 50      | 75      | 100     |
|---|--------|--------|---------|---------|---------|---------|---------|---------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 1.250  | 2.000   | 3.375   | 4.250   | 6.875   | 10.375  | 13.875  |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 311    | 498     | 840     | 1.058   | 1.711   | 2.582   | 3.453   |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |        |         |         |         |         |         |         |
|   | [N]    | 250    | 400     | 625     | 800     | 1.250   | 1.875   | 2.500   |
| <b>BELT WEIGHT</b>  |        |        |         |         |         |         |         |         |
| Standard  | [kg/m] | 0,02   | 0,04    | 0,06    | 0,06    | 0,11    | 0,17    | 0,22    |
| DL  | [kg/m] | 0,03   | 0,04    | 0,07    | 0,09    | 0,14    | 0,21    | 0,28    |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |        |         |         |         |         |         |         |
| Steel   | [N]    | 77.778 | 124.444 | 210.000 | 264.444 | 427.778 | 645.556 | 863.333 |

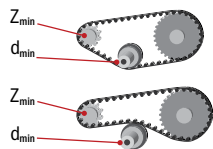
# T10 / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 10 mm             |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 150 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,50 mm          |
| > 50MM WIDTH                      | +0,75 mm          |
| <b>LENGTH RANGE</b>               | 1.520 - 22.900 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |



**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°



|              | STEEL/ARAMID | STEEL HF | NIRO | DL STEEL | DL STEEL HF | DL NIRO |
|--------------|--------------|----------|------|----------|-------------|---------|
| <b>z min</b> | 14           | 12       | 25   | 20       | 18          | 40      |
| <b>d min</b> | 45           | 38       | 80   | 64       | 57          | 130     |
| <b>z min</b> | 20           | 15       | 40   | 20       | 18          | 40      |
| <b>d min</b> | 80           | 60       | 130  | 64       | 57          | 130     |

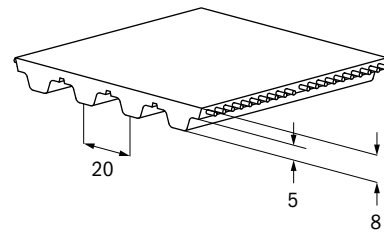
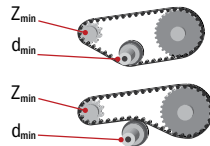
| PRODUCT LINE             | POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------------------|--------------|---------------------|------------------------|-----------------|
| Standard                 | R23          | 90                  | -5 to +70              |                 |
| Synchro-Power Flex Polar | R23T         | 90                  | -30 to +50             | Low Temperature |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 16      | 25      | 32      | 50        | 75        | 100       | 150       |
|---|--------|---------|---------|---------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |           |           |           |           |
| Steel   | [N]    | 4.200   | 7.140   | 9.240   | 14.700    | 22.260    | 29.820    | 44.940    |
| Aramid  | [N]    | 5.390   | 9.163   | 11.858  | 18.865    | 28.567    | 38.269    | 57.673    |
| Steel HF  | [N]    | 6.200   | 10.540  | 13.640  | 21.700    | 32.860    | 44.020    | 66.340    |
| NIRO  | [N]    | 3.400   | 5.780   | 7.480   | 11.900    | 18.020    | 24.140    | 36.380    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |         |         |           |           |           |           |
| Steel   | [N]    | 1.123   | 1.909   | 2.470   | 3.929     | 5.950     | 7.971     | 12.012    |
| Aramid  | [N]    | 704     | 1.196   | 1.548   | 2.463     | 3.730     | 4.997     | 7.531     |
| Steel HF  | [N]    | 1.376   | 2.340   | 3.028   | 4.818     | 7.295     | 9.773     | 14.728    |
| NIRO  | [N]    | 1.048   | 1.782   | 2.306   | 3.669     | 5.556     | 7.442     | 11.216    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |           |           |           |           |
|   | [N]    | 910     | 1.423   | 1.821   | 2.845     | 4.268     | 5.690     | 8.535     |
| <b>BELT WEIGHT</b>  |        |         |         |         |           |           |           |           |
| Steel   | [kg/m] | 0,07    | 0,11    | 0,14    | 0,22      | 0,33      | 0,44      | 0,66      |
| Aramid  | [kg/m] | 0,06    | 0,09    | 0,12    | 0,18      | 0,27      | 0,36      | 0,54      |
| Steel HF  | [kg/m] | 0,08    | 0,12    | 0,15    | 0,24      | 0,35      | 0,47      | 0,71      |
| NIRO  | [kg/m] | 0,07    | 0,11    | 0,14    | 0,22      | 0,34      | 0,45      | 0,67      |
| DL Steel  | [kg/m] | 0,08    | 0,13    | 0,17    | 0,27      | 0,40      | 0,54      | 0,81      |
| DL Aramid   | [kg/m] | 0,07    | 0,11    | 0,15    | 0,23      | 0,34      | 0,46      | 0,69      |
| DL Steel HF   | [kg/m] | 0,09    | 0,14    | 0,18    | 0,28      | 0,43      | 0,57      | 0,85      |
| DL NIRO   | [kg/m] | 0,08    | 0,13    | 0,17    | 0,27      | 0,40      | 0,54      | 0,81      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |           |           |           |           |
| Steel   | [N]    | 280.662 | 477.125 | 617.456 | 982.316   | 1.487.507 | 1.992.699 | 3.003.081 |
| Aramid  | [N]    | 175.946 | 299.109 | 387.082 | 615.813   | 932.516   | 1.249.220 | 1.882.627 |
| Steel HF  | [N]    | 344.118 | 585.000 | 757.059 | 1.204.412 | 1.823.824 | 2.443.235 | 3.682.059 |
| NIRO  | [N]    | 262.059 | 445.500 | 576.529 | 917.206   | 1.388.912 | 1.860.618 | 2.804.029 |

**T20 / PITCH: 20MM****PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 20 mm             |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 150 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            | +,-1,0 mm         |
| <b>LENGTH RANGE</b>               | 1.520 - 22.900 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.760 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

**MIN PULLEY DIAMETER:**

|              | STEEL | STEEL HF | NIRO |
|--------------|-------|----------|------|
| <b>z min</b> | 15    | 12       | 20   |
| <b>d min</b> | 95    | 76       | 127  |
| <b>z min</b> | 18    | 15       | 25   |
| <b>d min</b> | 120   | 100      | 160  |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------------------|--------------|---------------------|------------------------|-----------------|
| Standard                 | R23          | 90                  | -5 to +70              |                 |
| Synchro-Power Flex Polar | R23T         | 90                  | -30 to +50             | Low Temperature |

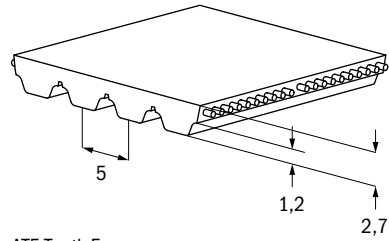
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |
| Steel   | [N]    | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Steel HF  | [N]    | 12.975  | 16.435    | 26.815    | 40.655    | 54.495    | 82.175    |
| NIRO  | [N]    | 10.688  | 13.538    | 22.088    | 33.488    | 44.888    | 67.688    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |           |           |           |           |           |
| Steel   | [N]    | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Steel HF  | [N]    | 3.456   | 4.378     | 7.142     | 10.829    | 14.515    | 21.888    |
| NIRO  | [N]    | 2.806   | 3.554     | 5.799     | 8.791     | 11.784    | 17.770    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |
|   | [N]    | 3.075   | 3.936     | 6.150     | 9.225     | 12.300    | 18.450    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,19    | 0,24      | 0,38      | 0,56      | 0,75      | 1,13      |
| Steel HF  | [kg/m] | 0,18    | 0,23      | 0,36      | 0,54      | 0,72      | 1,08      |
| NIRO  | [kg/m] | 0,19    | 0,24      | 0,37      | 0,56      | 0,74      | 1,11      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |
| Steel   | [N]    | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Steel HF  | [N]    | 864.000 | 1.094.400 | 1.785.600 | 2.707.200 | 3.628.800 | 5.472.000 |
| NIRO  | [N]    | 701.438 | 888.488   | 1.449.638 | 2.197.838 | 2.946.038 | 4.442.438 |

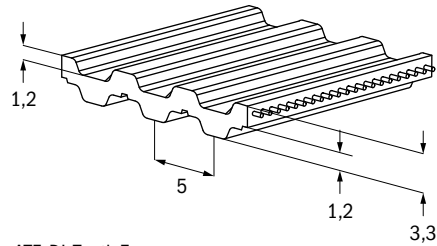
# AT5 / PITCH: 5MM

## PRODUCT SPECIFICATIONS

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 5 mm              |
| <b>SLEEVE WIDTH</b>               | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +,-0,50 mm        |
| > 50MM WIDTH                      | +,-0,75 mm        |
| <b>LENGTH RANGE</b>               |                   |
| AT5 STEEL                         | 1.520 - 15.000 mm |
| AT5 STEEL HF                      | 1.520 - 12.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

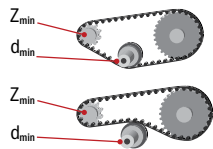


AT5 Tooth Form



AT5-DL Tooth Form

**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°



|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 15    | 12       |
| <b>d min</b> | 24    | 19       |
| <b>z min</b> | 20    | 18       |
| <b>d min</b> | 60    | 50       |

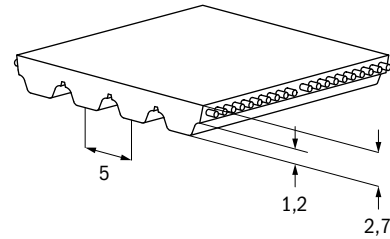
| PRODUCT LINE             | POLYURETHANE | HARDNESS [ ° SHORE A] | TEMPERATURE RANGE [ ° C] | FEATURE         |
|--------------------------|--------------|-----------------------|--------------------------|-----------------|
| Standard                 | R23          | 90                    | -5 to +70                |                 |
| Synchro-Power Flex Polar | R23T         | 90                    | -30 to +50               | Low Temperature |

## TECHNICAL DATA

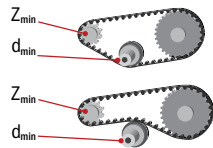
| STANDARD WIDTH (MM)   | UNIT   | 10      | 16      | 25      | 32      | 50      | 75        | 100       |
|---|--------|---------|---------|---------|---------|---------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 2.565   | 4.275   | 7.125   | 9.120   | 14.535  | 21.945    | 29.355    |
| Steel HF  | [N]    | 2.640   | 4.400   | 7.480   | 9.680   | 15.400  | 23.320    | 31.240    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 634     | 1.056   | 1.761   | 2.253   | 3.591   | 5.422     | 7.253     |
| Steel HF  | [N]    | 384     | 640     | 1.087   | 1.407   | 2.238   | 3.389     | 4.540     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |         |           |           |
|   | [N]    | 480     | 768     | 1.200   | 1.536   | 2.400   | 3.600     | 4.800     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |         |           |           |
| Steel   | [kg/m] | 0,03    | 0,05    | 0,08    | 0,11    | 0,17    | 0,25      | 0,33      |
| Steel HF  | [kg/m] | 0,03    | 0,05    | 0,08    | 0,11    | 0,17    | 0,25      | 0,33      |
| DL Steel  | [kg/m] | 0,04    | 0,06    | 0,09    | 0,12    | 0,19    | 0,28      | 0,37      |
| DL Steel HF   | [kg/m] | 0,04    | 0,06    | 0,09    | 0,12    | 0,19    | 0,28      | 0,37      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |         |           |           |
| Steel   | [N]    | 158.445 | 264.075 | 440.125 | 563.360 | 897.855 | 1.355.585 | 1.813.315 |
| Steel HF  | [N]    | 95.925  | 159.875 | 271.788 | 351.725 | 559.563 | 847.338   | 1.135.113 |

**ATL5 / PITCH: 5MM****PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 5 mm              |
| <b>SLEEVE WIDTH</b>               | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,50 mm          |
| > 50MM WIDTH                      | +0,75 mm          |
| <b>LENGTH RANGE</b>               | 1.520 - 12.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

**MIN PULLEY DIAMETER:**

50MM AT TEMPERATURES BELOW -5°



|              | STEEL |
|--------------|-------|
| <b>z min</b> | 15    |
| <b>d min</b> | 24    |
| <b>z min</b> | 20    |
| <b>d min</b> | 60    |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------------------|--------------|----------------------|-------------------------|-----------------|
| Standard                 | R23          | 90                   | -5 to +70               |                 |
| Synchro-Power Flex Polar | R23T         | 90                   | -30 to +50              | Low Temperature |

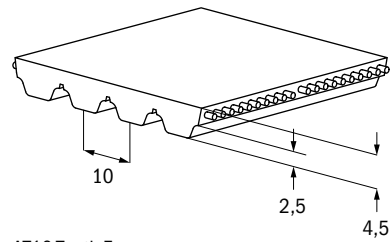
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 10      | 16      | 25      | 32      | 50        | 75        | 100       |
|---|--------|---------|---------|---------|---------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 3.720   | 6.200   | 10.540  | 13.640  | 21.700    | 32.860    | 44.020    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 774     | 1.290   | 2.193   | 2.838   | 4.515     | 6.837     | 9.159     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |         |         |           |           |           |
|   | [N]    | 480     | 768     | 1.200   | 1.536   | 2.400     | 3.600     | 4.800     |
| <b>BELT WEIGHT</b>  |        |         |         |         |         |           |           |           |
| Steel   | [kg/m] | 0,04    | 0,07    | 0,11    | 0,14    | 0,22      | 0,33      | 0,44      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |         |         |           |           |           |
| Steel   | [N]    | 193.500 | 322.500 | 548.250 | 709.500 | 1.128.750 | 1.709.250 | 2.289.750 |

