# ELATECH® M and V

The timing belts manufactured by ELATECH® have been designed to comply with every need of the design engineer in linear motion, power transmission and in conveying applications where precise synchronisation is needed. ELATECH® timing belts are manufactured with the body in thermoplastic polyurethane with excellent wear resistance and with high tensile strength steel cords. A special polyamide fabric on the tooth (on request) reduces the coefficient of friction, improves the tooth engagement and reduces noise.

Standard belt

Belt with Polyamide fabric on teeth PAZ

**Product declaration**

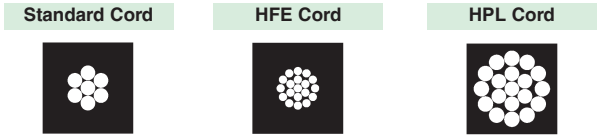
- ELATECH® belts are certified to be according RoHS 2011/65/UE
- On request, it is possible to deliver belts:
  - with antistatic properties according to ISO9563
  - other special certifications available on request

**Colour**

The standard colour ELATECH® timing belt is white.
On demand it is possible to deliver belts in different colours.

**Tension Cords**

In order to maximize the application of ELATECH® timing belts, construction with special cords is available on request:




- **HPL** high performance cords: the cord cross section is increased compared with standard. This results in a lower belt elongation and more precise positioning accuracy.

- **HFE** high Flexibility cords: the cord cross section is spread on a higher number of single filaments. This results in a lower bending stress and therefore in a higher resistance at reverse bending of the cords.
  They allow using pulleys and idlers up to 30% smaller in diameter compared to standard.

- **INOX** stainless steel cords are suitable for application in aggressive environments. They have lower tensile strength than standard cords.

- **ARAMID**: increases belt flexibility and decreases belt weight.

It is to be noted that steel cords offer the best technical performances and dimensional stability of the belts.
Belt length tolerances are valid for steel cord reinforcement. In case of other material (aramid, fibreglass) length tolerance may change.
For application with special cords ask our engineering department.

**Mechanical properties:**

- Excellent dimensional stability
- High abrasion resistance
- Low pretension and shaft load
- Maintenance free
- High linear and angular positioning precision
- High efficiency

**Chemical properties:**

High resistance to:

- Hydrolysis
- Ozone
- UVA
- Ageing
- Oils, greases and fats
- Gasoline
- Good resistance to acids
- Working temperatures range for standard material -10°C +80°C (peaks up to 110°C).
  For very low temperature special compound material is available on request (see dedicated table)
- Silicon free production (on request)

# Executions

## ELATECH® M

They are manufactured in rolls with standard length of 100 m. On request longer or shorter lengths are available. Main applications are linear drives.

**Ordering example roll 100 m profile T :**

ELATECH® "R" - Roll 100 m **R 025 T 10 A / Z**

- ELATECH® timing belt type "R"
- Width 25 mm (3 digits)
- Profile "T"
- Pitch 10 mm
- A= steel cords
  S= stainless steel cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

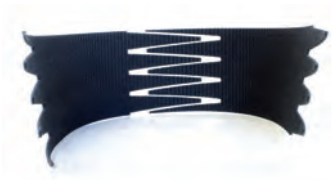
**Ordering example profile H cut to length:**

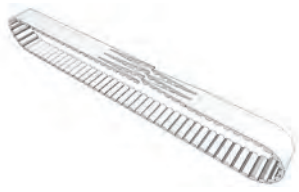
ELATECH® "M" cut to length **M 100 H A 01270 / Z**

- ELATECH® timing belt type "M"
- Width (x 0,254 = mm) - 3 digits
- Profile "H"
- A= steel cords
  S= stainless steel cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Length 1270 mm (5 digits)
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

## ELATECH® V

They are jointed belts manufactured from open-end ELATECH® belts.Thanks to the specific manufacturing process, any length may be obtained tooth by tooth. Free combinations with special backing materials and welded profiles, make ELATECH® V belts ideal in synchronized conveying and highly specialised applications.





**Ordering example profile AT :**

ELATECH® "V" jointed **V 020 AT5 A 03410 / Z**

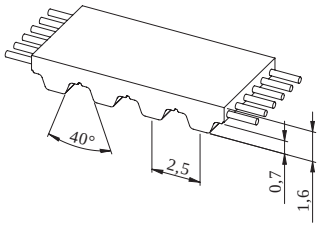
- ELATECH timing belt type "V" jointed
- Width 20 mm (3 digits)
- Profile "AT" - Pitch 5 mm
- A= steel cords
  S= stainless steel cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Length 3410 mm (5 digits)
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

**Ordering example profile XL :**

ELATECH® "V" jointed **V 150 XL A 00762 / Z**

- ELATECH timing belt type "V" jointed
- Width (x 0,254 = mm) - 3 digits
- Profile "XL"
- A= steel cords
  S= stainless steel cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Length 762 mm (5 digits)
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

# T 2,5




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 2,5 mm
- Ideal for drives where high belt flexibility is requested
- Widely used for conveying, linear drive and light power transmission applications
- Color: white

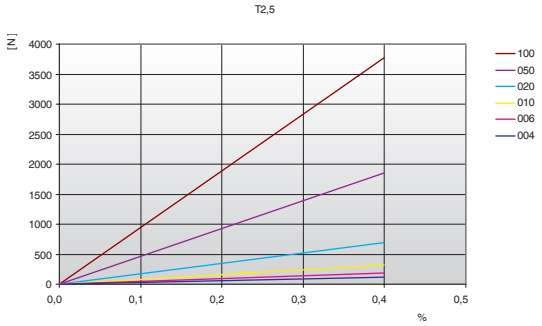
| | |
|---|---|
| • Width tolerance: | ±0,3 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,15 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **4** | 130 | - | 500 | 32500 | 0,004 |
| **6** | 190 | - | 750 | 47500 | 0,007 |
| **10** | 320 | 160 | 1250 | 80000 | 0,011 |
| **20** | 700 | 350 | 2750 | 175000 | 0,022 |
| **50** | 1860 | 930 | 7250 | 465000 | 0,055 |
| **100** | 3780 | 1890 | 14750 | 945000 | 0,110 |

Other widths are available on request.

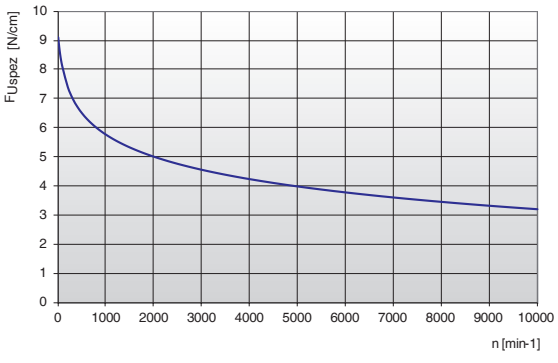
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 9,10 | **800** | 5,99 | **1900** | 5,05 | **4500** | 4,09 |
| **20** | 8,77 | **900** | 5,86 | **2000** | 4,99 | **5000** | 3,97 |
| **40** | 8,51 | **1000** | 5,75 | **2200** | 4,88 | **5500** | 3,86 |
| **60** | 8,30 | **1100** | 5,64 | **2400** | 4,79 | **6000** | 3,76 |
| **80** | 8,13 | **1200** | 5,55 | **2600** | 4,70 | **6500** | 3,67 |
| **100** | 8,00 | **1300** | 5,46 | **2800** | 4,62 | **7000** | 3,59 |
| **200** | 7,39 | **1400** | 5,38 | **3000** | 4,54 | **7500** | 3,51 |
| **300** | 7,00 | **1440** | 5,35 | **3200** | 4,47 | **8000** | 3,44 |
| **400** | 6,71 | **1500** | 5,31 | **3400** | 4,40 | **8500** | 3,37 |
| **500** | 6,48 | **1600** | 5,24 | **3600** | 4,34 | **9000** | 3,30 |
| **600** | 6,29 | **1700** | 5,17 | **3800** | 4,28 | **9500** | 3,24 |
| **700** | 6,13 | **1800** | 5,11 | **4000** | 4,22 | **10000** | 3,18 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

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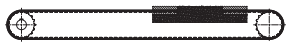
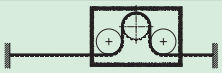
## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord |
|---|---|---|
| | | STANDARD |
| Drive without reverse bending | Timing pulley $z_{min}$ | 15 |
|  | Flat idler running on belt teeth $d_{min}$ | 15 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 18 |
|  | Flat idler running on belt back $d_{min}$ | 18 mm |

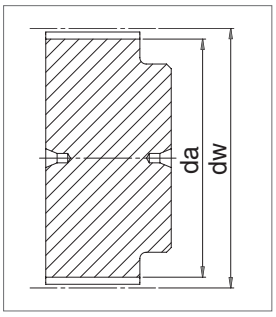
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 7,46 | 7,96 |
| **11** | 8,25 | 8,75 |
| **12** | 9,05 | 9,55 |
| **13** | 9,85 | 10,35 |
| **14** | 10,64 | 11,14 |
| **15** | 11,44 | 11,94 |
| **16** | 12,23 | 12,73 |
| **17** | 13,03 | 13,53 |
| **18** | 13,82 | 14,32 |
| **19** | 14,62 | 15,12 |
| **20** | 15,42 | 15,92 |
| **21** | 16,21 | 16,71 |
| **22** | 17,01 | 17,51 |
| **23** | 17,80 | 18,30 |
| **24** | 18,60 | 19,10 |
| **25** | 19,39 | 19,89 |
| **26** | 20,19 | 20,69 |
| **27** | 20,99 | 21,49 |
| **28** | 21,78 | 22,28 |
| **29** | 22,58 | 23,08 |
| **30** | 23,37 | 23,87 |
| **31** | 24,17 | 24,67 |
| **32** | 24,97 | 25,47 |
| **33** | 25,76 | 26,26 |
| **34** | 26,56 | 27,06 |
| **35** | 27,35 | 27,85 |
| **36** | 28,15 | 28,65 |
| **37** | 28,94 | 29,44 |
| **38** | 29,74 | 30,24 |
| **39** | 30,54 | 31,04 |
| **40** | 31,33 | 31,83 |
| **41** | 32,13 | 32,63 |
| **42** | 32,92 | 33,42 |

