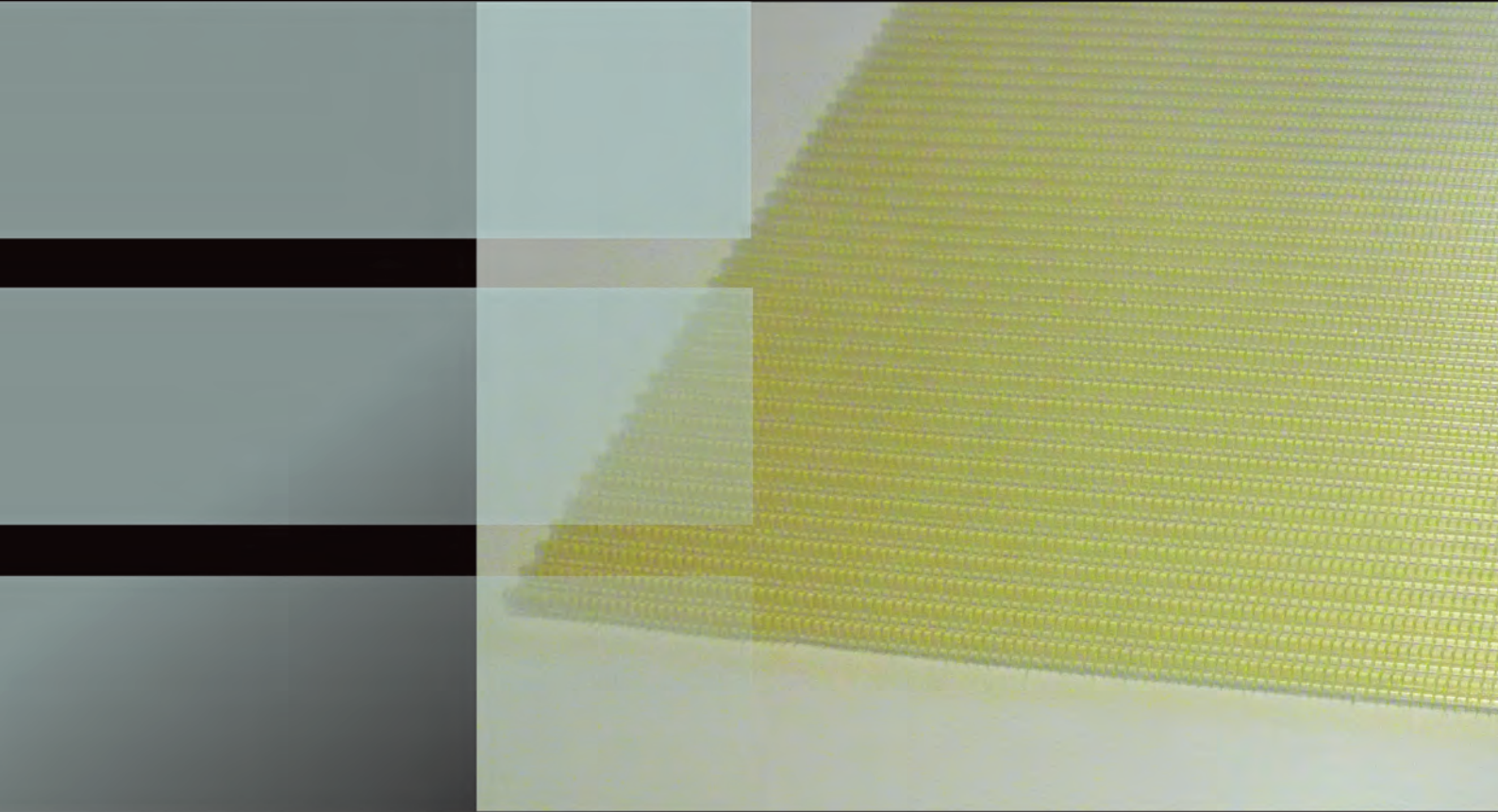


# ELATECH® SYNCRO-MAX®



# ELATECH® SYNCRO-MAX® Extra-wide

ELATECH® SYNCRO-MAX® Extra-wide Polyurethane Belts extend the advantages of synchronous timing belts to wider surfaces and to the typical applications of flat and modular conveyor belts.

Made of Polyurethane and reinforced with Aramid, ELATECH® SYNCRO-MAX® Extra-wide Belts provide positive drive and synchronous conveying resulting in no slippage, better tracking, higher indexing/positioning precision, smaller drive pulley requirements, lower belt tension, lower shaft loads and consequently power saving.