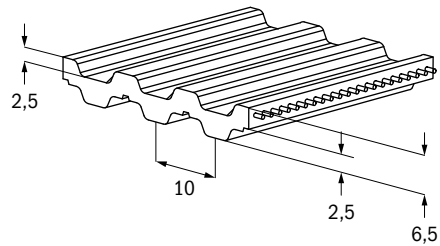
# AT10 / PITCH: 10MM

## PRODUCT SPECIFICATIONS

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 10 mm             |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 150 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,75 mm          |
| > 50MM WIDTH                      | +1,0 mm           |
| <b>LENGTH RANGE</b>               | 1.520 - 22.900 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

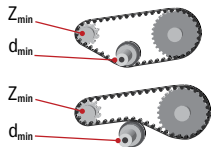


AT10 Tooth Form



AT10-DL Tooth Form

**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°



|              | STEEL | STEEL HF | NIRO |
|--------------|-------|----------|------|
| <b>z min</b> | 15    | 12       | 25   |
| <b>d min</b> | 48    | 38       | 80   |
| <b>z min</b> | 20    | 15       | 40   |
| <b>d min</b> | 120   | 100      | 120  |

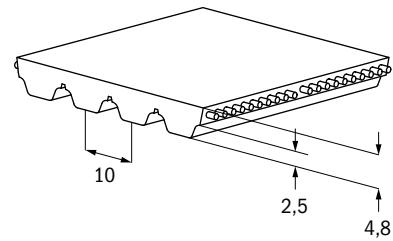
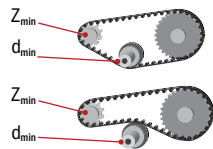
| PRODUCT LINE             | POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------------------|--------------|----------------------|-------------------------|-----------------|
| Standard                 | R23          | 90                   | -5 to +70               |                 |
| Synchro-Power Flex Polar | R23T         | 90                   | -30 to +50              | Low Temperature |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 25      | 32        | 50        | 75        | 100       | 150       |
|---|--------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |           |           |
| Steel   | [N]    | 14.250  | 18.050    | 29.450    | 44.650    | 59.850    | 90.250    |
| Steel HF  | [N]    | 12.975  | 16.435    | 26.815    | 40.655    | 54.495    | 82.175    |
| NIRO  | [N]    | 10.688  | 13.538    | 22.088    | 33.488    | 44.888    | 67.668    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |           |           |           |           |           |
| Steel   | [N]    | 3.741   | 4.739     | 7.731     | 11.722    | 15.712    | 23.693    |
| Steel HF  | [N]    | 3.456   | 4.378     | 7.142     | 10.829    | 14.515    | 21.888    |
| NIRO  | [N]    | 2.806   | 3.554     | 5.799     | 8.791     | 11.784    | 17.770    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |           |           |
|   | [N]    | 2.580   | 3.302     | 5.160     | 7.740     | 10.320    | 15.480    |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,14    | 0,18      | 0,29      | 0,43      | 0,57      | 0,86      |
| Steel HF  | [kg/m] | 0,14    | 0,18      | 0,28      | 0,41      | 0,55      | 0,83      |
| NIRO  | [kg/m] | 0,14    | 0,18      | 0,29      | 0,43      | 0,57      | 0,86      |
| DL Steel  | [kg/m] | 0,19    | 0,24      | 0,37      | 0,56      | 0,75      | 1,13      |
| DL Steel HF   | [kg/m] | 0,18    | 0,23      | 0,36      | 0,54      | 0,72      | 1,09      |
| DL NIRO   | [kg/m] | 0,19    | 0,24      | 0,37      | 0,56      | 0,75      | 1,12      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |           |           |
| Steel   | [N]    | 935.250 | 1.184.650 | 1.932.850 | 2.930.450 | 3.928.050 | 5.923.250 |
| Steel HF  | [N]    | 864.000 | 1.094.400 | 1.785.600 | 2.707.200 | 3.628.800 | 5.472.000 |
| NIRO  | [N]    | 701.438 | 888.488   | 1.449.638 | 2.197.838 | 2.946.038 | 4.442.438 |

**ATL10 / PITCH: 10MM****PRODUCT SPECIFICATIONS**

|                                   |                |
|-----------------------------------|----------------|
| <b>PITCH</b>                      | 10 mm          |
| <b>SLEEVE WIDTH</b>               |                |
| LENGTH < 12000MM                  | 150 mm         |
| LENGTH > 12000MM                  | 100 mm         |
| <b>WIDTH TOLERANCE</b>            |                |
| < 50MM WIDTH                      | +/-1,0 mm      |
| > 50MM WIDTH                      | +/-1,5 mm      |
| <b>LENGTH RANGE</b>               |                |
| ATL10 STEEL                       | 1.520 - 22.900 |
| ATL10 STEEL HF                    | 1.520 - 12.000 |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750 mm       |
| <b>STANDARD COLOR</b>             | White          |
| <b>FDA/EU APPROVAL</b>            | No             |
| <b>POLYAMIDE FABRIC</b>           | Optional NT    |

**MIN PULLEY DIAMETER:**

|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 25    | 20       |
| <b>d min</b> | 80    | 64       |
| <b>z min</b> | 30    | 25       |
| <b>d min</b> | 150   | 130      |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------------------|--------------|----------------------|-------------------------|-----------------|
| Standard                 | R23          | 90                   | -5 to +70               |                 |
| Synchro-Power Flex Polar | R23T         | 90                   | -30 to +50              | Low Temperature |

**TECHNICAL DATA**

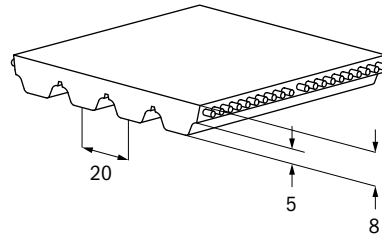
| STANDARD WIDTH (MM)   | UNIT   | 25        | 32        | 50        | 75        | 100       | 150       |
|---|--------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |           |
| Steel   | [N]    | 24.220    | 31.140    | 50.170    | 76.120    | 102.070   | 122.830   |
| Steel HF  | [N]    | 26.950    | 34.650    | 55.825    | 84.700    | 113.575   | 136.675   |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |           |           |           |           |           |           |
| Steel   | [N]    | 5.860     | 7.534     | 12.139    | 18.417    | 24.696    | 32.780    |
| Steel HF  | [N]    | 5.079     | 6.530     | 10.521    | 15.963    | 21.404    | 25.758    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |           |
|   | [N]    | 2.580     | 3.302     | 5.160     | 7.740     | 10.320    | 15.480    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,17      | 0,21      | 0,34      | 0,50      | 0,67      | 1,01      |
| Steel HF  | [kg/m] | 0,18      | 0,23      | 0,36      | 0,54      | 0,72      | 1,08      |
| DL Steel  | [kg/m] | 0,21      | 0,19      | 0,30      | 0,45      | 0,61      | 0,87      |
| DL Steel HF   | [kg/m] | 0,23      | 0,18      | 0,29      | 0,43      | 0,58      | 0,84      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |           |
| Steel   | [N]    | 1.465.000 | 1.883.571 | 3.034.643 | 4.604.286 | 6.173.929 | 7.429.643 |
| Steel HF  | [N]    | 1.269.750 | 1.632.536 | 2.630.196 | 3.990.643 | 5.351.089 | 6.439.446 |



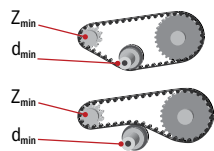
**AT20 / PITCH: 20MM**

**PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 20 mm             |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 150 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +,-1,0 mm         |
| > 50MM WIDTH                      | +,-1,5 mm         |
| <b>LENGTH RANGE</b>               |                   |
| AT20 STEEL                        | 1.600 - 22.900 mm |
| AT20 STEEL HF                     | 1.600 - 12.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.760 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |



**MIN PULLEY DIAMETER:**



|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 18    | 16       |
| <b>d min</b> | 115   | 102      |
| <b>z min</b> | 25    | 23       |
| <b>d min</b> | 180   | 150      |

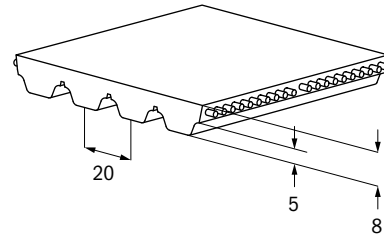
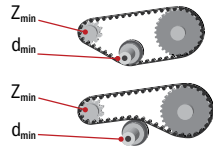
| PRODUCT LINE             | POLYURETHANE | HARDNESS [ ° SHORE A] | TEMPERATURE RANGE [ °C] | FEATURE         |
|--------------------------|--------------|-----------------------|-------------------------|-----------------|
| Standard                 | R23          | 90                    | -5 to +70               |                 |
| Synchro-Power Flex Polar | R23T         | 90                    | -30 to +50              | Low Temperature |

**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 32        | 50        | 75        | 100       | 150       |
|---|--------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |
| Steel   | [N]    | 31.140    | 50.170    | 76.120    | 102.070   | 128.020   |
| Steel HF  | [N]    | 34.650    | 55.825    | 84.700    | 113.575   | 171.325   |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |           |           |           |           |           |
| Steel   | [N]    | 7.534     | 12.139    | 18.417    | 24.696    | 30.974    |
| Steel HF  | [N]    | 5.659     | 9.432     | 14.337    | 19.242    | 29.052    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |
|   | [N]    | 6.976     | 10.900    | 16.350    | 21.800    | 32.700    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |
| Steel   | [kg/m] | 0,31      | 0,49      | 0,73      | 0,97      | 1,46      |
| Steel HF  | [kg/m] | 0,32      | 0,51      | 0,76      | 1,01      | 1,52      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |
| Steel   | [N]    | 1.883.571 | 3.034.643 | 4.604.286 | 6.173.929 | 7.743.571 |
| Steel HF  | [N]    | 1.632.536 | 2.630.196 | 3.990.643 | 5.351.089 | 6.711.536 |

**ATL20 / PITCH: 20MM****PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 20 mm             |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 150 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            | +,-2,0 mm         |
| <b>LENGTH RANGE</b>               | 1.520 - 22.900.mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.760 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

**MIN PULLEY DIAMETER:**

|              | STEEL | STEEL NIRO |
|--------------|-------|------------|
| <b>z min</b> | 25    | 26         |
| <b>d min</b> | 160   | 166        |
| <b>z min</b> | 30    | 32         |
| <b>d min</b> | 250   | 260        |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------------------|--------------|---------------------|------------------------|-----------------|
| Standard                 | R23          | 90                  | -5 to +70              |                 |
| Synchro-Power Flex Polar | R23T         | 90                  | -30 to +50             | Low Temperature |

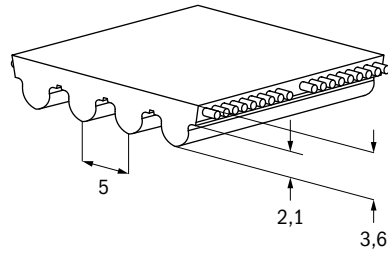
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 32        | 50        | 75        | 100       | 150        |
|---|--------|-----------|-----------|-----------|-----------|------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |            |
| Steel   | [N]    | 41.600    | 70.400    | 105.600   | 144.000   | 227.200    |
| NIRO  | [N]    | 22.500    | 38.250    | 58.500    | 78.750    | 121.500    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |           |           |           |           |            |
| Steel   | [N]    | 9.106     | 15.410    | 23.115    | 31.520    | 49.732     |
| NIRO  | [N]    | 6.110     | 10.388    | 15.887    | 21.386    | 32.996     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |            |
|   | [N]    | 6.976     | 10.900    | 16.350    | 21.800    | 32.700     |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |            |
| Steel   | [kg/m] | 0,35      | 0,54      | 0,81      | 1,08      | 1,62       |
| NIRO  | [kg/m] | 0,34      | 0,53      | 0,80      | 1,06      | 1,59       |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |            |
| Steel   | [N]    | 2.276.477 | 3.852.500 | 5.778.750 | 7.880.114 | 12.433.067 |
| NIRO  | [N]    | 1.527.600 | 2.596.920 | 3.971.760 | 5.346.600 | 8.249.040  |

**HTD5 / PITCH: 5MM**

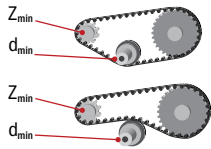
**PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 5 mm              |
| <b>SLEEVE WIDTH</b>               | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,50 mm          |
| > 50MM WIDTH                      | +0,75 mm          |
| <b>LENGTH RANGE</b>               | 1.520 - 15.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750             |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |



**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°

|              | STEEL |
|--------------|-------|
| <b>z min</b> | 16    |
| <b>d min</b> | 25    |
| <b>z min</b> | 20    |
| <b>d min</b> | 80    |



| PRODUCT LINE             | POLYURETHANE | HARDNESS [° SHORE A] | TEMPERATURE RANGE [° C] | FEATURE         |
|--------------------------|--------------|----------------------|-------------------------|-----------------|
| Standard                 | R23          | 90                   | -5 to +70               |                 |
| Synchro-Power Flex Polar | R23T         | 90                   | -30 to +50              | Low Temperature |

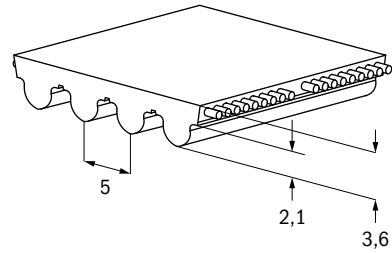
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 25      | 50      | 75        | 100       |
|---|--------|---------|---------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |           |           |
| Steel   | [N]    | 7.125   | 14.535  | 21.945    | 29.355    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |         |           |           |
| Steel   | [N]    | 1.761   | 3.591   | 5.422     | 7.253     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |           |           |
|   | [N]    | 1.125   | 2.250   | 3.375     | 4.500     |
| <b>BELT WEIGHT</b>  |        |         |         |           |           |
| Steel   | [kg/m] | 0,11    | 0,22    | 0,33      | 0,44      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |           |           |
| Steel   | [N]    | 440.125 | 897.855 | 1.355.585 | 1.813.315 |

# HTDL5 / PITCH: 5MM

## PRODUCT SPECIFICATIONS

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 5 mm              |
| <b>SLEEVE WIDTH</b>               | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,50 mm          |
| > 50MM WIDTH                      | +0,75 mm          |
| <b>LENGTH RANGE</b>               | 1.520 - 12.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750             |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |



**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°

|           |           | STEEL |
|-----------|-----------|-------|
| $z_{min}$ | $z_{min}$ | 14    |
| $d_{min}$ | $d_{min}$ | 22    |
| $z_{min}$ | $z_{min}$ | 18    |
| $d_{min}$ | $d_{min}$ | 60    |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------------------|--------------|---------------------|------------------------|-----------------|
| Standard                 | R23          | 90                  | -5 to +70              |                 |
| Synchro-Power Flex Polar | R23T         | 90                  | -30 to +50             | Low Temperature |

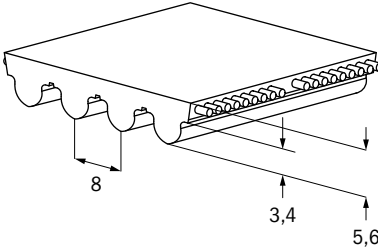
## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 25      | 50        | 75        | 100       |
|---|--------|---------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |           |           |           |
| Steel   | [N]    | 10.540  | 21.700    | 32.860    | 44.020    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |           |           |           |
| Steel   | [N]    | 2.340   | 4.818     | 7.295     | 9.773     |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |           |           |           |
|   | [N]    | 1.125   | 2.250     | 3.375     | 4.500     |
| <b>BELT WEIGHT</b>  |        |         |           |           |           |
| Steel   | [kg/m] | 0,12    | 0,25      | 0,37      | 0,49      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |           |           |           |
| Steel   | [N]    | 585.000 | 1.204.412 | 1.823.824 | 2.443.235 |

# HTD8 / PITCH: 8MM

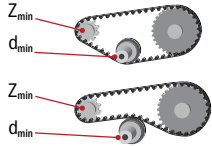
## PRODUCT SPECIFICATIONS

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 8 mm              |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 150 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +0,75 mm          |
| > 50MM WIDTH                      | +1,0 mm           |
| <b>LENGTH RANGE</b>               | 1.520 - 22.800 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.752 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |



**MIN PULLEY DIAMETER:**  
50MM AT TEMPERATURES BELOW -5°

|              | STEEL | STEEL HF | NIRO |
|--------------|-------|----------|------|
| <b>z min</b> | 18    | 16       | 25   |
| <b>d min</b> | 46    | 41       | 64   |
| <b>z min</b> | 20    | 18       | 30   |
| <b>d min</b> | 120   | 100      | 150  |



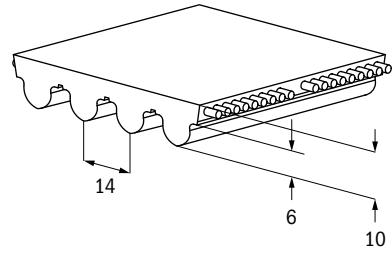
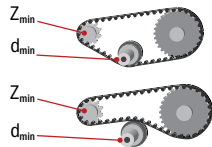
| PRODUCT LINE             | POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------------------|--------------|---------------------|------------------------|-----------------|
| Standard                 | R23          | 90                  | -5 to +70              |                 |
| Synchro-Power Flex Polar | R23T         | 90                  | -30 to +50             | Low Temperature |

## TECHNICAL DATA

| STANDARD WIDTH (MM)   | UNIT   | 20      | 25      | 30        | 50        | 85        | 100       | 150       |
|---|--------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 10.450  | 14.250  | 17.100    | 29.450    | 50.350    | 59.850    | 90.250    |
| Steel HF  | [N]    | 9.515   | 12.975  | 15.570    | 26.815    | 45.845    | 54.495    | 82.175    |
| NIRO  | [N]    | 7.838   | 10.688  | 12.825    | 22.088    | 37.763    | 44.888    | 67.688    |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 2.743   | 3.741   | 4.489     | 7.731     | 13.218    | 15.712    | 23.693    |
| Steel HF  | [N]    | 2.534   | 3.456   | 4.147     | 7.142     | 12.211    | 14.515    | 21.888    |
| NIRO  | [N]    | 2.058   | 2.806   | 3.367     | 5.799     | 9.914     | 11.784    | 17.770    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |         |         |           |           |           |           |           |
|   | [N]    | 1.860   | 2.325   | 2.790     | 4.650     | 7.905     | 9.300     | 13.950    |
| <b>BELT WEIGHT</b>  |        |         |         |           |           |           |           |           |
| Steel   | [kg/m] | 0,14    | 0,17    | 0,21      | 0,35      | 0,59      | 0,69      | 1,04      |
| Steel HF  | [kg/m] | 0,13    | 0,17    | 0,20      | 0,33      | 0,56      | 0,66      | 0,99      |
| NIRO  | [kg/m] | 0,14    | 0,17    | 0,20      | 0,34      | 0,58      | 0,68      | 1,02      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |         |         |           |           |           |           |           |
| Steel   | [N]    | 685.850 | 935.250 | 1.122.300 | 1.932.850 | 3.304.550 | 3.928.050 | 5.923.250 |
| Steel HF  | [N]    | 633.600 | 864.000 | 1.036.800 | 1.785.600 | 3.052.800 | 3.628.800 | 5.472.000 |
| NIRO  | [N]    | 514.388 | 701.438 | 841.725   | 1.449.638 | 2.478.413 | 2.946.038 | 4.442.438 |

**HTD14 / PITCH: 14MM****PRODUCT SPECIFICATIONS**

|                                   |                   |
|-----------------------------------|-------------------|
| <b>PITCH</b>                      | 14 mm             |
| <b>SLEEVE WIDTH</b>               |                   |
| LENGTH < 12000MM                  | 170 mm            |
| LENGTH > 12000MM                  | 100 mm            |
| <b>WIDTH TOLERANCE</b>            |                   |
| < 50MM WIDTH                      | +,-1,0 mm         |
| > 50 TO 100MM WIDTH               | +,-1,5 mm         |
| > 100MM WIDTH                     | +,-2,0 mm         |
| <b>LENGTH RANGE</b>               |                   |
| HTD14 STEEL                       | 1.526 - 22.890 mm |
| HTD14 STEEL HF                    | 1.526 - 11.998 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.750 mm          |
| <b>STANDARD COLOR</b>             | White             |
| <b>FDA/EU APPROVAL</b>            | No                |
| <b>POLYAMIDE FABRIC</b>           | Optional NT       |

**MIN PULLEY DIAMETER:**

|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 28    | 23       |
| <b>d min</b> | 125   | 103      |
| <b>z min</b> | 28    | 23       |
| <b>d min</b> | 200   | 160      |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [°SHORE A] | TEMPERATURE RANGE [°C] | FEATURE         |
|--------------------------|--------------|---------------------|------------------------|-----------------|
| Standard                 | R23          | 90                  | -5 to +70              |                 |
| Synchro-Power Flex Polar | R23T         | 90                  | -30 to +50             | Low Temperature |

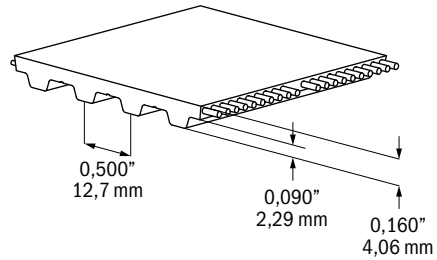
**TECHNICAL DATA**

| STANDARD WIDTH (MM)   | UNIT   | 25        | 40        | 55        | 85        | 115       | 170       |
|---|--------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |           |           |           |           |           |           |
| Steel   | [N]    | 19.030    | 31.140    | 43.250    | 67.470    | 93.420    | 138.400   |
| Steel HF  | [N]    | 21.175    | 34.650    | 48.125    | 75.075    | 103.950   | 154.000   |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |           |           |           |           |           |           |
| Steel   | [N]    | 5.156     | 8.437     | 11.718    | 18.280    | 25.311    | 37.498    |
| Steel HF  | [N]    | 4.470     | 7.314     | 10.158    | 15.846    | 21.941    | 32.506    |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |           |           |           |           |           |           |
|   | [N]    | 4.313     | 6.900     | 9.488     | 14.663    | 19.838    | 29.325    |
| <b>BELT WEIGHT</b>  |        |           |           |           |           |           |           |
| Steel   | [kg/m] | 0,27      | 0,43      | 0,59      | 0,92      | 1,24      | 1,84      |
| Steel HF  | [kg/m] | 0,28      | 0,44      | 0,61      | 0,94      | 1,28      | 1,89      |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |           |           |           |           |           |           |
| Steel   | [N]    | 1.289.000 | 2.109.273 | 2.929.545 | 4.570.091 | 6.327.818 | 9.374.545 |
| Steel HF  | [N]    | 1.117.380 | 1.828.440 | 2.539.500 | 3.961.620 | 5.485.320 | 8.126.400 |

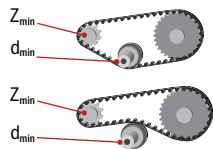
**H / PITCH: 0,500"**

**PRODUCT SPECIFICATIONS**

|                                   |                     |
|-----------------------------------|---------------------|
| <b>PITCH</b>                      | 12,7 mm             |
| <b>SLEEVE WIDTH</b>               |                     |
| LENGTH < 12000MM                  | 152,4 mm            |
| LENGTH > 12000MM                  | 101,6 mm            |
| <b>WIDTH TOLERANCE</b>            |                     |
| < 50MM WIDTH                      | +0,51 mm            |
| > 50MM WIDTH                      | +0,76 mm            |
| <b>LENGTH RANGE</b>               |                     |
| H STEEL                           | 1.524 - 22.900 mm   |
| H STEEL HF                        | 1.600,2 - 12.000 mm |
| <b>MIN LENGTH OF BELT WITH NT</b> | 1.752,6 mm          |
| <b>STANDARD COLOR</b>             | White               |
| <b>FDA/EU APPROVAL</b>            | No                  |
| <b>POLYAMIDE FABRIC</b>           | Optional NT         |



**MIN PULLEY DIAMETER:**



|              | STEEL | STEEL HF |
|--------------|-------|----------|
| <b>z min</b> | 14    | 12       |
| <b>d min</b> | 57    | 49       |
| <b>z min</b> | 20    | 15       |
| <b>d min</b> | 80    | 60       |

| PRODUCT LINE             | POLYURETHANE | HARDNESS [ ° SHORE A] | TEMPERATURE RANGE [ ° C] | FEATURE         |
|--------------------------|--------------|-----------------------|--------------------------|-----------------|
| Standard                 | R23          | 90                    | -5 to +70                |                 |
| Synchro-Power Flex Polar | R23T         | 90                    | -30 to +50               | Low Temperature |