| z | da | dw |
|---|---|---|
| **43** | 33,72 | 34,22 |
| **44** | 34,52 | 35,02 |
| **45** | 35,31 | 35,81 |
| **46** | 36,11 | 36,61 |
| **47** | 36,90 | 37,40 |
| **48** | 37,70 | 38,20 |
| **49** | 38,49 | 38,99 |
| **50** | 39,29 | 39,79 |
| **51** | 40,09 | 40,59 |
| **52** | 40,88 | 41,38 |
| **53** | 41,68 | 42,18 |
| **54** | 42,47 | 42,97 |
| **55** | 43,27 | 43,77 |
| **56** | 44,06 | 44,56 |
| **57** | 44,86 | 45,36 |
| **58** | 45,66 | 46,16 |
| **59** | 46,45 | 46,95 |
| **60** | 47,25 | 47,75 |
| **61** | 48,04 | 48,54 |
| **62** | 48,84 | 49,34 |
| **63** | 49,64 | 50,14 |
| **64** | 50,43 | 50,93 |
| **65** | 51,23 | 51,73 |
| **66** | 52,02 | 52,52 |
| **67** | 52,82 | 53,32 |
| **68** | 53,61 | 54,11 |
| **69** | 54,41 | 54,91 |
| **70** | 55,21 | 55,71 |
| **71** | 56,00 | 56,50 |
| **72** | 56,80 | 57,30 |
| **73** | 57,59 | 58,09 |
| **74** | 58,39 | 58,89 |
| **75** | 59,18 | 59,68 |

| z | da | dw |
|---|---|---|
| **76** | 59,98 | 60,48 |
| **77** | 60,78 | 61,28 |
| **78** | 61,57 | 62,07 |
| **79** | 62,37 | 62,87 |
| **80** | 63,16 | 63,66 |
| **81** | 63,96 | 64,46 |
| **82** | 64,76 | 65,26 |
| **83** | 65,55 | 66,05 |
| **84** | 66,35 | 66,85 |
| **85** | 67,14 | 67,64 |
| **86** | 67,94 | 68,44 |
| **87** | 68,73 | 69,23 |
| **88** | 69,53 | 70,03 |
| **89** | 70,33 | 70,83 |
| **90** | 71,12 | 71,62 |
| **91** | 71,92 | 72,42 |
| **92** | 72,71 | 73,21 |
| **93** | 73,51 | 74,01 |
| **94** | 74,31 | 74,81 |
| **95** | 75,10 | 75,60 |
| **96** | 75,90 | 76,40 |
| **97** | 76,69 | 77,19 |
| **98** | 77,49 | 77,99 |
| **99** | 78,28 | 78,78 |
| **100** | 79,08 | 79,58 |
| **101** | 79,88 | 80,38 |
| **102** | 80,67 | 81,17 |
| **103** | 81,47 | 81,97 |
| **104** | 82,26 | 82,76 |
| **105** | 83,06 | 83,56 |
| **106** | 83,85 | 84,35 |
| **107** | 84,65 | 85,15 |
| **108** | 85,45 | 85,95 |

| z | da | dw |
|---|---|---|
| **109** | 86,24 | 86,74 |
| **110** | 87,04 | 87,54 |
| **111** | 87,83 | 88,33 |
| **112** | 88,63 | 89,13 |
| **113** | 89,43 | 89,93 |
| **114** | 90,22 | 90,72 |
| **115** | 91,02 | 91,52 |
| **116** | 91,81 | 92,31 |
| **117** | 92,61 | 93,11 |
| **118** | 93,40 | 93,90 |
| **119** | 94,20 | 94,70 |
| **120** | 95,00 | 95,50 |
| **121** | 95,79 | 96,29 |
| **122** | 96,59 | 97,09 |
| **123** | 97,38 | 97,88 |
| **124** | 98,18 | 98,68 |
| **125** | 98,97 | 99,47 |
| **126** | 99,77 | 100,27 |
| **127** | 100,57 | 101,07 |
| **128** | 101,36 | 101,86 |
| **129** | 102,16 | 102,66 |
| **130** | 102,95 | 103,45 |
| **131** | 103,75 | 104,25 |
| **132** | 104,55 | 105,05 |
| **133** | 105,34 | 105,84 |
| **134** | 106,14 | 106,64 |
| **135** | 106,93 | 107,43 |
| **136** | 107,73 | 108,23 |
| **137** | 108,52 | 109,02 |
| **138** | 109,32 | 109,82 |
| **139** | 110,12 | 110,62 |
| **140** | 110,91 | 111,41 |



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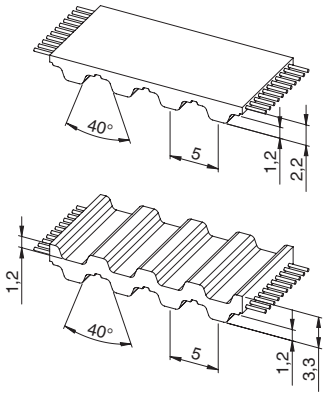



**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 5 mm
- Ideal for drives where high belt flexibility is requested
- Widely used for conveying, linear drive and light power transmission applications
- Double sided tooth construction available

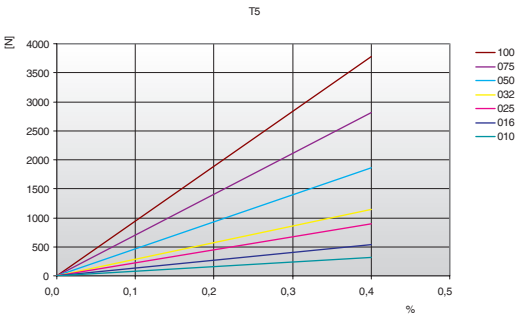
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,15 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 320 | 160 | 1250 | 80000 | 0,021 |
| **16** | 540 | 270 | 2125 | 135000 | 0,034 |
| **25** | 900 | 450 | 3500 | 225000 | 0,053 |
| **32** | 1150 | 575 | 4500 | 287500 | 0,067 |
| **50** | 1860 | 930 | 7250 | 465000 | 0,105 |
| **75** | 2820 | 1410 | 11000 | 705000 | 0,158 |
| **100** | 3780 | 1890 | 14750 | 945000 | 0,210 |

Other widths are available on request.

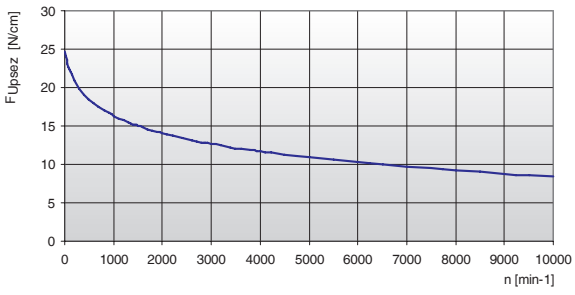
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 24,70 | **800** | 17,02 | **1900** | 14,21 | **4500** | 11,25 |
| **20** | 24,07 | **900** | 16,65 | **2000** | 14,03 | **5000** | 10,88 |
| **40** | 23,53 | **1000** | 16,32 | **2200** | 13,71 | **5500** | 10,55 |
| **60** | 23,05 | **1100** | 16,01 | **2400** | 13,42 | **6000** | 10,24 |
| **80** | 22,64 | **1200** | 15,73 | **2600** | 13,14 | **6500** | 9,96 |
| **100** | 22,28 | **1300** | 15,47 | **2800** | 12,89 | **7000** | 9,70 |
| **200** | 20,90 | **1400** | 15,22 | **3000** | 12,65 | **7500** | 9,46 |
| **300** | 19,89 | **1440** | 15,13 | **3200** | 12,43 | **8000** | 9,23 |
| **400** | 19,10 | **1500** | 15,00 | **3400** | 12,22 | **8500** | 9,01 |
| **500** | 18,45 | **1600** | 14,78 | **3600** | 12,03 | **9000** | 8,81 |
| **600** | 17,91 | **1700** | 14,58 | **3800** | 11,84 | **9500** | 8,62 |
| **700** | 17,44 | **1800** | 14,39 | **4000** | 11,66 | **10000** | 8,44 |

### 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:

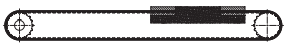
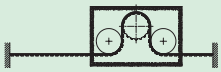
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

## Specialties

| Belt width b [mm] | ARAMID CORD | | HPL High Performance | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 700 | 2800 | 920 | 3360 |
| **16** | 1190 | 4760 | 1610 | 5880 |
| **25** | 1960 | 7840 | 2645 | 9660 |
| **32** | 2520 | 10080 | 3450 | 12600 |
| **50** | 4060 | 16240 | 5520 | 20160 |
| **75** | 6160 | 24640 | 8395 | 30660 |
| **100** | 8260 | 33040 | 11270 | 41160 |
| **150** | - | - | 16905 | 61740 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | **STANDARD** | **ARAMID** | **HPL** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 10 | 10 | 24 |
| | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm | 60 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 15 | 15 | 38 |
| | Flat idler running on belt back $d_{min}$ | 30 mm | 30 mm | 60 mm |

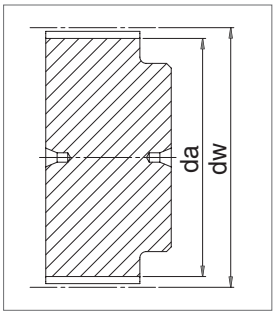
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 15,05 | 15,92 |
| **11** | 16,65 | 17,51 |
| **12** | 18,25 | 19,10 |
| **13** | 19,85 | 20,70 |
| **14** | 21,45 | 22,29 |
| **15** | 23,05 | 23,88 |
| **16** | 24,60 | 25,47 |
| **17** | 26,20 | 27,06 |
| **18** | 27,80 | 28,65 |
| **19** | 29,40 | 30,25 |
| **20** | 31,00 | 31,83 |
| **21** | 32,70 | 33,43 |
| **22** | 34,25 | 35,02 |
| **23** | 35,85 | 36,62 |
| **24** | 37,40 | 38,21 |
| **25** | 39,00 | 39,80 |
| **26** | 40,60 | 41,39 |
| **27** | 42,20 | 42,98 |
| **28** | 43,75 | 44,58 |
| **29** | 45,35 | 46,17 |
| **30** | 46,95 | 47,76 |
| **31** | 48,55 | 49,35 |
| **32** | 50,10 | 50,94 |
| **33** | 51,70 | 52,54 |
| **34** | 53,25 | 54,13 |
| **35** | 54,85 | 55,72 |
| **36** | 56,45 | 57,31 |
| **37** | 58,05 | 58,90 |
| **38** | 59,65 | 60,50 |
| **39** | 61,25 | 62,09 |