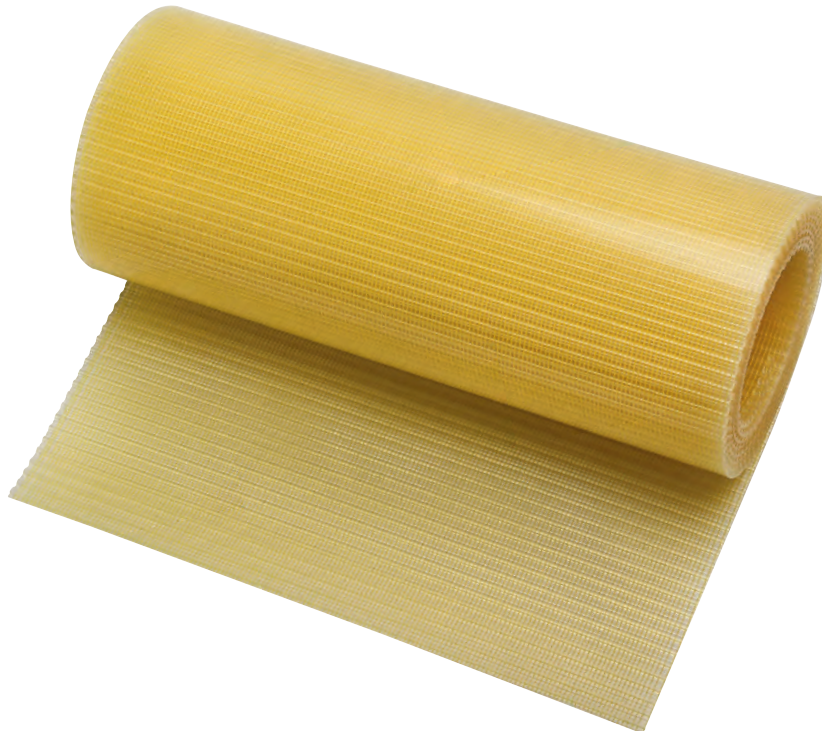
Open or jointed, coated with Silicon, Rubber, PU or PVC backings, perforated or grooved with complex design, and equipped with a wide range of tracking guides and profiles of different shapes and dimensions, ELATECH® SYNCRO-MAX® Extra-wide Belts offer the best solution for a great number of applications such as the production of baby diapers and feminine hygiene products and the production of tires as well as in many other industrial fields like food, tobacco, metal, wood, glass, and of course conveying and packaging.

## Product overview

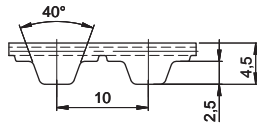
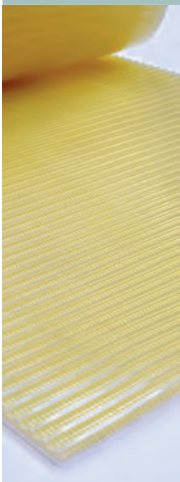
- Natural colour PU compound material
- High durability
- Cut resistant
- Grease, chemicals and water resistant
- Non-marking
- Kevlar (Aramid) parallel cord reinforcement
- No cords exposure on belt edges
- Even cord tension

## Available options

- FDA-compliant PU compound
- PAZ/PAR for noise reduction
- Tracking guides on teeth and/or on back
- Silicon, PU, PVC and rubber backings
- Wide range of cleats, flights and profiles
- Perforation by high precision water-jet cutting technology



# SYNCRO-MAX® W-T10



### Belt characteristics

- Polyurethane timing belt with Aramid tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- Natural colour PU compound 92 Sh A
- Standard roll length = 50 m

- Width tolerance:  $\pm 1,0$  [mm]
- Thickness tolerance:  $\pm 0,3$  [mm]

## Technical Data

| Belt width<br>b<br>[mm] | Allowable<br>tensile load<br>Type M<br>$F_{Tzul}$<br>[N] | Allowable<br>tensile load<br>Type V<br>$F_{Tzul}$<br>[N] | Breaking load<br>Type M<br>$F_{Br}$<br>[N] | Specific<br>spring rate<br>$C_{spez}$<br>[N] | Weight<br>[kg/m] |
|-------------------------|--|--|--|--|------------------|
| 200                     | 8140   | 4070   | 31159                                      | 1017500                                      | 0,76             |
| 250                     | 10210  | 5105   | 39088                                      | 1276250                                      | 0,95             |
| 300                     | 12280  | 6140   | 47016                                      | 1535000                                      | 1,14             |
| 350                     | 14360  | 7180   | 54945                                      | 1795000                                      | 1,33             |
| 400                     | 16430  | 8215   | 62874                                      | 2053750                                      | 1,52             |
| 450                     | 18500  | 9250   | 70802                                      | 2312500                                      | 1,71             |
| 500 / 510               | 20570  | 10285  | 78731                                      | 2571250                                      | 1,90             |