**TECHNICAL DATA**

| STANDARD WIDTH INCH (MM)                                    | UNIT   | 0,5" (12,7MM) | 0,75" (19,05MM) | 1" (25,4MM) | 1,5" (38,1MM) | 2" (50,8MM) | 3" (76,2MM) | 4" (101,6MM) | 6" (152,4MM) |
|---|--------|---------------|-----------------|-------------|---------------|-------------|-------------|--------------|--------------|
| <b>BREAKING FORCE / AVERAGE VALUE</b>                       |        |               |                 |             |               |             |             |              |              |
| Steel   | [N]    | 3.360         | 5.040           | 7.140       | 10.920        | 14.700      | 22.260      | 29.820       | 44.940       |
| Steel HF  | [N]    | 4.960         | 7.440           | 10.540      | 16.120        | 21.700      | 32.860      | 44.020       | 66.340       |
| <b>ALLOWABLE BELT FORCE</b>                                 |        |               |                 |             |               |             |             |              |              |
| Steel   | [N]    | 898           | 1.347           | 1.909       | 2.919         | 3.929       | 5.950       | 7.971        | 12.012       |
| Steel HF  | [N]    | 1.101         | 1.652           | 2.340       | 3.579         | 4.818       | 7.295       | 9.773        | 14.728       |
| <b>ALLOWABLE EFFECTIVE FORCE / MINIMUM 12 TEETH IN MESH</b> |        |               |                 |             |               |             |             |              |              |
|   | [N]    | 825           | 1.238           | 1.650       | 2.475         | 3.300       | 4.950       | 6.600        | 9.900        |
| <b>BELT WEIGHT</b>  |        |               |                 |             |               |             |             |              |              |
| Steel   | [kg/m] | 0,051         | 0,076           | 0,102       | 0,152         | 0,203       | 0,305       | 0,406        | 0,610        |
| Steel HF  | [kg/m] | 0,055         | 0,082           | 0,109       | 0,164         | 0,218       | 0,328       | 0,437        | 0,655        |
| <b>SPECIFIC BELT STIFFNESS</b>                              |        |               |                 |             |               |             |             |              |              |
| Steel   | [N]    | 224.529       | 336.794         | 477.125     | 729.721       | 982.316     | 1.487.507   | 1.992.699    | 3.003.081    |
| Steel HF  | [N]    | 275.294       | 412.941         | 585.000     | 894.706       | 1.204.412   | 1.823.824   | 2.443.235    | 3.682.059    |

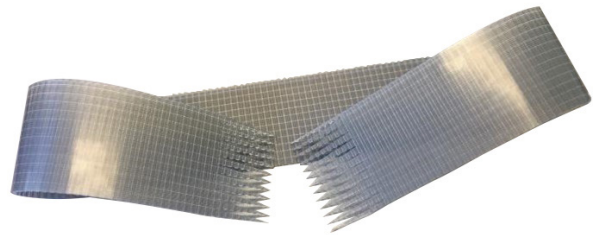


# ENDLESS WELDED OR TRULY ENDLESS?

## CONVEYING OR POWER TRANSMISSION APPLICATION?

### ENDLESS WELDED BELT FOR MOST CONVEYING APPLICATIONS

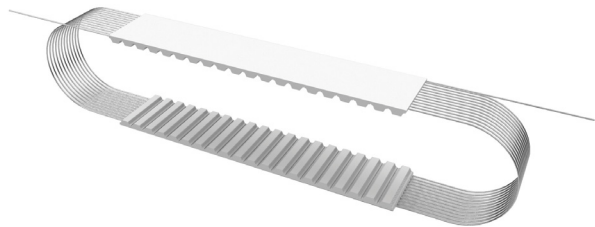
The weld has appr. 50 % of open ended belt strength.



### TRULY ENDLESS BELT FOR ROTARY POSITIONING OR LIGHT POWER TRANSMISSION APPLICATIONS

#### TRULY ENDLESS BELT OFFER 100% TENSILE STRENGTH

- Synchro-Power Sleeve for length from 120 to 2250 mm
- Synchro-Power Flex for length from 1,5 to 22,9 m





# BACKINGS

## TIMING BELTS

Gates TPU offers infinite design possibilities for both open-ended and endless timing belts from over 30 different backing material options. Most belt types can be modified by adding a backing to achieve a desired coefficient of friction, abrasion resistance or cushion. Additional surface finishing achieves the required characteristic for many applications. From ground edges or surfaces and tight tolerances to punching or machining holes and slots and CNC machining of 3-dimensional contours, Gates TPU provides a range of customized solutions.

### FABRICATION POSSIBILITIES

**WE PROVIDE AN EXTENSIVE RANGE OF FABRICATION POSSIBILITIES, TO INCLUDE COUNTLESS COMBINATIONS OF BACKINGS IN VARIOUS MATERIAL, THICKNESS AND DIMENSIONS, THAT IS AVAILABLE UPON REQUEST.**



### ATTRIBUTES

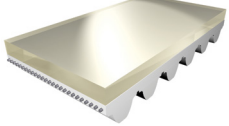

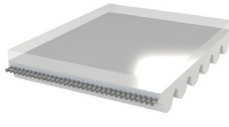
- Increase or decrease in the coefficient of friction
- Various levels of cushioning and durability
- Chemical resistance
- Oil & fat resistance
- Available with FDA/EU food approval

### APPLICATIONS

- Glass & Ceramics
- Packaging
- Stone processing industry
- Cardboard transport
- Wood processing industry
- Packaging industry
- Feeding and pulling applications
- Ascending conveyors

## POLYURETHANE BACKINGS

Polyurethane is the most abrasion-proof, resilient and durable backing - with a variety of thickness & hardness selections available, we offer options to suit your application. Polyurethane backings are thermally bonded onto the belts to ensure a strong bond to the base belt for enhanced durability.

| MATERIAL | COLOR  | HARDNESS            | MATERIAL THICKNESS | MINIMUM PULLEY DIAMETER FACTOR | NAME               | BACKING   |
|----------|--------|---------------------|--------------------|--------------------------------|--------------------|---|
| PU       | Clear  | 85 ShoreA           | 2 mm/3 mm          | x 30                           | Taracx 85          |    |
| PU       | Orange | 60 ShoreA           | 2 mm/3 mm/6 mm     | x 20                           | Taracx 60          |    |
| PU       | Green  | 50 ShoreA           | 2 mm/3 mm          | x 20                           | Taracx 50          |    |
| PU       | White  | 92 ShoreA           | 2 mm/3 mm          | x 30                           | Polyurethane White |   |
| PU       | Clear  | 85 ShoreA           | 5 mm               | Ø 120                          | Glass Backing      |  |
| PU       | Clear  | 85 ShoreA           | 3 mm               | Ø 90                           | Ridge Top          |  |
| PU       | Clear  | 85 ShoreA           | 1 mm/2 mm          | x 30                           | HV Foil            |  |
| PU       | Clear  | 85 ShoreA 95 ShoreA | 2,7 mm             | Ø 75                           | Fine Glass Backing |  |

# RUBBER BACKINGS

Rubber backings deliver a high coefficient of friction, temperature resistance, and are commonly used within wood processing, glass processing, and ceramics industries. Rubber backings are applied by adhesive bonding to suit the material characteristics.

| MATERIAL                         | COLOR  | HARDNESS   | MATERIAL THICKNESS         | MINIMUM Ø/<br>Ø FACTOR | NAME               | BACKING   |
|----------------------------------|--------|------------|----------------------------|------------------------|--------------------|---|
| NATURAL RUBBER                   | Red    | 38 Shore A | 1,6 mm<br>up to<br>10 mm * | x 20                   | Linatex™           |    |
| NATURAL RUBBER<br>(FDA Approved) | White  | 38 Shore A | 3 mm<br>5 mm<br>8 mm *     | x 20                   | Linaplus FG™       |    |
| NATURAL RUBBER                   | Beige  | 40 Shore A | 3 mm<br>6 mm *             | x 20                   | Tan Natural Rubber |    |
| NATURAL RUBBER                   | Black  | 65 Shore A | 3 mm<br>5 mm<br>6 mm *     | x 25                   | Nitrile Rubber     |   |
| NATURAL RUBBER                   | Orange | 55 Shore A | 3 mm<br>8 mm *             | x 20                   | Linatrile™         |  |
| NATURAL RUBBER                   | Yellow | 38 Shore A | 2 mm<br>4 mm *             | x 20                   | RP400              |  |

\* Several layers can be bonded together or ground for other thicknesses.

## FOAM BACKINGS

Foam Backings provide high flexibility and are commonly used within glass, paper, textile, and wood processing industries. Foam Backings are applied by adhesive bonding.

| MATERIAL                                     | COLOR          | HARDNESS                  | MATERIAL THICKNESS       | MINIMUM Ø/<br>Ø FACTOR | NAME            | BACKING   |
|--|----------------|---------------------------|--------------------------|------------------------|-----------------|---|
| HIGH DENSITY POLYURETHANE FOAM               | Yellow         | 55 Shore A                | 2 mm<br>up to<br>8 mm *  | x 30                   | HD Yellow       |    |
| POLYURETHANE FOAM                            | Yellow         | 160 kg/m <sup>3</sup>     | 12 mm *                  | x 15                   | Sylomer™ Yellow |    |
| POLYURETHANE FOAM                            | Blue           | 220 kg/m <sup>3</sup>     | 12 mm<br>25 mm *         | x 15                   | Sylomer Blue    |    |
| POLYURETHANE FOAM                            | Green          | 300 kg/m <sup>3</sup>     | 6 mm<br>12 mm<br>25 mm * | x 15                   | Sylomer Green   |   |
| FOAMED POLYURETHANE                          | Brown          | 400 kg/m <sup>3</sup>     | 6 mm<br>12 mm<br>25 mm * | x 15                   | Sylomer Brown   |  |
| POLYURETHANE FOAM                            | Red            | 500 kg/m <sup>3</sup>     | 6 mm<br>12 mm<br>25 mm * | x 15                   | Sylomer Red     |  |
| CELLULAR RUBBER                              | Black          | 150-200 kg/m <sup>3</sup> | 3 mm<br>5 mm<br>10 mm *  | x 15                   | Neoprene        |  |
| NATURAL POLYURETHANE FOAM (High Flexibility) | Beige / Yellow | 400 kg/m <sup>3</sup>     | 3 mm<br>up to<br>8 mm *  | x 15                   | Natural         |  |

\* Several layers can be bonded together or ground for other thicknesses.

## PVC BACKINGS

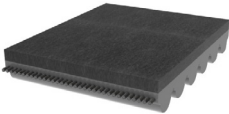

Polyvinylchlorid (PVC) Backings are commonly used in glass and wood processing, ceramic and packaging industries. Due to various FDA / EU approvals, PVC Backings are allowed within food processing or industry applications requiring high hygiene. PVC backings are applied by adhesive bonding.

| MATERIAL                   | COLOR | HARDNESS   | MATERIAL THICKNESS | MINIMUM Ø/<br>Ø FACTOR | NAME                    | BACKING   |
|----------------------------|-------|------------|--------------------|------------------------|-------------------------|---|
| PVC                        | Green | 46 Shore A | 4,8 mm             | 90 mm                  | Rough Top               |    |
| PVC<br>(FDA / EU approved) | White | 65 Shore A | 1,2 mm*            | 25 mm                  | Small Pebbles Structure |    |
| PVC<br>(FDA / EU approved) | White | 35 Shore A | 6 mm               | 40 mm                  | Large Pebbles Structure |    |
| PVC<br>(FDA / EU approved) | White | 70 Shore A | 4,5 mm             | 90 mm                  | PVC Herringbone         |   |
| PVC<br>(FDA / EU approved) | White | 40 Shore A | 2,5 mm             | 90 mm                  | PVC Saw Tooth           |  |
| PVC<br>(FDA / EU approved) | White | 65 Shore A | 0,7 mm             | 50 mm                  | PVC Waffle Structure    |  |
| PVC                        | Blue  | 60 Shore A | 1 mm<br>2 mm       | 40 mm                  | PVC Blue                |  |
| PVC<br>(FDA / EU approved) | White | 65 Shore A | 2 mm               | 40 mm                  | PVC White               |  |

## SPECIAL BACKINGS + FABRIC

### SPECIAL BACKINGS

Gates offers additional special backings such as Novo Fleece and Chrome Leather. All special backings are applied by adhesive bonding.

| MATERIAL  | COLOR      | HARDNESS       | MATERIAL THICKNESS | MINIMUM Ø | ATTRIBUTES  | NAME   | NAME           | BACKING   |
|-----------|------------|----------------|--------------------|-----------|---|--|----------------|---|
| POLYESTER | Anthracite | Not Measurable | 1,2 mm             | 25 mm     | Suited for high temp ranges<br>Oil/fat resistance                     | General Conveying Applications<br>Glass Processing | Novo Fleece    |  |
| LEATHER   | Grey       | 65 Shore A     | 2 mm<br>3 mm       | 90 mm     | High coefficient of friction<br>Abrasion resistance<br>Oil resistance | General Conveying Applications                     | Chrome Leather |  |

### FABRIC

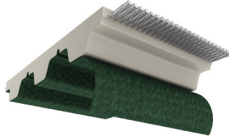
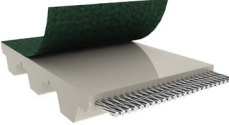
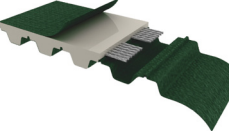
Polyamide fabric reduces the coefficient of friction to provide smooth & enhanced operating characteristics.