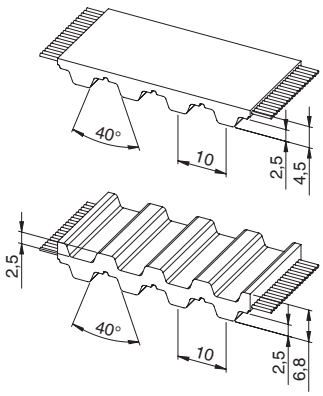
| z | da | dw |
|---|---|---|
| **40** | 62,85 | 63,66 |
| **41** | 64,4 | 65,27 |
| **42** | 66 | 66,86 |
| **43** | 67,7 | 68,46 |
| **44** | 69,2 | 70,05 |
| **45** | 70,8 | 71,64 |
| **46** | 72,4 | 73,23 |
| **47** | 73,95 | 74,82 |
| **48** | 75,55 | 76,42 |
| **49** | 77,15 | 78,01 |
| **50** | 78,75 | 79,60 |
| **51** | 80,35 | 81,19 |
| **52** | 81,95 | 82,78 |
| **53** | 83,5 | 84,38 |
| **54** | 85,1 | 85,97 |
| **55** | 86,7 | 87,54 |
| **56** | 88,3 | 89,15 |
| **57** | 89,9 | 90,74 |
| **58** | 91,5 | 92,34 |
| **59** | 93,05 | 93,93 |
| **60** | 94,65 | 95,52 |
| **61** | 96,25 | 97,11 |
| **62** | 97,85 | 98,70 |
| **63** | 99,45 | 100,30 |
| **64** | 101,05 | 101,89 |
| **65** | 102,65 | 103,48 |
| **66** | 104,2 | 105,07 |
| **67** | 105,8 | 106,66 |
| **68** | 107,40 | 108,26 |
| **69** | 109,00 | 109,85 |

| z | da | dw |
|---|---|---|
| **70** | 110,60 | 111,44 |
| **71** | 112,20 | 113,03 |
| **72** | 113,75 | 114,62 |
| **73** | 115,35 | 116,22 |
| **74** | 116,95 | 117,81 |
| **75** | 118,55 | 119,40 |
| **76** | 120,15 | 120,99 |
| **77** | 121,75 | 122,58 |
| **78** | 123,30 | 124,18 |
| **79** | 124,90 | 125,77 |
| **80** | 126,50 | 127,36 |
| **81** | 128,10 | 128,95 |
| **82** | 129,70 | 130,54 |
| **83** | 131,30 | 132,14 |
| **84** | 132,85 | 133,73 |
| **85** | 134,45 | 135,32 |
| **86** | 136,05 | 136,91 |
| **87** | 137,65 | 138,50 |
| **88** | 139,25 | 140,10 |
| **89** | 140,85 | 141,69 |
| **90** | 142,45 | 143,28 |
| **91** | 144,00 | 144,87 |
| **92** | 145,60 | 146,46 |
| **93** | 147,20 | 148,06 |
| **94** | 148,80 | 149,65 |
| **95** | 150,40 | 151,24 |
| **96** | 152,00 | 152,83 |
| **97** | 153,55 | 154,42 |
| **98** | 155,15 | 156,02 |
| **99** | 156,75 | 157,61 |

| z | da | dw |
|---|---|---|
| **100** | 158,35 | 159,20 |
| **101** | 159,95 | 160,79 |
| **102** | 161,55 | 162,38 |
| **103** | 163,10 | 163,97 |
| **104** | 164,70 | 165,57 |
| **105** | 166,30 | 167,16 |
| **106** | 167,90 | 168,75 |
| **107** | 169,50 | 170,34 |
| **108** | 171,10 | 171,94 |
| **109** | 172,65 | 173,53 |
| **110** | 174,25 | 175,12 |
| **111** | 175,85 | 176,71 |
| **112** | 177,45 | 178,30 |
| **113** | 179,05 | 179,84 |
| **114** | 180,65 | 181,49 |
| **115** | 182,23 | 183,08 |
| **116** | 183,82 | 184,67 |
| **117** | 185,42 | 186,26 |
| **118** | 187,01 | 187,86 |
| **119** | 188,61 | 189,45 |
| **120** | 190,21 | 191,04 |



# T 10




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- Ideal for drives where high belt flexibility is requested
- Widely used for conveying, linear drive and medium power transmission applications
- Double sided tooth construction available

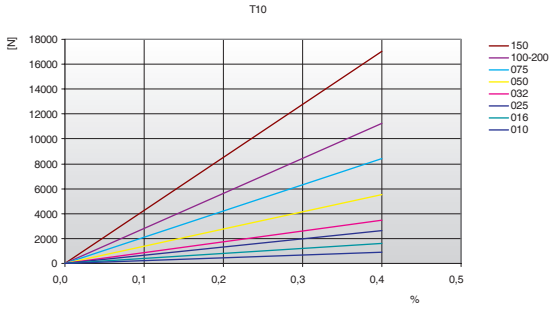
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 920 | 460 | 3360 | 230000 | 0,05 |
| **16** | 1610 | 805 | 5880 | 402500 | 0,07 |
| **25** | 2650 | 1325 | 9660 | 662500 | 0,11 |
| **32** | 3450 | 1725 | 12600 | 862500 | 0,15 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,23 |
| **75** | 8400 | 4200 | 30660 | 2100000 | 0,34 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,45 |
| **150** | 17020 | 8510 | 62160 | 4255000 | 0,68 |
| **200*** | 11270 | 5635 | 41160 | 2817500 | 0,60 |

Other widths are available on request. * = double cords spacing

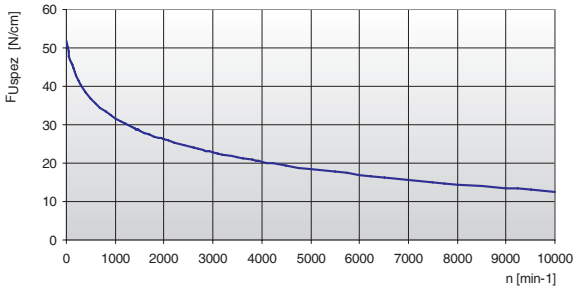
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# T 10

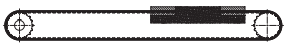
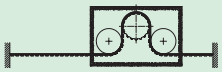


## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HPL High Performance | | HFE High Flexibility | |
|---|---|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 880 | 3600 | 600 | 2400 | - | - | 960 | 3440 |
| **16** | 1540 | 6300 | 1050 | 4200 | 2450 | 9500 | 1680 | 6020 |
| **25** | 2530 | 10350 | 1730 | 6900 | 4165 | 16150 | 2760 | 9890 |
| **32** | 3300 | 13500 | 2250 | 9000 | 5390 | 20900 | 3600 | 12900 |
| **50** | 5280 | 21600 | 3600 | 14400 | 8575 | 33250 | 5760 | 20640 |
| **75** | 8030 | 32850 | - | - | 12990 | 50350 | - | - |
| **100** | 10780 | 44100 | - | - | 17400 | 67450 | - | - |
| **150** | 16280 | 66600 | - | - | - | - | - | - |
| **200*** | 10780 | 44100 | - | - | - | - | - | - |

* = double cords spacing

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | | |
|---|---|---|---|---|---|---|
| | | **STANDARD** | **ARAMID** | **STAINLESS** | **HPL** | **HFE** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 12 | 15 | 15 | 15 | 10 |
| | Flat idler running on belt teeth $d_{min}$ | 60 mm | 60 mm | 60 mm | 100 mm | 50 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 20 | 20 | 40 | 30 | 15 |
| | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm | 120 mm | 100 mm | 50 mm |

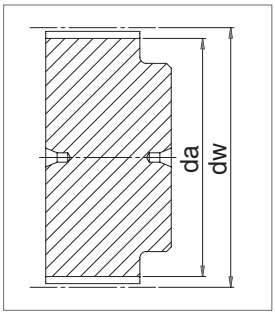
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 30,05 | 31,84 |
| **11** | 33,25 | 35,02 |
| **12** | 36,35 | 38,20 |
| **13** | 39,50 | 41,38 |
| **14** | 42,70 | 44,56 |
| **15** | 45,90 | 47,75 |
| **16** | 49,05 | 50,93 |
| **17** | 52,25 | 54,11 |
| **18** | 55,45 | 57,29 |
| **19** | 58,65 | 60,48 |
| **20** | 61,80 | 63,66 |
| **21** | 65,00 | 66,84 |
| **22** | 68,15 | 70,03 |
| **23** | 71,35 | 73,20 |
| **24** | 74,55 | 76,39 |
| **25** | 77,70 | 79,58 |
| **26** | 80,90 | 82,76 |
| **27** | 84,10 | 85,95 |
| **28** | 87,25 | 89,12 |
| **29** | 90,45 | 92,21 |
| **30** | 93,65 | 95,49 |
| **31** | 96,85 | 98,67 |
| **32** | 100,00 | 101,86 |
| **33** | 103,20 | 105,04 |
| **34** | 106,40 | 108,22 |
| **35** | 109,55 | 111,41 |
| **36** | 112,75 | 114,59 |
| **37** | 115,90 | 117,77 |
| **38** | 119,10 | 120,95 |
| **39** | 122,30 | 124,14 |