## Flexibility

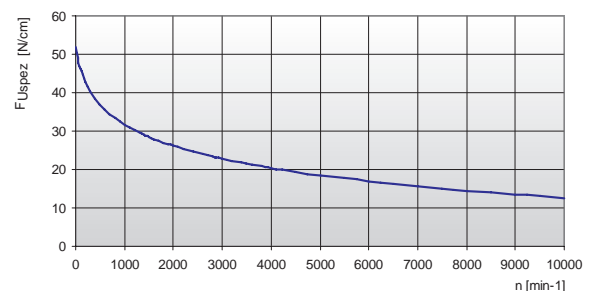
| Minimum pulley number of teeth<br>and minimum idler diameter | Type of cord                                  |       |
|--|---|-------|
|  | ARAMID  |       |
| <br>Drive without reverse bending                            | Timing pulley<br>$z_{min}$                    | 15    |
|  | Flat idler running<br>on belt teeth $d_{min}$ | 60 mm |
| <br>Drive with reverse bending                               | Timing pulley<br>$z_{min}$                    | 20    |
|  | Flat idler running<br>on belt back $d_{min}$  | 60 mm |

Other widths are available on request.

## Tooth shear strength

| rpm | $F_{Uspez}$<br>[N/cm] | rpm  | $F_{Uspez}$<br>[N/cm] | rpm  | $F_{Uspez}$<br>[N/cm] | rpm   | $F_{Uspez}$<br>[N/cm] |
|-----|-----------------------|------|-----------------------|------|-----------------------|-------|-----------------------|
| 0   | 51,80                 | 800  | 33,34                 | 1900 | 26,53                 | 4500  | 19,40                 |
| 20  | 50,32                 | 900  | 32,44                 | 2000 | 26,12                 | 5000  | 18,51                 |
| 40  | 49,04                 | 1000 | 31,63                 | 2200 | 25,34                 | 5500  | 17,70                 |
| 60  | 47,92                 | 1100 | 30,89                 | 2400 | 24,63                 | 6000  | 16,97                 |
| 80  | 46,95                 | 1200 | 30,21                 | 2600 | 23,97                 | 6500  | 16,29                 |
| 100 | 46,11                 | 1300 | 29,58                 | 2800 | 23,36                 | 7000  | 15,66                 |
| 200 | 42,75                 | 1400 | 28,99                 | 3000 | 22,78                 | 7500  | 15,07                 |
| 300 | 40,28                 | 1440 | 28,76                 | 3200 | 22,25                 | 8000  | 14,52                 |
| 400 | 38,36                 | 1500 | 28,44                 | 3400 | 21,74                 | 8500  | 14,00                 |
| 500 | 36,80                 | 1600 | 27,92                 | 3600 | 21,27                 | 9000  | 13,51                 |
| 600 | 35,49                 | 1700 | 27,43                 | 3800 | 20,81                 | 9500  | 13,05                 |
| 700 | 34,35                 | 1800 | 26,97                 | 4000 | 20,39                 | 10000 | 12,61                 |

## Tooth shear strength / rpm



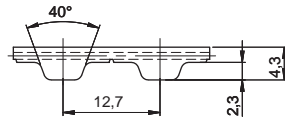
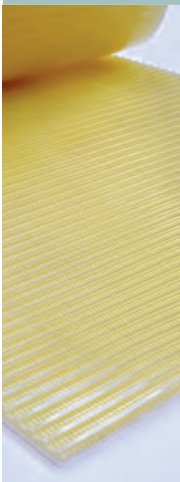
The specific load  $F_{Uspez}$  is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions. This force is related to the drive rpm. The total load  $F_u$  transmissible by the belt in the drive is calculated by:

$$F_u \text{ [N]} = F_{Uspez} \cdot z_e \cdot b$$

**Note:** Ultimate tensile strengths are listed for reference purposes only. The values listed above are a theoretical calculation based on average cord strength and may not represent actual tensile test results.

- $F_u$  [N] = peripheral force
- $F_{Uspez}$  [N/cm] = specific load
- $z_e$  = number of teeth in mesh in the small pulley
- $z_{emax}$  = max. no of teeth in mesh to be considered for the calculation of the drive = 12 for ELATECH® M
- $z_{emax}$  = 6 for ELATECH® V
- $b$  [cm] = belt width in cm

# SYNCRO-MAX® W-H



### Belt characteristics

- Polyurethane timing belt with Aramid tension cord
- Tooth profile according to UNI/ISO 5296
- Imperial pitch 1/2" = 12,7 mm
- Natural colour PU compound 92 Sh A
- Standard roll length = 50 m

- Width tolerance: ±1,0 [mm]
- Thickness tolerance: ±0,3 [mm]