#### APPLICATIONS

- Accumulating conveyor
- Sliding applications

#### ATTRIBUTES

- Low coefficient of friction
- High wear resistance
- Good sliding attributes
- Low-noise operation
- Oil/fat resistance

| MATERIAL                      | COLOR | CODE | BACKING   |
|-------------------------------|-------|------|---|
| POLYAMID FABRIC ON TOOTH SIDE | Green | NT   |  |
| POLYAMID FABRIC ON BACK SIDE  | Green | NB   |  |
| POLYAMID FABRIC ON BACK SIDE  | Green | NTB  |  |

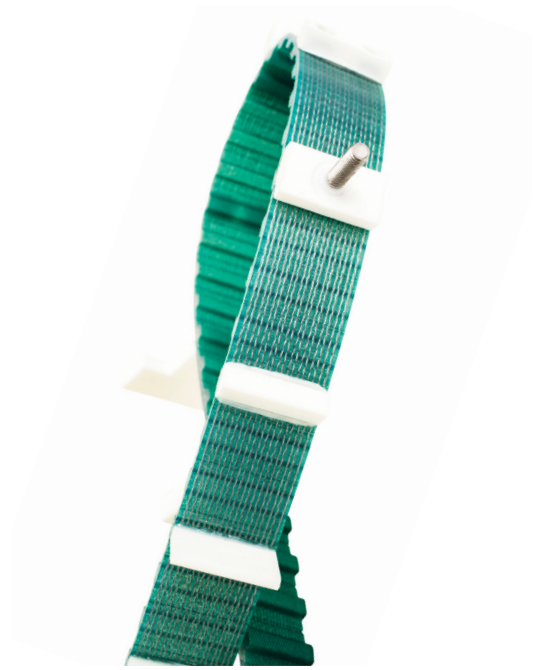


# PROFILE BELTS

Gates TPU (Thermoplastic Polyurethane) Belts can be customized with welded profiles to meet specific application requirements. The molded profiles are made of tough polyurethane and become an integral part of the belt through thermal bonding. Profiles can be manufactured in nearly any shape and construction.

Our timing belts with welded profiles are optimal for applications in packaging, general conveying and other automation equipment applications.

**CHOOSE FROM OVER 2 000 EXISTING PROFILES AVAILABLE FROM GATES' EXTENSIVE MOLD INVENTORY.**



## ATTRIBUTES

- Available for all standard pitches
- Non-marking, durable design
- Over 2 000 existing shapes and constructions
- Widths up to 18" / 450 mm available
- Thermal bonding process fuses belt and profile together

## APPLICATIONS

- Pushing applications
- General conveying applications
- Glass conveying
- Food conveying
- Hygienic industry
- Textile industry
- Wood processing industry
- Synchronous conveying applications

## FABRICATION CAPABILITIES

- Minimum length: 500 mm
- Maximum length: 25 000 mm
- Maximum width: 450 mm / 18"

Special dimensions and tolerances are available on request.



## PROFILE BELT DESIGN RECOMMENDATIONS

Over 2.000 profile designs are already available from Gates' extensive mold inventory. On our website, the Gates TPU Belt Profile Selector helps to find the profile for your application. If none of the existing profiles fit, our application engineers will help you to design new, custom built profiles which will fit your application.

Ultimate performance can be achieved by following the design guidelines outlined below:

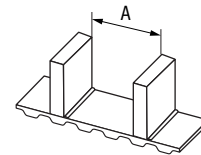
### 1. PROFILE SPACING

It is recommended that the profile spacing "A" correspond with the pitch of the belt. This allows the best spacing tolerances, and minimizes the effects of the belt's overall length tolerance on the profile spacing. Profiles can be spaced on non-Pitch increments. However, if non-Pitch spacing is used, the cumulative tolerance of the belt length must be considered.

**PLEASE ADD THE PROFILE SPACING TOLERANCE OF  $\pm 0.2$  MM TO CALCULATE THE PROFILE SPACING "A" AS FOLLOWS:**

#### EXAMPLE

|   |   |
|---|---|
| Profile Spacing Tolerance for pitch type T10: | $\pm 0,54$ mm                             |
| Profile Spacing "A" (notional value):         | 1.000 mm                                  |
| Resultant positional tolerance:               | 1.000 mm $\pm 0,74$ mm for pitch type T10 |



**TIGHTER TOLERANCES FOR PROFILE SPACING ARE AVAILABLE.  
PLEASE CONTACT GATES APPLICATIONS ENGINEERING FOR DETAILED INFORMATION.**

#### PITCH TOLERANCE FOR ALL BELT TYPES

|                            |                             |
|----------------------------|-----------------------------|
| T / STD / Imperial Pitches | $\pm 0,54$ mm perm          |
| AT / HTD / GPP / HPL       | + 0,27 mm / - 0,54 mm per m |

### 2. PROFILE DIMENSIONS

The most important considerations while dimensioning a profile are the size of the base of the profile ("foot" of the profile) and the position of the profile on the belt. The profile thickness can affect the flexibility of the belt, and can determine the minimum allowable pulley diameter. The flexibility of the belt can be maximized, however, by positioning the profile directly over the tooth of the belt. As the thickness of the foot of the profile increases, the minimum pulley diameter in the system must be increased according to the table below:

#### TOLERANCES

|  |  |
|--|--|
| Profile Width  | $\pm 0,25$ mm / $\pm 0,01$ "             |
| Profile Length   | $\pm 0,25$ mm / $\pm 0,01$ "             |
| The height tolerance of a profile in consequence of the fusion of the profile and belt at the welding area | +0,25 mm / - 0,5 mm<br>+ 0,01" / - 0,02" |





### MINIMUM NUMBER OF TEETH OF PULLEY FOR PROFILES LOCATED OVER TOOTH

| PROFILE FOOT THICKNESS (MM)   | 2    | 3   | 5    | 6   | 8    | 10  | 11   | 13  | 16  | 19  |
|-------------------------------|------|-----|------|-----|------|-----|------|-----|-----|-----|
| PROFILE FOOT THICKNESS (INCH) | 1/16 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
| XL                            | 10   | 10  | 18   | 25  | 40   | 50  | 60   | 100 | --- | --- |
| L                             | 12   | 12  | 12   | 18  | 30   | 40  | 50   | 60  | 100 | --- |
| H / H-HF                      | 14   | 14  | 14   | 14  | 18   | 25  | 35   | 45  | 80  | 100 |
| XH                            | 18   | 18  | 18   | 18  | 18   | 18  | 18   | 20  | 35  | 50  |
| T5                            | 12   | 12  | 18   | 25  | 40   | 50  | 60   | 100 | --- | --- |
| AT5 / ATL5                    | 15   | 15  | 18   | 25  | 40   | 50  | 60   | 100 | --- | --- |
| T10 / T10-HF                  | 14   | 14  | 16   | 16  | 18   | 25  | 35   | 45  | 80  | 100 |
| AT10                          | 15   | 15  | 18   | 18  | 22   | 25  | 35   | 45  | 80  | 100 |
| ATL10 / ATL10-HF              | 25   | 25  | 25   | 25  | 25   | 25  | 35   | 45  | 80  | 100 |
| T20 / AT20                    | 18   | 18  | 18   | 18  | 18   | 18  | 18   | 20  | 35  | 50  |
| ATL20                         | 30   | 30  | 30   | 30  | 30   | 30  | 30   | 30  | 35  | 50  |
| HTD5 / STD5 / HPL5            | 14   | 14  | 16   | 25  | 40   | 50  | 60   | 100 | --- | --- |
| HTD8 / STD8 / HPL8 / GPP8     | 20   | 20  | 20   | 24  | 30   | 40  | 50   | 60  | 100 | --- |
| HTD14                         | 28   | 28  | 28   | 28  | 28   | 28  | 30   | 30  | 50  | 72  |
| HTDL14 / GPP14                | 43   | 43  | 43   | 43  | 43   | 43  | 43   | 43  | 50  | 72  |

### MINIMUM NUMBER OF TEETH OF PULLEY FOR PROFILES NOT LOCATED OVER TOOTH

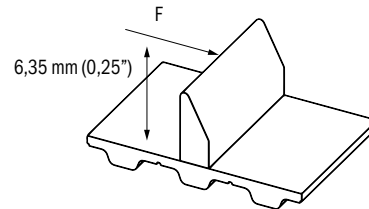
| PROFILE FOOT THICKNESS (MM)   | 2    | 3   | 5    | 6   | 8    | 10  | 11   | 13  | 16  | 19  |
|-------------------------------|------|-----|------|-----|------|-----|------|-----|-----|-----|
| PROFILE FOOT THICKNESS (INCH) | 1/16 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
| XL                            | 12   | 30  | 45   | 50  | 60   | 100 | ---  | --- | --- | --- |
| L                             | 12   | 20  | 40   | 45  | 55   | 60  | 70   | 80  | 100 | --- |
| H / H-HF                      | 14   | 14  | 25   | 30  | 45   | 50  | 55   | 65  | 80  | 100 |
| XH                            | 18   | 18  | 20   | 30  | 40   | 45  | 50   | 54  | 58  | 60  |
| T5                            | 12   | 30  | 45   | 50  | 60   | 100 | ---  | --- | --- | --- |
| AT5 / ATL5                    | 15   | 30  | 45   | 50  | 60   | 100 | ---  | --- | --- | --- |
| T10 / T10-HF / AT10           | 18   | 20  | 30   | 40  | 45   | 50  | 55   | 65  | 80  | 100 |
| ATL10 / ATL10-HF              | 25   | 25  | 30   | 40  | 45   | 50  | 55   | 65  | 80  | 100 |
| T20 / AT20                    | 18   | 18  | 20   | 30  | 40   | 45  | 50   | 54  | 58  | 60  |
| ATL20                         | 30   | 30  | 30   | 30  | 40   | 45  | 50   | 54  | 58  | 60  |
| HTD5 / STD5 / HPL5            | 18   | 30  | 45   | 50  | 60   | 100 | ---  | --- | --- | --- |
| HTD8 / STD8 / HPL8 / GPP8     | 20   | 20  | 40   | 45  | 55   | 60  | 70   | 80  | 100 | --- |
| HTD14                         | 28   | 28  | 30   | 42  | 58   | 64  | 72   | 78  | 82  | 86  |
| HTDL14 / GPP14                | 43   | 43  | 43   | 43  | 58   | 64  | 72   | 78  | 82  | 86  |

\* Not available



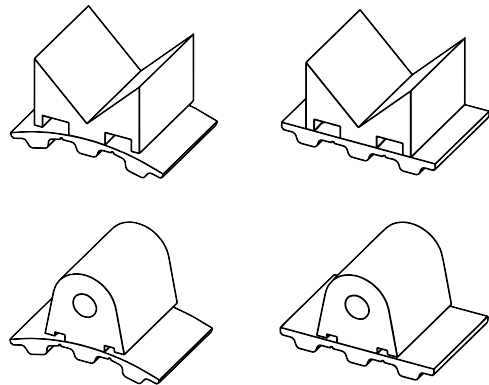
### 3. PROFILE STRENGTH

The strength, and therefore the capacity of the profile depends primarily on the size of the welded profile foot. The strength of the profile is affected by the type and direction of the force applied to it. Under high loads, the failure mode will normally be either bending or distortion of the profile and belt, or in some cases, the polyurethane may actually tear. The strength of the profile is approximately  $6 \text{ N/mm}^2$  according to the drawing opposite.



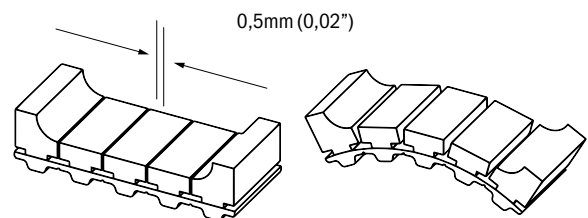
### 4. WIDE BASE PROFILES OR PROFILES WITH RELIEF

For profiles requiring a wide base, such as pushers, one foot should be left unwelded. This allows for flexing around the pulley yet it remains rigid when loaded.



### 5. SEGMENTED PROFILES

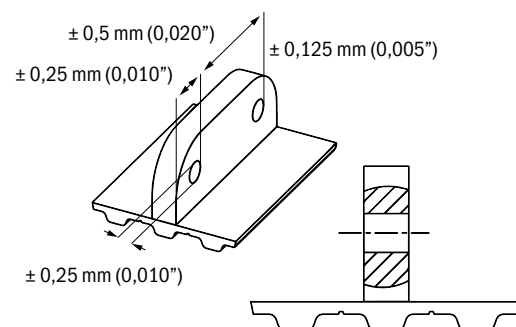
If large profiles are required as carriers, then it is necessary, that they are either segmented or slotted.



### 6. PROFILES WITH HOLES

Profiles with holes for securing paddles or other attachments can be produced. Holes are either drilled before bonding, or are molded into the profile depending upon the volume and requirements of the application. Tolerances of the hole placement depends upon whether the holes are drilled or molded.

The tolerance of the hole from the belt surface is subject to the bonding process of the profile foot and the belt surface. Generally, tolerances are as shown on the right-hand side.

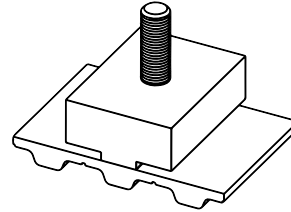




## 7. PROFILES WITH INSERTS

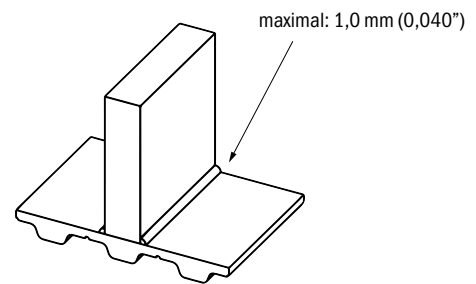
Profiles can be molded with metallic inserts. These are particularly useful in some applications to replace roller chains with attachments.

The actual inserts can either be manufactured by Gates or provided by the customer.