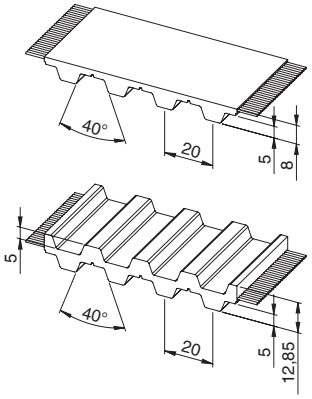
| z | da | dw |
|---|---|---|
| **40** | 125,45 | 127,32 |
| **41** | 128,65 | 130,50 |
| **42** | 131,85 | 133,69 |
| **44** | 138,20 | 140,05 |
| **45** | 141,40 | 143,24 |
| **46** | 144,60 | 146,42 |
| **47** | 147,75 | 149,60 |
| **48** | 150,95 | 152,78 |
| **49** | 154,10 | 155,97 |
| **50** | 157,30 | 159,15 |
| **51** | 160,50 | 162,33 |
| **52** | 163,65 | 165,52 |
| **53** | 166,85 | 168,70 |
| **54** | 170,05 | 171,88 |
| **55** | 173,20 | 175,06 |
| **56** | 176,40 | 178,25 |
| **57** | 179,60 | 181,43 |
| **58** | 182,75 | 184,61 |
| **59** | 185,95 | 187,80 |
| **60** | 189,10 | 190,98 |
| **61** | 192,30 | 194,16 |
| **62** | 195,50 | 197,35 |
| **63** | 198,65 | 200,53 |
| **64** | 201,85 | 203,71 |
| **65** | 205,05 | 206,90 |
| **66** | 208,20 | 210,08 |
| **67** | 211,40 | 213,26 |
| **68** | 214,60 | 216,44 |
| **69** | 217,75 | 219,63 |
| **70** | 220,95 | 222,81 |

| z | da | dw |
|---|---|---|
| **71** | 224,15 | 225,99 |
| **72** | 227,30 | 229,18 |
| **73** | 230,50 | 232,36 |
| **74** | 233,70 | 235,54 |
| **75** | 236,90 | 238,72 |
| **76** | 240,05 | 241,94 |
| **77** | 243,25 | 245,09 |
| **78** | 246,40 | 248,27 |
| **79** | 249,60 | 251,46 |
| **80** | 252,80 | 254,64 |
| **81** | 256,00 | 257,82 |
| **82** | 259,15 | 261,00 |
| **83** | 262,30 | 264,19 |
| **84** | 265,50 | 267,37 |
| **85** | 268,70 | 270,55 |
| **86** | 271,90 | 273,74 |
| **87** | 275,05 | 276,92 |
| **88** | 278,25 | 280,10 |
| **89** | 281,45 | 283,28 |
| **90** | 284,60 | 286,47 |
| **91** | 287,80 | 289,65 |
| **92** | 291,00 | 292,84 |
| **93** | 294,20 | 296,02 |
| **94** | 297,35 | 299,20 |
| **95** | 300,55 | 302,39 |
| **96** | 303,75 | 305,57 |
| **97** | 306,90 | 308,75 |
| **98** | 310,10 | 311,93 |
| **99** | 313,25 | 315,12 |
| **100** | 316,45 | 318,30 |

| z | da | dw |
|---|---|---|
| **101** | 319,65 | 321,48 |
| **102** | 322,80 | 324,66 |
| **103** | 326,00 | 327,85 |
| **104** | 329,20 | 331,03 |
| **105** | 332,35 | 334,21 |
| **106** | 335,55 | 337,40 |
| **107** | 338,75 | 340,58 |
| **108** | 341,95 | 343,76 |
| **109** | 345,15 | 346,95 |
| **110** | 348,30 | 350,13 |
| **111** | 351,45 | 353,31 |
| **112** | 354,65 | 356,50 |
| **113** | 357,80 | 359,68 |
| **114** | 361,00 | 362,86 |
| **115** | 364,19 | 366,04 |
| **116** | 367,39 | 369,23 |
| **117** | 370,56 | 372,41 |
| **118** | 373,76 | 375,59 |
| **119** | 376,93 | 378,78 |
| **120** | 380,11 | 381,96 |



# T 20




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 20 mm
- Ideal for drives where high belt flexibility is requested
- Widely used for conveying, linear drive and heavy power transmission applications
- Double sided tooth construction available

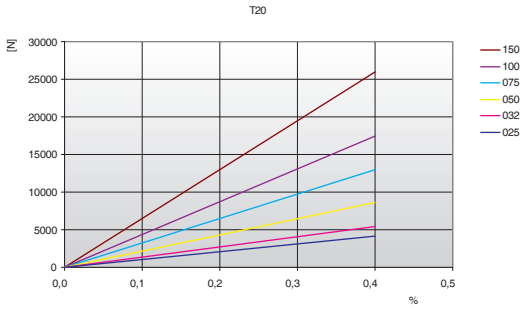
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **25** | 4170 | 2085 | 16150 | 1042500 | 0,20 |
| **32** | 5390 | 2695 | 20900 | 1347500 | 0,26 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,41 |
| **75** | 12990 | 6495 | 50350 | 3247500 | 0,61 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,82 |
| **150** | 26220 | 13110 | 101650 | 6555000 | 1,23 |

Other widths are available on request.

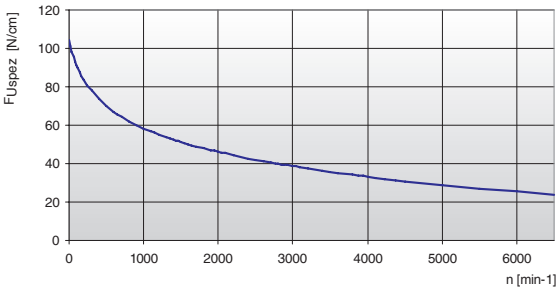
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 104,50 | **800** | 62,15 | **1900** | 46,88 | **4500** | 30,92 |
| **20** | 101,10 | **900** | 60,13 | **2000** | 45,94 | **5000** | 28,93 |
| **40** | 98,15 | **1000** | 58,31 | **2200** | 44,20 | **5500** | 27,14 |
| **60** | 95,58 | **1100** | 56,64 | **2400** | 42,61 | **6000** | 25,49 |
| **80** | 93,35 | **1200** | 55,11 | **2600** | 41,13 | **6500** | 23,97 |
| **100** | 91,41 | **1300** | 53,70 | **2800** | 39,77 | - | - |
| **200** | 83,50 | **1400** | 52,38 | **3000** | 38,49 | - | - |
| **300** | 77,84 | **1440** | 51,87 | **3200** | 37,29 | - | - |
| **400** | 73,49 | **1500** | 51,14 | **3400** | 36,16 | - | - |
| **500** | 69,96 | **1600** | 49,98 | **3600** | 35,10 | - | - |
| **600** | 66,98 | **1700** | 48,89 | **3800** | 34,09 | - | - |
| **700** | 64,41 | **1800** | 47,86 | **4000** | 33,13 | - | - |

### 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:

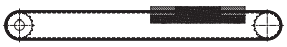
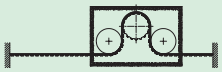
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HFE High Flexibility | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **25** | 3740 | 17000 | 3060 | 12750 | 3400 | 14450 |
| **32** | 4840 | 22000 | 3960 | 16500 | 4400 | 18700 |
| **50** | 7700 | 35000 | 6300 | 26250 | 7000 | 29750 |
| **75** | 11660 | 53000 | - | - | - | - |
| **100** | 15620 | 71000 | - | - | - | - |
| **150** | 23540 | 107000 | - | - | - | - |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS | HFE |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 15 | 15 | 20 | 12 |
| | Flat idler running on belt teeth $d_{min}$ | 120 mm | 120 mm | 130 mm | 100 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 25 | 30 | 22 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 150 mm | 120 mm |

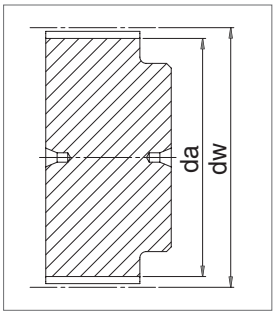
## Timing pulleys

| z | da | dw |
|---|---|---|
| **15** | 92,65 | 95,49 |
| **16** | 99,00 | 101,86 |
| **17** | 105,40 | 108,22 |
| **18** | 111,75 | 114,59 |
| **19** | 118,10 | 120,96 |
| **20** | 124,50 | 127,32 |
| **21** | 130,75 | 133,69 |
| **22** | 137,20 | 140,06 |
| **23** | 143,55 | 146,43 |
| **24** | 149,95 | 152,78 |
| **25** | 156,30 | 159,15 |
| **26** | 162,65 | 165,52 |
| **27** | 169,00 | 171,89 |
| **28** | 175,40 | 178,25 |
| **29** | 181,75 | 184,62 |
| **30** | 188,10 | 190,99 |
| **31** | 194,50 | 197,35 |
| **32** | 200,85 | 203,72 |
| **33** | 207,20 | 210,09 |
| **34** | 213,60 | 216,44 |
| **35** | 219,95 | 222,81 |
| **36** | 226,35 | 229,18 |
| **37** | 232,70 | 235,54 |
| **38** | 239,05 | 241,91 |
| **39** | 245,40 | 248,28 |
| **40** | 251,75 | 254,65 |
| **41** | 258,15 | 261,02 |
| **42** | 264,50 | 267,37 |
| **43** | 270,85 | 273,74 |
| **44** | 277,25 | 280,10 |

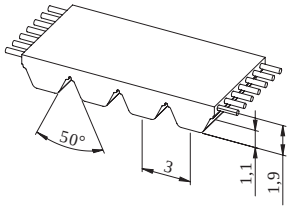
| z | da | dw |
|---|---|---|
| **45** | 283,60 | 286,47 |
| **46** | 289,95 | 292,84 |
| **47** | 296,35 | 299,21 |
| **48** | 302,70 | 305,58 |
| **49** | 309,10 | 311,93 |
| **50** | 315,45 | 318,30 |
| **51** | 321,80 | 324,67 |
| **52** | 328,15 | 331,03 |
| **53** | 334,50 | 337,40 |
| **54** | 340,90 | 343,76 |
| **55** | 347,25 | 350,13 |
| **56** | 353,60 | 356,50 |
| **57** | 360,00 | 362,86 |
| **58** | 366,35 | 369,23 |
| **59** | 372,75 | 375,59 |
| **60** | 379,10 | 381,96 |
| **61** | 385,45 | 388,33 |
| **62** | 391,85 | 394,70 |
| **63** | 398,20 | 401,06 |
| **64** | 404,55 | 407,43 |
| **65** | 410,95 | 413,80 |
| **66** | 417,30 | 420,17 |
| **67** | 423,65 | 426,52 |
| **68** | 430,05 | 432,89 |
| **69** | 436,40 | 439,26 |
| **70** | 442,80 | 445,63 |
| **71** | 449,15 | 451,99 |
| **72** | 455,50 | 458,36 |
| **73** | 461,85 | 464,73 |
| **74** | 468,25 | 471,08 |