## Technical Data

| Belt width<br>b<br>Code / mm | Allowable<br>tensile load<br>Type M<br>F <sub>Tzul</sub> [N] | Allowable<br>tensile load<br>Type V<br>F <sub>Tzul</sub> [N] | Breaking load<br>Type M<br>F <sub>Br</sub> [N] | Specific<br>spring rate<br>C <sub>spez</sub> [N] | Weight<br>[kg/m] |
|------------------------------|--|--|--|--|------------------|
| 8 / 203,2                    | 8140   | 4070   | 31159  | 1017500  | 0,70             |
| 10 / 254                     | 10210  | 5105   | 39088  | 1276250  | 0,90             |
| 12 / 304,8                   | 12280  | 6140   | 47016  | 1535000  | 1,05             |
| 14 / 355,6                   | 14360  | 7180   | 54945  | 1795000  | 1,24             |
| 16 / 406,4                   | 16430  | 8215   | 62874  | 2053750  | 1,42             |
| 18 / 457,2                   | 18500  | 9250   | 70802  | 2312500  | 1,60             |
| 20 / 508                     | 20570  | 10285  | 78731  | 2571250  | 1,80             |

## Flexibility

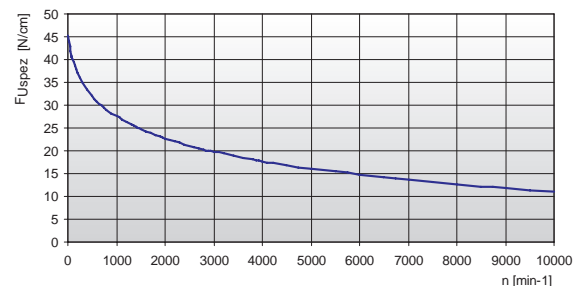
| Minimum pulley number of teeth<br>and minimum idler diameter | Type of cord   |       |
|--|--|-------|
|  | ARAMID   |       |
| <br>Drive without reverse bending                            | Timing pulley<br>z <sub>min</sub>                    | 14    |
|  | Flat idler running<br>on belt teeth d <sub>min</sub> | 60 mm |
| <br>Drive with reverse bending                               | Timing pulley<br>z <sub>min</sub>                    | 20    |
|  | Flat idler running<br>on belt back d <sub>min</sub>  | 80 mm |

Other widths are available on request.

## Tooth shear strength

| rpm | F <sub>Uspez</sub> [N/cm] | rpm  | F <sub>Uspez</sub> [N/cm] | rpm  | F <sub>Uspez</sub> [N/cm] | rpm   | F <sub>Uspez</sub> [N/cm] |
|-----|---------------------------|------|---------------------------|------|---------------------------|-------|---------------------------|
| 0   | 45,30                     | 800  | 29,04                     | 1900 | 23,11                     | 4500  | 16,88                     |
| 20  | 43,95                     | 900  | 28,26                     | 2000 | 22,74                     | 5000  | 16,11                     |
| 40  | 42,78                     | 1000 | 27,55                     | 2200 | 22,07                     | 5500  | 15,41                     |
| 60  | 41,77                     | 1100 | 26,90                     | 2400 | 21,44                     | 6000  | 14,76                     |
| 80  | 40,88                     | 1200 | 26,31                     | 2600 | 20,87                     | 6500  | 14,17                     |
| 100 | 40,11                     | 1300 | 25,76                     | 2800 | 20,34                     | 7000  | 13,62                     |
| 200 | 37,22                     | 1400 | 25,25                     | 3000 | 19,84                     | 7500  | 13,11                     |
| 300 | 35,07                     | 1440 | 25,05                     | 3200 | 19,37                     | 8000  | 12,63                     |
| 400 | 33,41                     | 1500 | 24,77                     | 3400 | 18,93                     | 8500  | 12,18                     |
| 500 | 32,05                     | 1600 | 24,32                     | 3600 | 18,51                     | 9000  | 11,75                     |
| 600 | 30,90                     | 1700 | 23,89                     | 3800 | 18,12                     | 9500  | 11,35                     |
| 700 | 29,91                     | 1800 | 23,49                     | 4000 | 17,75                     | 10000 | 10,96                     |

## Tooth shear strength / rpm



The specific load F<sub>Uspez</sub> is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions. This force is related to the drive rpm. The total load F<sub>u</sub> transmissible by the belt in the drive is calculated by:

$$F_u [N] = F_{Uspez} \cdot z_e \cdot b$$

**Note:** Ultimate tensile strengths are listed for reference purposes only. The values listed above are a theoretical calculation based on average cord strength and may not represent actual tensile test results.

- F<sub>u</sub> [N] = peripheral force
- F<sub>Uspez</sub> [N/cm] = specific load
- z<sub>e</sub> = number of teeth in mesh in the small pulley
- z<sub>emax</sub> = max. no of teeth in mesh to be considered for the calculation of the drive
- z<sub>emax</sub> = 12 for ELATECH® M
- z<sub>emax</sub> = 6 for ELATECH® V
- b [cm] = belt width in cm