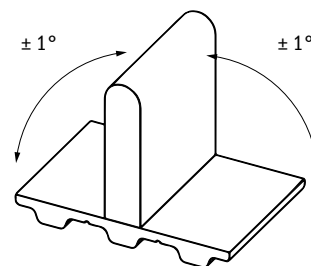
## 8. FLASH BEAD

The welding process can cause a weld bead of polyurethane between belt back and the lower profile edge. This can be removed on customer request.



## 9. PERPENDICULARITY

All profiles are perpendicular to  $\pm 1^\circ$ .



## 10. ORDERING

When ordering a profiled belt, it is advisable to submit a drawing of the profiled belt. For your convenience standard drawing forms are available from our Applications Engineering Department. Once a design is finalized, Gates will submit the drawing to the customer for approval. This custom belt drawing number should be used for future ordering.

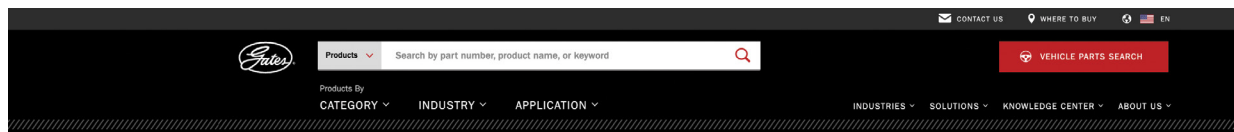


# PROFILE SELECTOR

## OUR ONLINE PROFILE SELECTOR TOOL ALLOWS YOU TO:

- Find the right profile for your application
- Download of drawings for each selection
- Review minimum pulley recommendations
- Go to our website: [www.gates.com/tpu](http://www.gates.com/tpu)
- Chose Category/Gates TPU Polyurethane Belting/Industrial Belting
- Scroll down to Synchro-Power Industrial Beling Fabrication And Accessories
- Scroll down to Product Resources you will find The Belt Profile Selector

PLEASE CONTACT OUR APPLICATIONS ENGINEERING GROUP FOR SPECIAL PROFILE SHAPES, DIMENSIONS OR TOLERANCES.



Home > Knowledge Center > Engineering Applications > Gates TPU™ Belt Profile Selector

## Gates TPU™ Belt Profile Selector

Account Number

Search By Profile Number or Keyword

► Shape

► Features

► Dimensions

► Other

250+ results

|   |   |  |  |   |
|---|---|--|--|---|
| <br><b>AN1001</b><br>TRAPEZOID<br>FEATURES<br>NONE<br>LENGTH 330.2 mm    HEIGHT 12.7 mm<br>THICKNESS 6.4 mm    WELD FOOT 6.4 mm   | <br><b>AN1002</b><br>TRAPEZOID<br>FEATURES<br>NONE<br>LENGTH 330.2 mm    HEIGHT 15.9 mm<br>THICKNESS 6.4 mm    WELD FOOT 6.4 mm   | <br><b>AN1003</b><br>OTHERS<br>FEATURES<br>NONE<br>LENGTH 330.2 mm    HEIGHT 15.9 mm<br>THICKNESS 9.5 mm    WELD FOOT 9.5 mm                       | <br><b>AN1004</b><br>TRIANGLE<br>FEATURES<br>NONE<br>LENGTH 330.2 mm    HEIGHT 25.4 mm<br>THICKNESS 9.5 mm    WELD FOOT 9.5 mm           | <br><b>AN1005</b><br>OTHER RECTANGLE<br>FEATURES<br>NONE<br>LENGTH 254.0 mm    HEIGHT 38.1 mm<br>THICKNESS 6.4 mm    WELD FOOT 6.4 mm |
| <br><b>AN1006</b><br>TRAPEZOID<br>FEATURES<br>NONE<br>LENGTH 304.8 mm    HEIGHT 19.8 mm<br>THICKNESS 19.1 mm    WELD FOOT 19.1 mm | <br><b>AN1007</b><br>TRAPEZOID<br>FEATURES<br>NONE<br>LENGTH 304.8 mm    HEIGHT 10.3 mm<br>THICKNESS 19.1 mm    WELD FOOT 19.1 mm | <br><b>AN1008</b><br>TRIANGLE<br>FEATURES<br>SUPPORT LEG - BACK ONLY<br>LENGTH 304.8 mm    HEIGHT 21.6 mm<br>THICKNESS 17.5 mm    WELD FOOT 4.8 mm | <br><b>AN1009</b><br>OTHER RECTANGLE<br>FEATURES<br>NONE<br>LENGTH 304.8 mm    HEIGHT 44.5 mm<br>THICKNESS 28.035 mm    WELD FOOT 6.4 mm | <br><b>AN1010</b><br>TRAPEZOID<br>FEATURES<br>NONE<br>LENGTH 279.4 mm    HEIGHT 3.2 mm<br>THICKNESS 10.1 mm    WELD FOOT 10.1 mm      |



# FABRICATION CAPABILITIES

Gates TPU offers further finishing for belts to achieve a variety of application requirements. From ground edges or surfaces and tight tolerances to punching or machining holes and slots and CNC machining of 3-dimensional contours, Gates TPU provides a range of customized solutions.



## MILLING:

|        |                        |
|--------|------------------------|
| LENGTH | 500 mm up to 52.000 mm |
| WIDTH  | 10 mm up to 450 mm     |

## PUNCHING/CNC MACHINING:

|                       |                        |
|-----------------------|------------------------|
| LENGTH                | 500 mm up to 30.000 mm |
| WIDTH                 | 10 mm up to 450 mm     |
| MIN. HOLE DIAMETER:   | 1 mm                   |
| NO MAX. HOLE DIAMETER |                        |

## GRINDING:

|        |                        |
|--------|------------------------|
| LENGTH | 500 mm up to 50.000 mm |
| WIDTH  | 10 mm up to 250 mm     |

## REMOVING INDIVIDUAL TEETH

|         |   |
|---------|---|
| SLOTING | The flexibility can be increased by cross grooving thick coatings |
|---------|---|

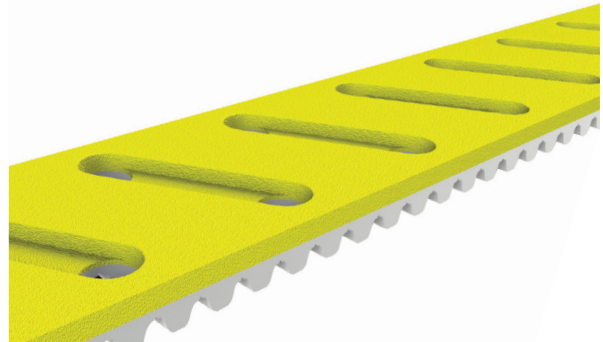
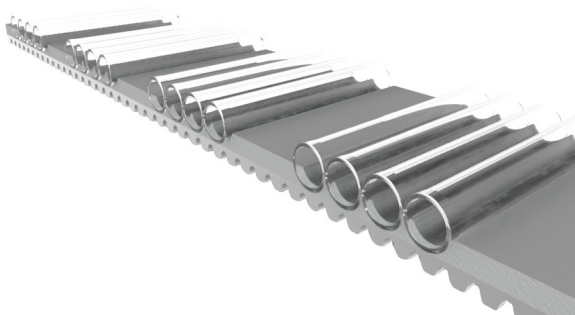
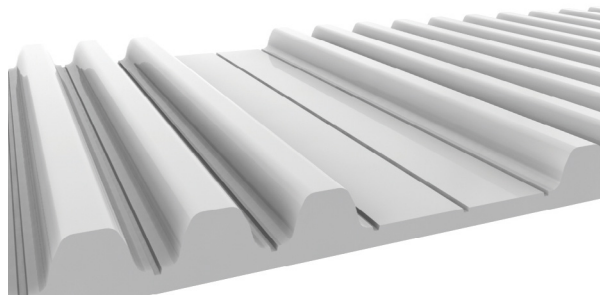
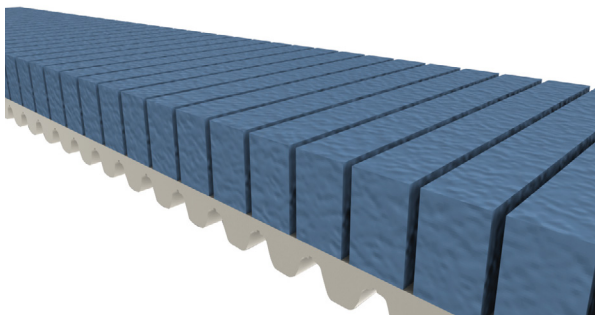
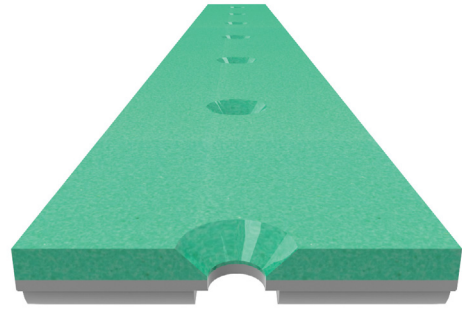
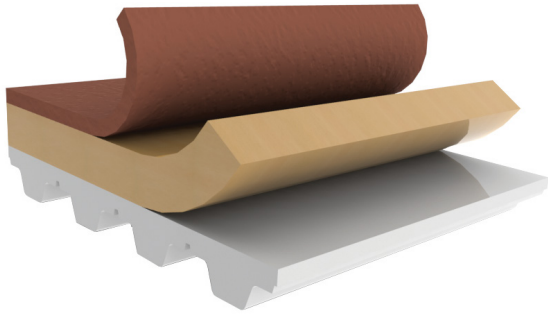
OUR APPLICATION ENGINEERS WILL HELP YOU WITH YOUR CUSTOM REQUIREMENTS.

## ADVANTAGES

- Unlimited adaptability for nearly all dimensions, contours and configurations
- Combination of flexible base belt manufacturing and additional fabrication in one hand

## EXAMPLE OF USE

- Vacuum belts for precise transportation of light weight goods such as paper sheets or films
- Conveying for automotive production applications





# TECHNICAL DESIGN

In order to ensure the design of proper belt drive systems, we provide technical data and equations to aid in the necessary calculations. For any questions regarding the information and/or data within this section, please contact our application engineers.

|                      |   |                     |   |
|----------------------|---|---------------------|---|
| a                    | Acceleration [m/s <sup>2</sup> ]                  | l                   | Gauge Length during Frequency Measurement [mm]                |
| $\beta$              | Angle of Inclination [°]                          | L <sub>1</sub>      | Tight Side Length [mm]  |
| C <sub>R</sub>       | Overall Stiffness [N]                             | L <sub>2</sub>      | Slack Side Length [mm]  |
| C <sub>SP</sub>      | Belt Stiffness [N]                                | m                   | Mass [kg]   |
| d                    | Diameter  | m <sub>a</sub>      | Mass of accumulated Good [kg]                                 |
| $\Delta x$           | Elongation [mm]                                   | m <sub>b</sub>      | Mass of Belt [kg/m]   |
| $\Delta x_{pos}$     | Positional Deviation [mm]                         | m <sub>c</sub>      | Mass of Counter Weight [kg]                                   |
| f                    | Frequency [Hz]                                    | m <sub>f</sub>      | Mass of Transported Goods [kg]                                |
| F <sub>1</sub>       | Tight Side Belt Force [N]                         | $\mu$               | Coefficient of Friction between Belt and Support              |
| F <sub>1all</sub>    | Allowable Belt Force [N]                          | $\mu_a$             | Coefficient of Friction between Belt and Transported Material |
| F <sub>1max</sub>    | Maximum occurring Belt Force [N]                  | n                   | Speed [1/min]   |
| F <sub>2opt</sub>    | Optimal Slack Side Force [N]                      | $\rho$              | Vacuum [N/m <sup>2</sup> ]                                    |
| F <sub>a</sub>       | Acceleration Force [N]                            | P <sub>M</sub>      | Motor Power on Output Shaft [kW]                              |
| F <sub>break</sub>   | Breaking Force [N]                                | P <sub>N</sub>      | Nominal Power [kW]  |
| F <sub>e</sub>       | Effective Force [N]                               | $d_{pulley}$        | Diameter of Driver Pulley [mm]                                |
| F <sub>eall</sub>    | Allowable Effective Force [N]                     | S <sub>iBreak</sub> | Safety Factor on Breaking Force                               |
| F <sub>eallapp</sub> | Maximum Allowable Effective Force Application [N] | S <sub>iF1</sub>    | Safety Factor on allowable Belt Force                         |
| F <sub>f</sub>       | Friction Force [N]                                | S <sub>iFe</sub>    | Safety Factor on allowable Effective Force                    |
| F <sub>fa</sub>      | Friction Force during Accumulation [N]            | S <sub>f</sub>      | Safety Factor   |
| F <sub>fv</sub>      | Friction Force due to Vacuum [N]                  | t <sub>m</sub>      | Tooth in Mesh Factor  |
| F <sub>g</sub>       | Gravitational Force [N]                           | T                   | Torque [Nm]   |
| F <sub>pre</sub>     | Force for Pretensioning [N]                       | T <sub>M</sub>      | Torque of Motor Output Shaft [Nm]                             |
| F <sub>w</sub>       | Externally applied Working Force [N]              | t <sub>v</sub>      | Speed Factor  |
| g                    | Gravitational Acceleration [m/s <sup>2</sup> ]    | v                   | Speed [m/s]   |
| L                    | Timing Belt Length [mm]                           | z <sub>m</sub>      | Teeth in Mesh   |