| z | da | dw |
|---|---|---|
| **75** | 474,60 | 477,45 |
| **76** | 480,95 | 483,82 |
| **77** | 487,35 | 490,19 |
| **78** | 493,70 | 496,56 |
| **79** | 500,05 | 502,91 |
| **80** | 506,45 | 509,28 |
| **81** | 512,80 | 515,65 |
| **82** | 519,15 | 522,02 |
| **83** | 525,55 | 528,39 |
| **84** | 531,90 | 534,74 |
| **85** | 538,25 | 541,11 |
| **86** | 544,60 | 547,48 |
| **87** | 551,00 | 553,85 |
| **88** | 557,35 | 560,22 |
| **89** | 563,70 | 566,57 |
| **90** | 570,10 | 572,94 |
| **91** | 576,45 | 579,31 |
| **92** | 582,85 | 585,67 |
| **93** | 589,20 | 592,04 |
| **94** | 595,55 | 598,41 |
| **95** | 601,90 | 604,77 |
| **96** | 608,30 | 611,14 |
| **97** | 614,65 | 617,51 |
| **98** | 621,00 | 623,88 |
| **99** | 627,35 | 630,25 |
| **100** | 633,75 | 636,60 |
| **101** | 640,10 | 642,97 |
| **102** | 646,50 | 649,34 |
| **103** | 652,85 | 655,71 |
| **104** | 659,20 | 662,06 |

| z | da | dw |
|---|---|---|
| **105** | 665,60 | 668,43 |
| **106** | 671,95 | 674,80 |
| **107** | 678,30 | 681,17 |
| **108** | 684,70 | 687,54 |
| **109** | 691,05 | 693,89 |
| **110** | 697,40 | 700,26 |
| **111** | 703,80 | 706,63 |
| **112** | 710,15 | 712,99 |
| **113** | 716,50 | 719,36 |
| **114** | 722,90 | 725,73 |
| **115** | 729,24 | 732,09 |
| **116** | 735,61 | 738,46 |
| **117** | 741,96 | 744,83 |
| **118** | 748,34 | 751,19 |
| **119** | 754,70 | 757,56 |
| **120** | 761,07 | 763,93 |



# AT 3




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 3 mm
- Tooth profile and dimension are optimised to guarantee unifor load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration
- Particularly suitable for linear drives and light power transmission applications with high axial and angular positioning accuracy
- Negative length tolerance available on request

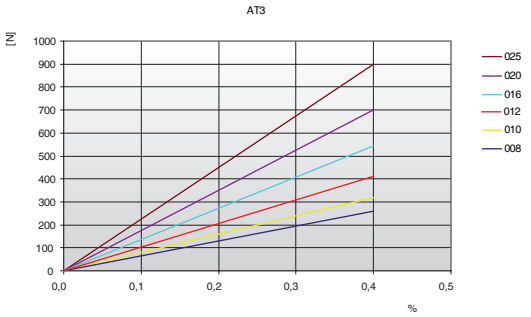
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **8** | 260 | 130 | 1000 | 65000 | 0,018 |
| **10** | 320 | 160 | 1250 | 80000 | 0,022 |
| **12** | 416 | 208 | 1625 | 104000 | 0,026 |
| **16** | 540 | 270 | 2125 | 135000 | 0,035 |
| **20** | 700 | 350 | 2750 | 175000 | 0,044 |
| **25** | 900 | 450 | 3500 | 225000 | 0,054 |

Other widths are available on request.

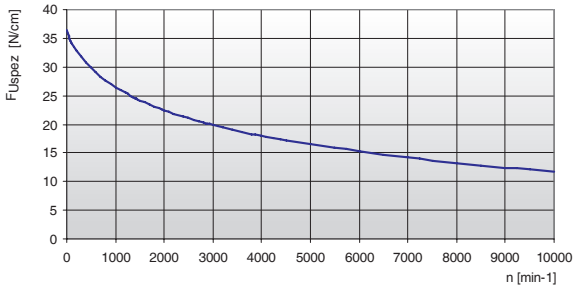
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 32,50 | **800** | 25,62 | **1900** | 20,98 | **4500** | 15,64 |
| **20** | 32,13 | **900** | 25,05 | **2000** | 20,68 | **5000** | 14,96 |
| **40** | 31,79 | **1000** | 24,52 | **2200** | 20,11 | **5500** | 14,33 |
| **60** | 31,48 | **1100** | 24,02 | **2400** | 19,59 | **6000** | 13,76 |
| **80** | 31,19 | **1200** | 23,56 | **2600** | 19,10 | **6500** | 13,23 |
| **100** | 30,92 | **1300** | 23,13 | **2800** | 18,64 | **7000** | 12,74 |
| **200** | 29,86 | **1400** | 22,72 | **3000** | 18,22 | **7500** | 12,28 |
| **300** | 29,15 | **1440** | 22,57 | **3200** | 17,81 | **8000** | 11,84 |
| **400** | 28,47 | **1500** | 22,34 | **3400** | 17,43 | **8500** | 11,43 |
| **500** | 27,66 | **1600** | 21,97 | **3600** | 17,07 | **9000** | 11,05 |
| **600** | 26,92 | **1700** | 21,63 | **3800** | 16,73 | **9500** | 10,68 |
| **700** | 26,25 | **1800** | 21,29 | **4000** | 16,40 | **10000** | 10,34 |

### Tooth shear strength / rpm



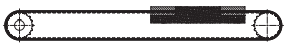
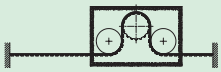

The specific load $F_{Uspez}$ is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.
This force is related to the drive rpm.
The total load $F_U$ transmissible by the belt in the drive is calculated by:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# AT 3

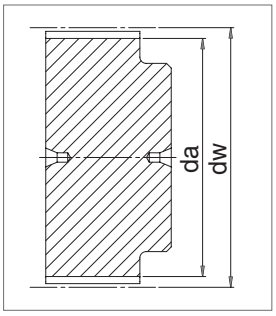
## Flexibility

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

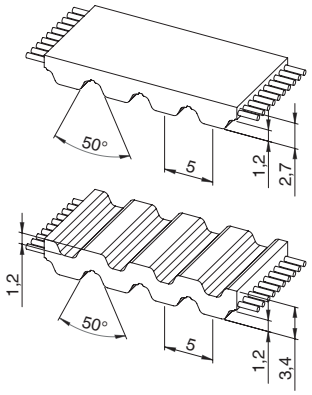
## Timing pulleys

| z | da | dw |
|---|---|---|
| **15** | 13,92 | 14,32 |
| **16** | 14,87 | 15,28 |
| **17** | 15,82 | 16,23 |
| **18** | 16,78 | 17,19 |
| **19** | 17,73 | 18,14 |
| **20** | 18,69 | 19,10 |
| **21** | 19,64 | 20,05 |
| **22** | 20,60 | 21,01 |
| **23** | 21,55 | 21,96 |
| **24** | 22,51 | 22,92 |
| **25** | 23,46 | 23,87 |
| **26** | 24,42 | 24,83 |
| **27** | 25,37 | 25,78 |
| **28** | 26,33 | 26,74 |
| **29** | 27,28 | 27,69 |
| **30** | 28,24 | 28,65 |
| **31** | 29,19 | 29,60 |
| **32** | 30,15 | 30,56 |
| **33** | 31,10 | 31,51 |
| **34** | 32,06 | 32,47 |
| **35** | 33,01 | 33,42 |
| **36** | 33,97 | 34,38 |
| **37** | 34,92 | 35,33 |
| **38** | 35,88 | 36,29 |
| **39** | 36,83 | 37,24 |
| **40** | 37,79 | 38,20 |
| **41** | 38,74 | 39,15 |
| **42** | 39,70 | 40,11 |
| **43** | 40,65 | 41,06 |
| **44** | 41,61 | 42,02 |

| z | da | dw |
|---|---|---|
| **45** | 42,56 | 42,97 |
| **46** | 43,52 | 43,93 |
| **47** | 44,47 | 44,88 |
| **48** | 45,43 | 45,84 |
| **49** | 46,38 | 46,79 |
| **50** | 47,34 | 47,75 |
| **51** | 48,29 | 48,70 |
| **52** | 49,25 | 49,66 |
| **53** | 50,20 | 50,61 |
| **54** | 51,16 | 51,57 |
| **55** | 52,11 | 52,52 |
| **56** | 53,07 | 53,48 |
| **57** | 54,02 | 54,43 |
| **58** | 54,98 | 55,39 |
| **59** | 55,93 | 56,34 |
| **60** | 56,89 | 57,30 |
| **61** | 57,84 | 58,25 |
| **62** | 58,80 | 59,21 |
| **63** | 59,75 | 60,16 |
| **64** | 60,71 | 61,12 |
| **65** | 61,66 | 62,07 |
| **66** | 62,62 | 63,03 |
| **67** | 63,57 | 63,98 |
| **68** | 64,53 | 64,94 |
| **69** | 65,48 | 65,89 |
| **70** | 66,44 | 66,85 |
| **71** | 67,39 | 67,80 |
| **72** | 68,35 | 68,75 |



# AT 5




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 5 mm
- Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration
- Particularly suitable for linear drives and light power transmission applications with high axial and angular positioning accuracy
- Double sided tooth construction available
- Negative length tolerance available on request

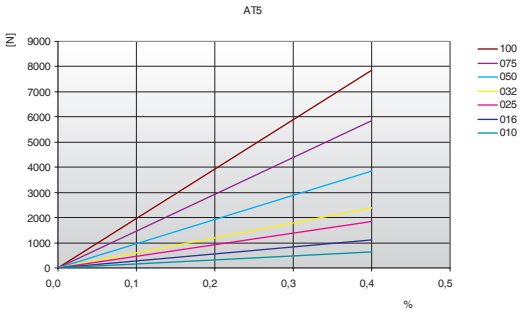
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 640 | 320 | 2160 | 160000 | 0,03 |
| **16** | 1120 | 560 | 3780 | 280000 | 0,05 |
| **25** | 1840 | 920 | 6210 | 460000 | 0,09 |
| **32** | 2400 | 1200 | 8100 | 600000 | 0,11 |
| **50** | 3840 | 1920 | 12960 | 960000 | 0,17 |
| **75** | 5840 | 2920 | 19710 | 1460000 | 0,26 |
| **100** | 7840 | 3920 | 26460 | 1960000 | 0,34 |

Other widths are available on request.

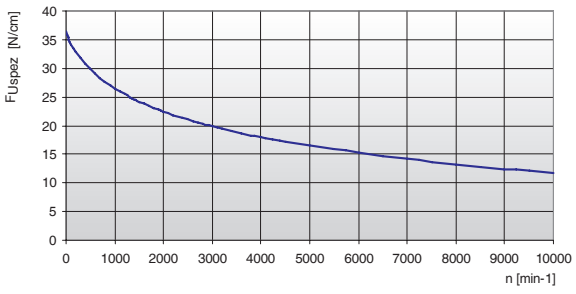
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 36,40 | **800** | 27,69 | **1900** | 22,73 | **4500** | 17,18 |
| **20** | 35,88 | **900** | 27,06 | **2000** | 22,42 | **5000** | 16,47 |
| **40** | 35,40 | **1000** | 26,49 | **2200** | 21,82 | **5500** | 15,83 |
| **60** | 34,97 | **1100** | 25,96 | **2400** | 21,28 | **6000** | 15,24 |
| **80** | 34,59 | **1200** | 25,47 | **2600** | 20,77 | **6500** | 14,69 |
| **100** | 34,24 | **1300** | 25,01 | **2800** | 20,29 | **7000** | 14,18 |
| **200** | 32,92 | **1400** | 24,57 | **3000** | 19,85 | **7500** | 13,71 |
| **300** | 31,92 | **1440** | 24,41 | **3200** | 19,43 | **8000** | 13,26 |
| **400** | 30,89 | **1500** | 24,16 | **3400** | 19,03 | **8500** | 12,85 |
| **500** | 29,95 | **1600** | 23,78 | **3600** | 18,66 | **9000** | 12,45 |
| **600** | 29,12 | **1700** | 23,41 | **3800** | 18,30 | **9500** | 12,07 |
| **700** | 28,37 | **1800** | 23,07 | **4000** | 17,96 | **10000** | 11,72 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

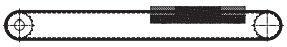
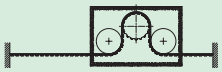
# AT 5



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HFE High Flexibility | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 880 | 3600 | 600 | 2400 | 960 | 3440 |
| **16** | 1540 | 6300 | 1050 | 4200 | 1680 | 6020 |
| **25** | 2530 | 10350 | 1725 | 6900 | 2760 | 9890 |
| **32** | 3300 | 13500 | 2250 | 9000 | 3600 | 12900 |
| **50** | 5280 | 21600 | 3600 | 14400 | 5760 | 20640 |
| **75** | 8030 | 32850 | 5475 | 21900 | 8760 | 31390 |
| **100** | 10780 | 44100 | 7350 | 29400 | 11760 | 42140 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS | HFE |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 15 | 15 | 18 | 15 |
| | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm | 40 mm | 25 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 25 | 25 | 20 |
| | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm | 65 mm | 50 mm |

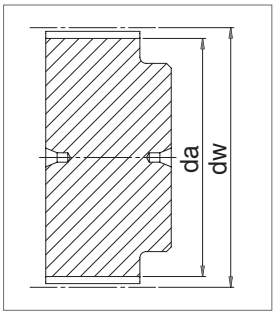
## Timing pulleys

| z | da | dw |
|---|---|---|
| **15** | 22,65 | 23,88 |
| **16** | 24,20 | 25,47 |
| **17** | 25,80 | 27,06 |
| **18** | 27,40 | 28,65 |
| **19** | 29,00 | 30,25 |
| **20** | 30,60 | 31,83 |
| **21** | 32,20 | 33,43 |
| **22** | 33,80 | 35,02 |
| **23** | 35,40 | 36,62 |
| **24** | 37,00 | 38,21 |
| **25** | 38,60 | 39,80 |
| **26** | 40,20 | 41,39 |
| **27** | 41,80 | 42,98 |
| **28** | 43,35 | 44,58 |
| **29** | 44,95 | 46,17 |
| **30** | 46,55 | 47,76 |
| **31** | 48,15 | 49,35 |
| **32** | 49,70 | 50,94 |
| **33** | 51,30 | 52,54 |
| **34** | 52,85 | 54,13 |
| **35** | 54,45 | 55,72 |
| **36** | 56,05 | 57,31 |
| **37** | 57,65 | 58,90 |
| **38** | 59,25 | 60,50 |
| **39** | 60,85 | 62,09 |
| **40** | 62,45 | 63,66 |
| **41** | 64,00 | 65,27 |
| **42** | 65,60 | 66,86 |
| **43** | 67,30 | 68,46 |
| **44** | 68,80 | 70,05 |

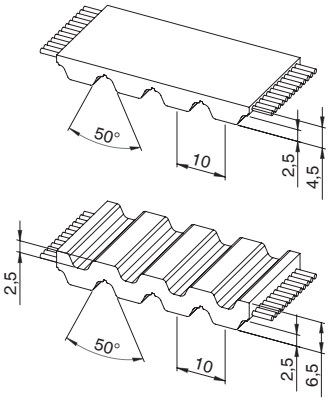
| z | da | dw |
|---|---|---|
| **45** | 70,40 | 71,64 |
| **46** | 72,00 | 73,23 |
| **47** | 73,55 | 74,82 |
| **48** | 75,15 | 76,42 |
| **49** | 76,75 | 78,01 |
| **50** | 78,35 | 79,60 |
| **51** | 79,95 | 81,19 |
| **52** | 81,55 | 82,78 |
| **53** | 83,10 | 84,38 |
| **54** | 84,70 | 85,97 |
| **55** | 86,30 | 87,54 |
| **56** | 87,90 | 89,15 |
| **57** | 89,50 | 90,74 |
| **58** | 91,10 | 92,34 |
| **59** | 92,65 | 93,93 |
| **60** | 94,25 | 95,52 |
| **61** | 95,85 | 97,11 |
| **62** | 97,45 | 98,70 |
| **63** | 99,05 | 100,30 |
| **64** | 100,65 | 101,89 |
| **65** | 102,25 | 103,48 |
| **66** | 103,80 | 105,07 |
| **67** | 105,40 | 106,66 |
| **68** | 107,00 | 108,26 |
| **69** | 108,60 | 109,85 |
| **70** | 110,20 | 111,44 |
| **71** | 111,80 | 113,03 |
| **72** | 113,35 | 114,62 |
| **73** | 114,95 | 116,22 |
| **74** | 116,55 | 117,81 |

| z | da | dw |
|---|---|---|
| **75** | 118,15 | 119,40 |
| **76** | 119,75 | 120,99 |
| **77** | 121,35 | 122,58 |
| **78** | 122,90 | 124,18 |
| **79** | 124,50 | 125,77 |
| **80** | 126,10 | 127,36 |
| **81** | 127,70 | 128,95 |
| **82** | 129,30 | 130,54 |
| **83** | 130,90 | 132,14 |
| **84** | 132,45 | 133,73 |
| **85** | 134,05 | 135,32 |
| **86** | 135,65 | 136,91 |
| **87** | 137,25 | 138,50 |
| **88** | 138,85 | 140,10 |
| **89** | 140,45 | 141,69 |
| **90** | 142,05 | 143,28 |
| **91** | 143,60 | 144,87 |
| **92** | 145,20 | 146,46 |
| **93** | 146,80 | 148,06 |
| **94** | 148,40 | 149,65 |
| **95** | 150,00 | 151,24 |
| **96** | 151,60 | 152,83 |
| **97** | 153,15 | 154,42 |
| **98** | 154,75 | 156,02 |
| **99** | 156,35 | 157,61 |
| **100** | 157,95 | 159,20 |
| **101** | 159,55 | 160,79 |
| **102** | 161,15 | 162,38 |
| **103** | 162,70 | 163,97 |
| **104** | 164,30 | 165,57 |

| z | da | dw |
|---|---|---|
| **105** | 165,90 | 167,16 |
| **106** | 167,50 | 168,75 |
| **107** | 169,10 | 170,34 |
| **108** | 170,70 | 171,94 |
| **109** | 172,25 | 173,53 |
| **110** | 173,85 | 175,12 |
| **111** | 175,45 | 176,71 |
| **112** | 177,05 | 178,30 |
| **113** | 178,65 | 179,84 |
| **114** | 180,25 | 181,49 |
| **115** | 181,85 | 183,08 |
| **116** | 183,45 | 184,67 |
| **117** | 185,00 | 186,26 |
| **118** | 186,60 | 187,86 |
| **119** | 188,20 | 189,45 |
| **120** | 189,80 | 191,04 |



# AT 10




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration
- Particularly suitable for linear drives and medium power transmission applications with high axial and angular positioning accuracy
- Double sided tooth construction available
- Negative length tolerance available on request

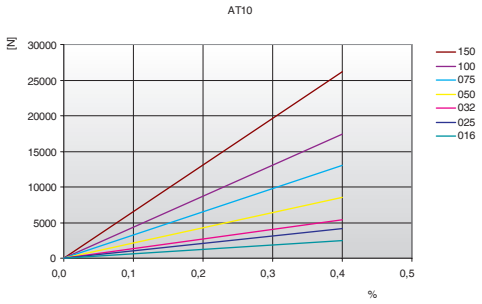
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **16** | 2450 | 1225 | 9500 | 612500 | 0,09 |
| **25** | 4170 | 2085 | 16150 | 1042500 | 0,15 |
| **32** | 5390 | 2695 | 20900 | 1347500 | 0,19 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,30 |
| **75** | 12990 | 6495 | 50350 | 3247500 | 0,44 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,59 |
| **150** | 26220 | 13110 | 101650 | 6555000 | 0,90 |

Other widths are available on request.