## A) SAFETY FACTOR

Uniform loads do not require a safety factor. However, in the case of alternating, shock, accelerating, or decelerating loads a suitable safety factor should be considered.

| LOAD                    | Safety Factor $S_r$ |
|-------------------------|---------------------|
| LOW ALTERNATING LOAD    | 1,2 - 1,5           |
| MEDIUM ALTERNATING LOAD | 1,5 - 1,8           |
| HEAVY ALTERNATING LOAD  | 1,8 - 2,2           |

Table 1

## B) TOOTH IN MESH FACTOR $t_m$ SPEED FACTOR $t_v$

| TEETH IN MESH | TEETH IN MESH FACTOR |
|---------------|----------------------|
| $Z_e$         | $t_m$                |
| 3             | 0,25                 |
| 4             | 0,33                 |
| 5             | 0,42                 |
| 6             | 0,50                 |
| 7             | 0,58                 |
| 8             | 0,67                 |
| 9             | 0,75                 |
| 10            | 0,83                 |
| 11            | 0,92                 |
| 12            | 1,00                 |

Table 2

| SPEED [M/S] | SPEED FACTOR |
|-------------|--------------|
| $v$         | $t_v$        |
| 0           | 1,00         |
| 0,25        | 0,97         |
| 0,5         | 0,93         |
| 0,75        | 0,89         |
| 1           | 0,86         |
| 1,5         | 0,82         |
| 2           | 0,77         |
| 2,5         | 0,74         |
| 3           | 0,71         |
| 3,5         | 0,68         |
| 4           | 0,66         |
| 4,5         | 0,63         |
| 5           | 0,61         |
| 6           | 0,58         |
| 7           | 0,56         |
| 8           | 0,53         |
| 9           | 0,51         |
| 10          | 0,49         |
| 11          | 0,47         |
| 13          | 0,44         |
| 15          | 0,42         |
| 16          | 0,40         |
| 18          | 0,38         |
| 20          | 0,35         |

Table 3

## C) BRAKING / EMERGENCY STOP

Belt type and width selection is based on the calculated effective force at the driver pulley,  $F_e$ , and the calculated tight side force (tension),  $F_1$ .  $F_e$  and  $F_1$  should be calculated for peak load conditions, such as emergency braking, as well as for normal operating conditions. The following section illustrates how  $F_e$  and  $F_1$  are calculated for various applications.



# CALCULATION OF CONVEYING APPLICATIONS

## A) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  at the driver pulley is derived from the sum of all individual forces resisting the belt motion. The individual loads contributing to the effective force must be identified and calculated based on the loading conditions and drive configurations. To determine the effective force please use the method for conveying as follows:

$$F_e = \sum F_{\text{Resistance}}$$

### I. FRICTION FORCE $F_f$

The friction force between the timing belt and the slider bed due to the weight of the conveyed good that is normal (perpendicular) to the direction of conveyance.

$$F_f = \mu \times g \times m_f \times \cos\beta$$

### II. FRICTION FORCE DURING ACCUMULATION $F_{Fa}$

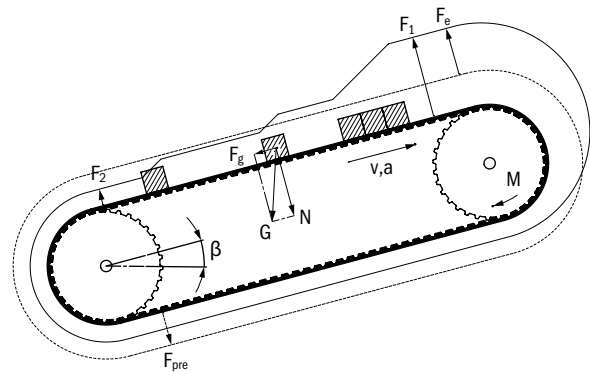
The friction force between the timing belt, slider bed and the conveyed material due to the mass component of the accumulated material vertically to the direction of conveyance.

$$F_{Fa} = (\mu + \mu_a) \times g \times m_a \times \cos\beta$$

### III. GRAVITATIONAL FORCE $F_g$

Force to lift the material being transported on an inclined conveyor.

$$F_g = m_f \times g \times \sin\beta$$



### IV. ACCELERATION FORCE $F_a$

Force to accelerate the mass of the conveyed good.

$$F_a = m_f \times a$$

### V. ADDITIONAL FORCES

Motion resistance resulting from the belt or idler mass, or other components are typically insignificant. If these additional forces are considered significant relative to the initial  $F_e$  calculated, they need to be calculated and added to  $F_e$ .

## TECHNICAL DATA - COEFFICIENT OF FRICTION

- Polyurethane vs. Steel dry 0,5 up to 0,7
- Polyurethane vs. Aluminum dry 0,5 up to 0,6
- Polyurethane vs. UHMWPE dry 0,2 up to 0,4
- Polyamide vs. Steel dry 0,2 up to 0,4
- Polyamide vs. UHMWPE dry 0,1 up to 0,3



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{pre}$

For trouble-free operation, it is necessary that the slack side does not fall below a certain tension. The pre-tension prevents jumping of the pulley teeth during belt operation. In order to collect the pre-tension, the optimal slack side force has to be ascertained as follows:

$$F_{2opt} = (0,1...0,3) \times F_e$$

Higher values are recommended for longer belt lengths.

Assuming an optimal slack side force, the force for pre-tensioning is calculated considering the tight side length  $L_1$  and the total timing belt length  $L$  as follows:

$$F_{pre} = F_{2opt} + F_e \times L_1/L$$

## C) CALCULATION OF TIGHT SIDE BELT FORCE $F_1$

In the worst case the tight side belt force results as follows (application moving at full load):

$$F_1 = F_e + F_{pre}$$

## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force Applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

$$F_{1all} > F_1$$

## E) CALCULATION OF SAFETY FACTOR $S_f$

### I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES $S_{fFe}$

$$S_{fFe} = F_{eallapp} / F_e$$

### II. SAFETY FACTOR ON ALLOWABLE BELT FORCE $S_{fF1}$

$$S_{fF1} = F_{1all} / F_1$$

### III. SAFETY FACTOR ON ULTIMATE TENSILE STRENGTH $S_{fBreak}$

$$S_{fBreak} = F_{Break} / F_1$$

Both calculated allowable safety factors  $S_{fFe}$  and  $S_{fF1}$  should be higher than required safety factor found in table 1 depending on the type of load.

# CALCULATION OF LINEAR POSITIONING APPLICATIONS

## A) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  at the driver pulley is derived from the sum of all individual forces resisting the belt motion. The individual loads contributing to the effective force must be identified and calculated based on the loading conditions and drive configurations.

$$F_e = \sum F_{\text{Resistance}}$$

### I. ACCELERATION FORCE $F_a$

Force to accelerate the loaded slide with mass  $m_f$ .

$$F_a = m_f \times a$$

### II. FRICTION FORCE $F_f$

The friction force of the linear rail / bearing system.

$$F_f = \mu \times g \times m_f \times \cos\beta$$

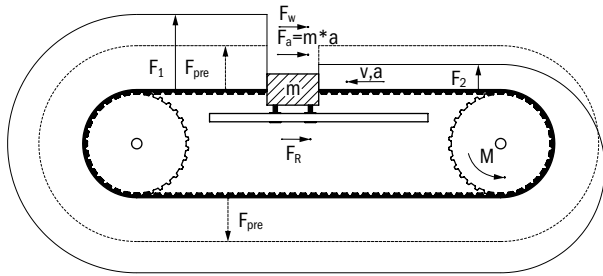
### III. GRAVITATIONAL FORCE $F_g$

Force to lift the loaded slide with mass  $m_f$  on an inclined linear actuator.

$$F_g = m_f \times g \times \sin\beta$$

### IV. ADDITIONAL FORCES

Motion resistance resulting from the belt or idler mass, or other components are typically insignificant. If these additional forces are considered significant relative to the initial  $F_e$  calculated, they need to be calculated and added to  $F_e$ .



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{pre}$

For trouble-free operation, it is necessary that the slack side does not fall below a certain tension. The pre-tension prevents jumping of the pulley teeth during belt operation. In order to collect the pre-tension, the optimal slack side force has to be ascertained as follows:

$$F_{2opt} = (0,1...0,3) \times F_e$$

Higher values are recommended for longer belt lengths. Assuming an optimal slack side force, the force for pre-tensioning is calculated considering the tight side length  $L_1$  and the total timing belt length  $L$  as follows:

$$F_{pre} = F_{2opt} + F_e \times L_1/L$$



## C) CALCULATION OF TIGHT SIDE BELT FORCE $F_1$

In the worst case the tight side belt force results as follows (application moving at full load):

$$F_1 = F_e + F_{pre}$$

## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

$$F_{1all} > F_1$$

## E) CALCULATION OF SAFETY FACTOR $S_F$

I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES  $S_{iFe}$

$$S_{iFe} = F_{eallapp} / F_e$$

II. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES  $S_{iF1}$

$$S_{iF1} = F_{1all} / F_1$$

III. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES  $S_{iBreak}$

$$S_{iBreak} = F_{Break} / F_1$$

Both calculated allowable safety factors  $S_{iFe}$  and  $S_{iF1}$  should be higher than required safety factor found in table 1 depending on the type of load.



# CALCULATION OF OMEGA LINEAR POSITIONING APPLICATIONS

## A) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  at the driver pulley is derived from the sum of all individual forces resisting the belt motion. The individual loads contributing to the effective force must be identified and calculated based on the loading conditions and drive configurations.

$$F_e = \sum F_{\text{Resistance}}$$

### I. ACCELERATION FORCE $F_a$

Force to accelerate the loaded slide with mass  $m_f$ .

$$F_a = m_f \times a$$

### II. FRICTION FORCE $F_f$

The friction force of the linear rail / bearing system.

$$F_f = \mu \times g \times m_f \times \cos\beta$$

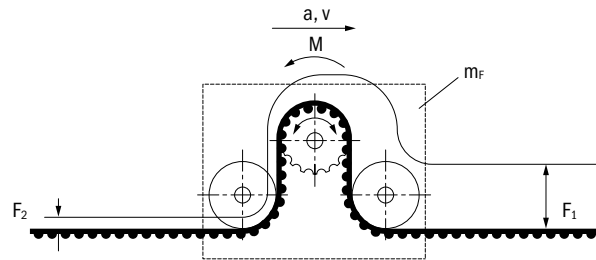
### III. GRAVITATIONAL FORCE $F_g$

Force to lift the loaded slide with mass  $m_f$  on an inclined linear actuator.

$$F_g = m_f \times g \times \sin\beta$$

### IV. ADDITIONAL FORCES

Motion resistance resulting from the belt or idler mass, or other components are typically insignificant. If these additional forces are considered significant relative to the initial  $F_e$  calculated, they need to be calculated and added to  $F_e$ .



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{pre}$

For trouble-free operation, it is necessary that the slack side does not fall below a certain tension. The pre-tension prevents jumping of the pulley teeth during belt operation. In order to collect the pre-tension, the optimal slack side force has to be ascertained as follows:

$$F_{2opt} = (0,1...0,3) \times F_e$$

Higher values are recommended for longer belt lengths. Assuming an optimal slack side force, the force for pre-tensioning is calculated considering the tight side length  $L_1$  and the total timing belt length  $L$  as follows:

$$F_{pre} = F_{2opt} + F_e \times L_1/L$$



## C) CALCULATION OF TIGHT SIDE BELT FORCE $F_1$

In the worst case the tight side belt force results as follows (application moving at full load):

$$F_1 = F_e + F_{pre}$$

## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

$$F_{1all} > F_1$$

## E) CALCULATION OF SAFETY FACTOR $S_F$

I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES  $S_{F_{Fe}}$   $S_{F_{Fe}} = F_{eallapp} / F_e$

II. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES  $S_{F_1}$   $S_{F_1} = F_{1all} / F_1$

III. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCES  $S_{F_{Break}}$   $S_{F_{Break}} = F_{Break} / F_1$

Both calculated allowable safety factors  $S_{F_{Fe}}$  and  $S_{F_1}$  should be higher than required safety factor found in table 1 depending on the type of load.

# CALCULATION OF LIFTING APPLICATIONS: TWO PULLEYS NO COUNTER WEIGHT

## A) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  at the driver pulley is derived from the sum of all individual forces resisting the belt motion. The individual loads contributing to the effective force must be identified and calculated based on the loading conditions and drive configuration.

$$F_e = \sum F_{\text{Resistance}}$$

### I. GRAVITATIONAL FORCE $F_g$

Force to lift the loaded slide with mass  $m$ .

$$F_g = m \times g$$

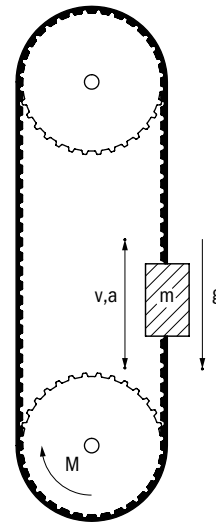
### II. ACCELERATION FORCE $F_a$

Force to accelerate the loaded slide with mass  $m$ .

$$F_a = m \times a$$

### III. ADDITIONAL FORCES

An estimate of the frictional forces that resist the belt motion should be added to the sum of the above calculated forces to determine the effective force  $F_e$ . Motion resistance resulting from the belt or idler mass, or other components are typically insignificant. If these additional forces are considered significant relative to the initial  $F_e$  calculated, they need to be calculated and added to  $F_e$ .