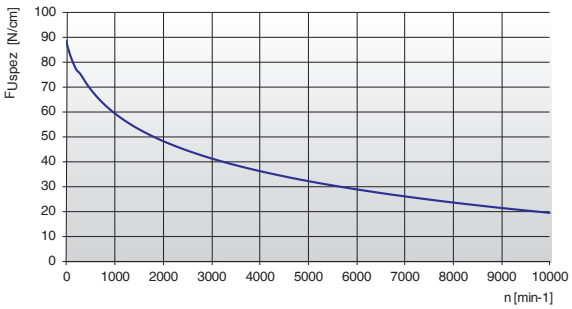
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 88,57 | **800** | 62,83 | **1900** | 49,16 | **4500** | 34,08 |
| **20** | 87,06 | **900** | 61,09 | **2000** | 48,29 | **5000** | 32,17 |
| **40** | 85,66 | **1000** | 59,49 | **2200** | 46,67 | **5500** | 30,43 |
| **60** | 84,35 | **1100** | 58,02 | **2400** | 45,18 | **6000** | 28,84 |
| **80** | 83,13 | **1200** | 56,66 | **2600** | 43,80 | **6500** | 27,37 |
| **100** | 81,99 | **1300** | 55,39 | **2800** | 42,51 | **7000** | 26,01 |
| **200** | 77,36 | **1400** | 54,20 | **3000** | 41,30 | **7500** | 24,73 |
| **300** | 75,09 | **1440** | 53,74 | **3200** | 40,17 | **8000** | 23,53 |
| **400** | 71,99 | **1500** | 53,08 | **3400** | 39,09 | **8500** | 22,41 |
| **500** | 69,27 | **1600** | 52,02 | **3600** | 38,08 | **9000** | 21,34 |
| **600** | 66,88 | **1700** | 51,02 | **3800** | 37,11 | **9500** | 20,33 |
| **700** | 64,75 | **1800** | 50,06 | **4000** | 36,20 | **10000** | 19,37 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

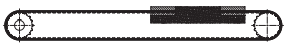
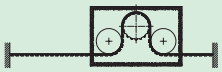
# AT 10



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HFE High Flexibility | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **16** | 2200 | 10000 | 1800 | 7500 | 2000 | 8500 |
| **25** | 3740 | 17000 | 3060 | 12750 | 3400 | 14450 |
| **32** | 4840 | 22000 | 3960 | 16500 | 4400 | 18700 |
| **50** | 7700 | 35000 | 6300 | 26250 | 7000 | 29750 |
| **75** | 11660 | 53000 | 9540 | 39750 | - | - |
| **100** | 15620 | 71000 | 12780 | 53250 | - | - |
| **150** | 23540 | 107000 | - | - | - | - |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | **STANDARD** | **ARAMID** | **STAINLESS** | **HFE** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 15 | 15 | 20 | 12 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm | 50 mm | 70 mm | 50 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 20 | 40 | 20 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 120 mm | 80 mm |

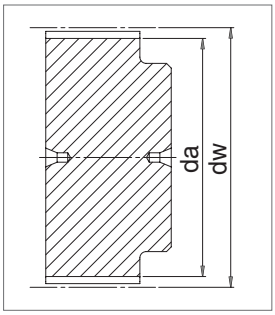
## Timing pulleys

| z | da | dw |
|---|---|---|
| **15** | 45,70 | 47,75 |
| **16** | 49,05 | 50,93 |
| **17** | 52,25 | 54,11 |
| **18** | 55,45 | 57,29 |
| **19** | 58,60 | 60,48 |
| **20** | 61,80 | 63,66 |
| **21** | 65,00 | 66,84 |
| **22** | 68,15 | 70,03 |
| **23** | 71,35 | 73,20 |
| **24** | 74,55 | 76,39 |
| **25** | 77,70 | 79,58 |
| **26** | 80,90 | 82,76 |
| **27** | 84,10 | 85,95 |
| **28** | 87,25 | 89,12 |
| **29** | 90,45 | 92,21 |
| **30** | 93,65 | 95,49 |
| **31** | 96,80 | 98,67 |
| **32** | 100,00 | 101,86 |
| **33** | 103,20 | 105,04 |
| **34** | 106,40 | 108,19 |
| **35** | 109,55 | 111,41 |
| **36** | 112,75 | 114,59 |
| **37** | 115,90 | 117,77 |
| **38** | 119,10 | 120,95 |
| **39** | 122,30 | 124,14 |
| **40** | 125,45 | 127,32 |
| **41** | 128,65 | 130,50 |
| **42** | 131,85 | 133,69 |
| **43** | 135,00 | 136,87 |
| **44** | 138,20 | 140,05 |

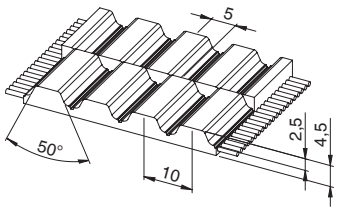
| z | da | dw |
|---|---|---|
| **45** | 141,40 | 143,24 |
| **46** | 144,55 | 146,42 |
| **47** | 147,75 | 149,60 |
| **48** | 150,95 | 152,78 |
| **49** | 154,10 | 155,97 |
| **50** | 157,30 | 159,15 |
| **51** | 160,50 | 162,33 |
| **52** | 163,65 | 165,52 |
| **53** | 166,85 | 168,70 |
| **54** | 170,05 | 171,88 |
| **55** | 173,20 | 175,06 |
| **56** | 176,40 | 178,25 |
| **57** | 179,60 | 181,43 |
| **58** | 182,75 | 184,61 |
| **59** | 185,95 | 187,80 |
| **60** | 189,10 | 190,98 |
| **61** | 192,30 | 194,16 |
| **62** | 195,50 | 197,35 |
| **63** | 198,65 | 200,53 |
| **64** | 201,85 | 203,71 |
| **65** | 205,05 | 206,90 |
| **66** | 208,20 | 210,08 |
| **67** | 211,40 | 213,26 |
| **68** | 214,60 | 216,44 |
| **69** | 217,75 | 219,63 |
| **70** | 220,95 | 222,81 |
| **71** | 224,15 | 225,99 |
| **72** | 227,30 | 229,18 |
| **73** | 230,50 | 232,33 |
| **74** | 233,70 | 235,54 |

| z | da | dw |
|---|---|---|
| **75** | 236,90 | 238,72 |
| **76** | 240,05 | 241,94 |
| **77** | 243,25 | 245,09 |
| **78** | 246,40 | 248,24 |
| **79** | 249,60 | 251,46 |
| **80** | 252,80 | 254,64 |
| **81** | 255,95 | 257,82 |
| **82** | 259,15 | 261,00 |
| **83** | 262,30 | 264,19 |
| **84** | 265,50 | 267,37 |
| **85** | 268,70 | 270,52 |
| **86** | 271,90 | 273,74 |
| **87** | 275,05 | 276,92 |
| **88** | 278,25 | 280,10 |
| **89** | 281,45 | 283,28 |
| **90** | 284,60 | 286,47 |
| **91** | 287,80 | 289,65 |
| **92** | 291,00 | 292,84 |
| **93** | 294,20 | 296,02 |
| **94** | 297,35 | 299,20 |
| **95** | 300,55 | 302,39 |
| **96** | 303,70 | 305,57 |
| **97** | 306,90 | 308,75 |
| **98** | 310,10 | 311,93 |
| **99** | 313,25 | 315,12 |
| **100** | 316,45 | 318,30 |
| **101** | 319,65 | 321,48 |
| **102** | 322,80 | 324,66 |
| **103** | 326,00 | 327,85 |
| **104** | 329,20 | 331,03 |

| z | da | dw |
|---|---|---|
| **105** | 332,35 | 334,21 |
| **106** | 335,55 | 337,40 |
| **107** | 338,75 | 340,58 |
| **108** | 341,90 | 343,76 |
| **109** | 345,10 | 346,95 |
| **110** | 348,30 | 350,13 |
| **111** | 351,45 | 353,31 |
| **112** | 354,65 | 356,50 |
| **113** | 357,80 | 359,68 |
| **114** | 361,00 | 362,86 |
| **115** | 364,19 | 366,04 |
| **116** | 367,39 | 369,23 |
| **117** | 370,56 | 372,41 |
| **118** | 373,74 | 375,59 |
| **119** | 376,93 | 378,78 |
| **120** | 380,11 | 381,96 |



# SAT 10




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Metric pitch 10 mm
- Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration thanks to the teeth offset
- Particularly suitable for linear drives and medium power transmission applications with high axial and angular positioning accuracy
- Negative length tolerance available on request

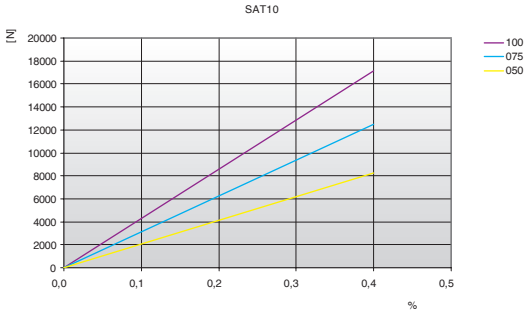
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **50** | 8330 | 4165 | 32300 | 2082500 | 0,29 |
| **75** | 12740 | 6370 | 49400 | 3185000 | 0,43 |
| **100** | 17150 | 8575 | 66500 | 4287500 | 0,57 |

Other widths are available on request.

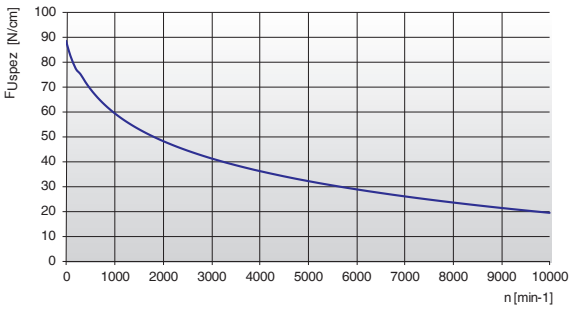
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 88,57 | **800** | 62,83 | **1900** | 49,16 | **4500** | 34,08 |
| **20** | 87,06 | **900** | 61,09 | **2000** | 48,29 | **5000** | 32,17 |
| **40** | 85,66 | **1000** | 59,49 | **2200** | 46,67 | **5500** | 30,43 |
| **60** | 84,35 | **1100** | 58,02 | **2400** | 45,18 | **6000** | 28,84 |
| **80** | 83,13 | **1200** | 56,66 | **2600** | 43,80 | **6500** | 27,37 |
| **100** | 81,99 | **1300** | 55,39 | **2800** | 42,51 | **7000** | 26,01 |
| **200** | 77,36 | **1400** | 54,20 | **3000** | 41,30 | **7500** | 24,73 |
| **300** | 75,09 | **1440** | 53,74 | **3200** | 40,17 | **8000** | 23,53 |
| **400** | 71,99 | **1500** | 53,08 | **3400** | 39,09 | **8500** | 22,41 |
| **500** | 69,27 | **1600** | 52,02 | **3600** | 38,08 | **9000** | 21,34 |
| **600** | 66,88 | **1700** | 51,02 | **3800** | 37,11 | **9500** | 20,33 |
| **700** | 64,75 | **1800** | 50,06 | **4000** | 36,20 | **10000** | 19,37 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