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{pre}$

For trouble-free operation, it is necessary that the slack side does not fall below a certain tension. The pre-tension prevents jumping of the pulley teeth during belt operation. In order to collect the pre-tension, the optimal slack side force has to be ascertained as follows:

$$F_{2opt} = (0,1...0,3) \times F_e$$

Higher values are recommended for longer belt lengths. Assuming an optimal slack side force, the force for pre-tensioning is calculated considering the tight side length  $L_1$  and the total timing belt length  $L$  as follows:

$$F_{pre} = F_{2opt} + F_e \times L_1/L$$



## C) CALCULATION OF TIGHT SIDE BELT FORCE $F_1$

In the worst case the tight side belt force results as follows (Conveyor moving at full load):

$$F_1 = F_e + F_{pre}$$

## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force Applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

$$F_{1all} > F_1$$

## E) CALCULATION OF SAFETY FACTOR $S_f$

### I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCE $S_{iFe}$

$$S_{iFe} = F_{eallapp} / F_e$$

### II. SAFETY FACTOR ON ALLOWABLE BELT FORCE $S_{iF1}$

$$S_{iF1} = F_{1all} / F_1$$

### III. SAFETY FACTOR ON ULTIMATE TENSILE STRENGTH $S_{iBreak}$

$$S_{iBreak} = F_{Break} / F_1$$

Both calculated allowable safety factors  $S_{iFe}$  and  $S_{iF1}$  should be higher than required safety factor found in table 1 depending on the type of load.



# CALCULATION OF LIFTING APPLICATIONS: TWO PULLEYS WITH COUNTER WEIGHT

## A) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  at the driver pulley is derived from the sum of all individual forces resisting the belt motion. The individual loads contributing to the effective force must be identified and calculated based on the loading conditions and drive configuration.

$$F_e = \sum F_{\text{Resistance}}$$

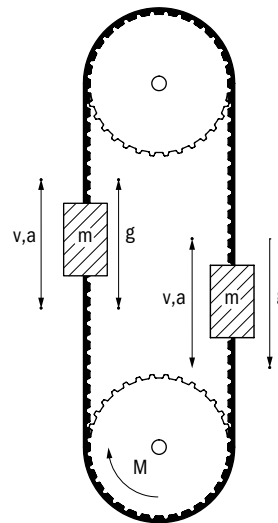
### I. ACCELERATION FORCE $F_a$

Force to accelerate the loaded slide with mass  $m$ .

$$F_a = m \times (g + a) - m_c \times (g - a)$$

### II. ADDITIONAL FORCES

An estimate of the frictional forces that resist the belt motion should be added to the sum of the above calculated forces to determine the effective force  $F_e$ . Motion resistance resulting from the belt or idler mass, or other components are typically insignificant. If these additional forces are considered significant relative to the initial  $F_e$  calculated, they need to be calculated and added to  $F_e$ .



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{pre}$

For trouble-free operation, it is necessary that the slack side does not fall below a certain tension. The pre-tension prevents jumping of the pulley teeth during belt operation. In order to collect the pre-tension, the optimal slack side force has to be ascertained as follows:

$$F_{2opt} = (0,1...0,3) \times F_e$$

Higher values are recommended for longer belt lengths. Assuming an optimal slack side force, the force for pre-tensioning is calculated considering the tight side length  $L_1$  and the total timing belt length  $L$  as follows:

$$F_{pre} = F_{2opt} + F_e \times L_1/L$$



## C) CALCULATION OF TIGHT SIDE BELT FORCE $F_1$

In the worst case the tight side belt force results as follows (lifter moving at full load):

$$F_1 = F_a + F_{pre} + F_f$$

## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force Applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

$$F_{1all} > F_1$$

## E) CALCULATION OF SAFETY FACTOR $S_f$

### I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCE $S_{iFe}$

$$S_{iFe} = F_{eallapp} / F_e$$

### II. SAFETY FACTOR ON ALLOWABLE BELT FORCE $S_{iF1}$

$$S_{iF1} = F_{1all} / F_1$$

### III. SAFETY FACTOR ON ULTIMATE TENSILE STRENGTH $S_{iBreak}$

$$S_{iBreak} = F_{Break} / F_1$$

Both calculated allowable safety factors  $S_{iFe}$  and  $S_{iF1}$  should be higher than required safety factor found in table 1 depending on the type of load.

# CALCULATION OF LIFTING APPLICATIONS: ONE PULLEY WITH COUNTER WEIGHT

## A) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  at the driver pulley is derived from the sum of all individual forces resisting the belt motion. The individual loads contributing to the effective force must be identified and calculated based on the loading conditions and drive configuration.

$$F_e = \sum F_{\text{Resistance}}$$

### I. ACCELERATION FORCE $F_a$

Force to accelerate the loaded slide with mass  $m$ .

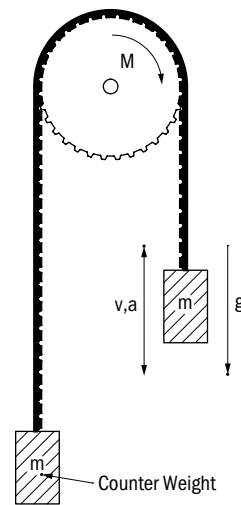
$$F_a = m \times (g + a) - m_c \times (g - a)$$

### II. FRICTION FORCE $F_f$

The friction force of the linear rail / bearing system.

### III. ADDITIONAL FORCES

Motion resistance on the basis of belt mass, idler or similar are normally insignificant, but may have a decisive influence on the total value of the effective force and therewith on the belt load as well. The importance of mentioned influences has to be estimated throughout the calculations – in extreme cases the component forces must be calculated and considered.



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{\text{pre}}$

Not available for lifting applications with counter weight and one pulley.

## C) CALCULATION ON TIGHT SIDE BELT FORCE $F_1$

In the worst case the light side belt force results as follows (conveyor moving at full load):

$$F_1 = F_a + F_f$$



## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force Applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

$$F_{1all} > F_1$$

## E) CALCULATION OF SAFETY FACTOR $S_f$

I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCE  $S_{iFe}$   $S_{iFe} = F_{eallapp} / F_e$

II. SAFETY FACTOR ON ALLOWABLE BELT FORCE  $S_{iF1}$   $S_{iF1} = F_{1all} / F_1$

III. SAFETY FACTOR ON ULTIMATE TENSILE STRENGTH  $S_{iBreak}$   $S_{iBreak} = F_{Break} / F_1$

Both calculated allowable safety factors  $S_{iFe}$  and  $S_{iF1}$  should be higher than required safety factor found in table 1 depending on the type of load.

# CALCULATION OF CLOSED BELT APPLICATIONS

Power transmission drives should always be designed with truly endless Synchro-Power Belts or Synchro-Power Flex belts.

The use of endless welded timing belts is not recommended.

## A) CALCULATION OF NOMINAL POWER

The nominal Power is used for the calculation of the required belt width

$$P_N = P_M \times S_f \quad S_f \text{ is found in table 1}$$

## B) CALCULATION OF EFFECTIVE FORCE $F_e$

The effective force  $F_e$  can be calculated with the existing movement resistance as follows:

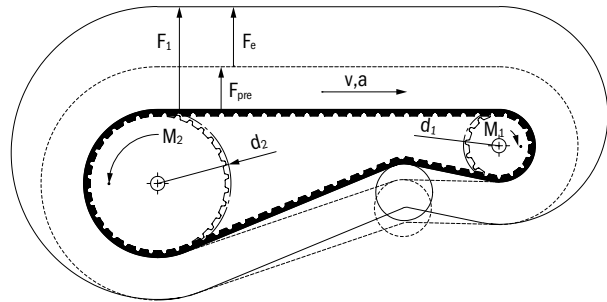
$$F_e = \sum F_{\text{Resistance}}$$

Furthermore the effective force can also be calculated with the existing driving power as follows:

$$F_e = S_f \times (T_M \times 2000) / d$$

or

$$F_e = S_f \times (19100 \times P_N \times 1000) / n \times d$$



## B) CALCULATION OF FORCE FOR PRE-TENSIONING $F_{pre}$

For trouble-free operation, it is necessary that the slack side does not fall below a certain tension. The pre-tension prevents jumping of the pulley teeth during belt operation. In order to collect the pre-tension, the optimal slack side force has to be ascertained as follows:

$$F_{2opt} = (0,1 \dots 0,3) \times F_e$$

Higher values are recommended for longer belt lengths. Assuming an optimal slack side force, the force for pre-tensioning is calculated considering the tight side length  $L_1$  and the total timing belt length  $L$  as follows:

$$F_{pre} = F_{2opt} + F_e \times L_1 / L$$

## C) CALCULATION ON TIGHT SIDE BELT FORCE $F_1$

In the worst case the tight side belt force  $F_1$  results as follows (application moving at full load):

$$F_1 = F_e + F_{pre}$$



## D) BELT SELECTION

The selection of the belt type and width is determined by comparing the above calculated values,  $F_e$  and  $F_1$ , to our catalog values. After making an initial selection of a belt type, determine the number of teeth that are constantly engaged in the pulley. For example, a belt that is wrapped  $180^\circ$  around a pulley with 20 teeth has 10 teeth engaged in that pulley. If less than 12 teeth are engaged, the allowable effective force  $F_{eall}$  must be corrected with a tooth-in-mesh factor  $t_m$  which is found in table 2. In addition to correcting for teeth in mesh, the allowable effective force  $F_{eall}$  also needs to be corrected by applying a speed factor  $t_v$  which can be found in table 3. The result is a maximum allowable effective Force Applied as follows:

$$F_{eallapp} = F_{eall} \times t_m \times t_v$$

$F_{eallapp}$  and  $F_{1all}$  should be larger than the actual prevailing forces in the application.

$$F_{eallapp} > F_e$$

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## E) CALCULATION OF SAFETY FACTOR $S_f$

I. SAFETY FACTOR ON ALLOWABLE EFFECTIVE FORCE  $S_{iFe}$

$$S_{iFe} = F_{eallapp} / F_e$$

II. SAFETY FACTOR ON ALLOWABLE BELT FORCE  $S_{iF1}$

$$S_{iF1} = F_{1all} / F_1$$

III. SAFETY FACTOR ON ULTIMATE TENSILE STRENGTH  $S_{iBreak}$

$$S_{iBreak} = F_{Break} / F_1$$

Both calculated allowable safety factors  $S_{iFe}$  and  $S_{iF1}$  should be higher than required safety factor found in table 1 depending on the type of load.



## 9. ELONGATION / POSITIONING ERROR IN TIMING BELT DRIVES

### A) ELONGATION $\Delta x$

The static elongation based on an applied force such as the pre-tension results as follows:

$$\Delta x = F \times L / C_{sp}$$

### B) POSITIONING ERROR $\Delta x_{Pos}$

The positioning error mainly depends on the total stiffness  $C_R$  of the slack and tight side.

$$C_R = C_{sp} \times L / (L_1 \times L_2)$$

Note that  $C_R$  is at its minimum when the tight and slack sides are equal.

Determine the positioning error  $\Delta x_{Pos}$  due to belt elongation caused by e.g. the effective force  $F_e$ :

$$\Delta x_{Pos} = F / C_R$$

## 10. TIMING BELT INSTALLATION

### A) PRETENSION

For proper adjustment of pre-tensioning  $F_{pre}$  Gates recommends the Sonic Tension Meter 508 C which directly specifies the pre-tension in Newton.

Alternatively with the tension meter you may measure the belt frequency of the sonic wave that is generated by vibrating the belt span of the stationary belt.

The desired frequency can be calculated as follows:

$$f = \sqrt{\frac{F_{pre} \times 10^6}{4 \times m_b \times l^2}}$$

### B) PRETENSION INSTALLATION RECOMMENDATION

Please refer to the Gates Sonic Tension Meter Manual.

The timing belt should be first installed without any tension. Apply the calculated pre-tension to the belt by using the tensioning device. When measuring the belt tension, turn the drive over for several revolutions to fully seat the belt into the pulleys and equalize tension in all of the spans. Repeat the tension measurements at different pulley positions. After applying the pretension, lock all adjustable shafts into place.



# SONIC TENSION METER

**MOD. 308C**

**PRODUCT #7420-00100**

Our selection of time-saving tools are a technician's best friend and a facility manager's trusted companion. Gates professional tools offer simple solutions for quick onsite and equipment inspection, maintenance and repairs, backed by the Gates guarantee of world-class quality and reliable long-term performance.







The specifications listed are based on Gates experience. However, our specifications and data do NOT cover all possible belts drive conditions. It is the responsibility of the belt drive system designer to ensure Gates belts are appropriate for a given system and application. The provided data is representative of our in-house experience and does not necessarily match product performance in industrial use. Gates cannot assume any liability concerning the suitability and process ability of our products. We also cannot assume liability for process results, damage or consequential damages associated with the use of our products.

Do not use Gates belts in applications that depend solely upon the belt to raise/lower, support or sustain a mass without an independent safety backup system. Gates products are not suitable for applications in aircraft.

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