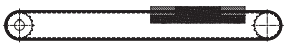
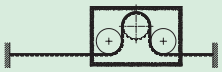
# SAT 10



## Specialties

| Belt width b [mm] | STAINLESS STEEL | | HFE High Flexibility | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **50** | 6120 | 25500 | 6800 | 28900 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS | HFE |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 15 | 15 | 20 | 12 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm | 50 mm | 70 mm | 50 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 20 | 40 | 20 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 120 mm | 80 mm |

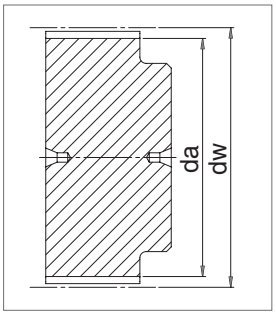
## Timing pulleys

| z | da | dw |
|---|---|---|
| **15** | 45,70 | 47,75 |
| **16** | 49,05 | 50,93 |
| **17** | 52,25 | 54,11 |
| **18** | 55,45 | 57,29 |
| **19** | 58,60 | 60,48 |
| **20** | 61,80 | 63,66 |
| **21** | 65,00 | 66,84 |
| **22** | 68,15 | 70,03 |
| **23** | 71,35 | 73,20 |
| **24** | 74,55 | 76,39 |
| **25** | 77,70 | 79,58 |
| **26** | 80,90 | 82,76 |
| **27** | 84,10 | 85,95 |
| **28** | 87,25 | 89,12 |
| **29** | 90,45 | 92,21 |
| **30** | 93,65 | 95,49 |
| **31** | 96,80 | 98,67 |
| **32** | 100,00 | 101,86 |
| **33** | 103,20 | 105,04 |
| **34** | 106,40 | 108,19 |
| **35** | 109,55 | 111,41 |
| **36** | 112,75 | 114,59 |
| **37** | 115,90 | 117,77 |
| **38** | 119,10 | 120,95 |
| **39** | 122,30 | 124,14 |
| **40** | 125,45 | 127,32 |
| **41** | 128,65 | 130,50 |
| **42** | 131,85 | 133,69 |
| **43** | 135,00 | 136,87 |
| **44** | 138,20 | 140,05 |

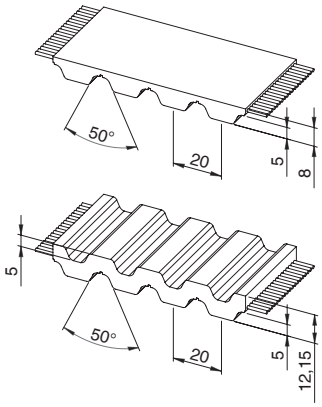
| z | da | dw |
|---|---|---|
| **45** | 141,40 | 143,24 |
| **46** | 144,55 | 146,42 |
| **47** | 147,75 | 149,60 |
| **48** | 150,95 | 152,78 |
| **49** | 154,10 | 155,97 |
| **50** | 157,30 | 159,15 |
| **51** | 160,50 | 162,33 |
| **52** | 163,65 | 165,52 |
| **53** | 166,85 | 168,70 |
| **54** | 170,05 | 171,88 |
| **55** | 173,20 | 175,06 |
| **56** | 176,40 | 178,25 |
| **57** | 179,60 | 181,43 |
| **58** | 182,75 | 184,61 |
| **59** | 185,95 | 187,80 |
| **60** | 189,10 | 190,98 |
| **61** | 192,30 | 194,16 |
| **62** | 195,50 | 197,35 |
| **63** | 198,65 | 200,53 |
| **64** | 201,85 | 203,71 |
| **65** | 205,05 | 206,90 |
| **66** | 208,20 | 210,08 |
| **67** | 211,40 | 213,26 |
| **68** | 214,60 | 216,44 |
| **69** | 217,75 | 219,63 |
| **70** | 220,95 | 222,81 |
| **71** | 224,15 | 225,99 |
| **72** | 227,30 | 229,18 |
| **73** | 230,50 | 232,33 |
| **74** | 233,70 | 235,54 |

| z | da | dw |
|---|---|---|
| **75** | 236,90 | 238,72 |
| **76** | 240,05 | 241,94 |
| **77** | 243,25 | 245,09 |
| **78** | 246,40 | 248,24 |
| **79** | 249,60 | 251,46 |
| **80** | 252,80 | 254,64 |
| **81** | 255,95 | 257,82 |
| **82** | 259,15 | 261,00 |
| **83** | 262,30 | 264,19 |
| **84** | 265,50 | 267,37 |
| **85** | 268,70 | 270,52 |
| **86** | 271,90 | 273,74 |
| **87** | 275,05 | 276,92 |
| **88** | 278,25 | 280,10 |
| **89** | 281,45 | 283,28 |
| **90** | 284,60 | 286,47 |
| **91** | 287,80 | 289,65 |
| **92** | 291,00 | 292,84 |
| **93** | 294,20 | 296,02 |
| **94** | 297,35 | 299,20 |
| **95** | 300,55 | 302,39 |
| **96** | 303,70 | 305,57 |
| **97** | 306,90 | 308,75 |
| **98** | 310,10 | 311,93 |
| **99** | 313,25 | 315,12 |
| **100** | 316,45 | 318,30 |
| **101** | 319,65 | 321,48 |
| **102** | 322,80 | 324,66 |
| **103** | 326,00 | 327,85 |
| **104** | 329,20 | 331,03 |

| z | da | dw |
|---|---|---|
| **105** | 332,35 | 334,21 |
| **106** | 335,55 | 337,40 |
| **107** | 338,75 | 340,58 |
| **108** | 341,90 | 343,76 |
| **109** | 345,10 | 346,95 |
| **110** | 348,30 | 350,13 |
| **111** | 351,45 | 353,31 |
| **112** | 354,65 | 356,50 |
| **113** | 357,80 | 359,68 |
| **114** | 361,00 | 362,86 |
| **115** | 364,19 | 366,04 |
| **116** | 367,39 | 369,23 |
| **117** | 370,56 | 372,41 |
| **118** | 373,74 | 375,59 |
| **119** | 376,93 | 378,78 |
| **120** | 380,11 | 381,96 |



# AT 20




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 20 mm
- Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration
- Particularly suitable for linear drives and heavy power transmission applications with high axial and angular positioning accuracy
- Double sided tooth construction available

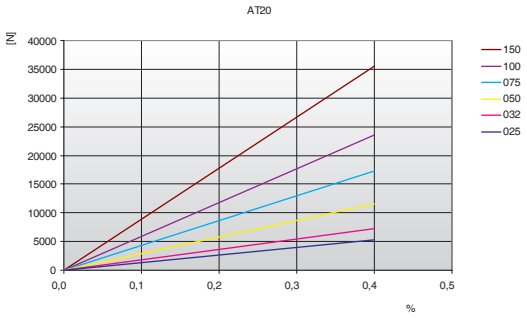
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **25** | 5280 | 2640 | 19250 | 1320000 | 0,24 |
| **32** | 7200 | 3600 | 26250 | 1800000 | 0,31 |
| **50** | 11520 | 5760 | 42000 | 2880000 | 0,48 |
| **75** | 17280 | 8640 | 63000 | 4320000 | 0,73 |
| **100** | 23520 | 11760 | 85750 | 5880000 | 0,97 |
| **150** | 35520 | 17760 | 129500 | 8880000 | 1,45 |

Other widths are available on request.

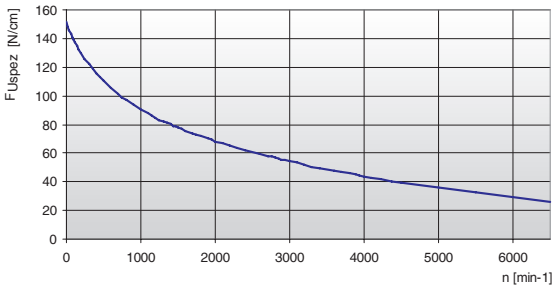
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 151,40 | **800** | 97,44 | **1900** | 69,96 | **4500** | 39,72 |
| **20** | 148,56 | **900** | 93,93 | **2000** | 68,22 | **5000** | 35,90 |
| **40** | 145,89 | **1000** | 90,73 | **2200** | 64,97 | **5500** | 32,42 |
| **60** | 143,38 | **1100** | 87,77 | **2400** | 61,98 | **6000** | 29,23 |
| **80** | 141,01 | **1200** | 85,02 | **2600** | 59,20 | **6500** | 26,29 |
| **100** | 138,78 | **1300** | 82,47 | **2800** | 56,62 | - | - |
| **200** | 129,43 | **1400** | 80,07 | **3000** | 54,20 | - | - |
| **300** | 122,28 | **1440** | 79,16 | **3200** | 51,92 | - | - |
| **400** | 115,96 | **1500** | 77,82 | **3400** | 49,77 | - | - |
| **500** | 110,45 | **1600** | 75,70 | **3600** | 47,74 | - | - |
| **600** | 105,61 | **1700** | 73,69 | **3800** | 45,80 | - | - |
| **700** | 101,31 | **1800** | 71,77 | **4000** | 43,96 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

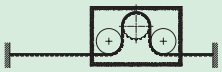
# AT 20



## Specialties

| Belt width b [mm] | HFE High Flexibility | | ARAMID CORD | | STAINLESS STEEL | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **25** | 5060 | 21175 | 2420 | 11000 | 3300 | 15400 |
| **32** | 6900 | 28875 | 3300 | 15000 | 4500 | 21000 |
| **50** | 11040 | 46200 | 5280 | 24000 | 7200 | 33600 |
| **75** | 16560 | 69300 | 7920 | 36000 | 10800 | 50400 |
| **100** | 22540 | 94325 | 10780 | 49000 | 14700 | 68600 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | **STANDARD** | **HFE** | **ARAMID** | **STAINLESS STEEL** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 18 | 18 | 18 | 20 |
| | Flat idler running on belt teeth $d_{min}$ | 120 mm | 120 mm | 120 mm | 125 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 25 | 25 | 30 |
| | Flat idler running on belt back $d_{min}$ | 180 mm | 150 mm | 160 mm | 200 mm |

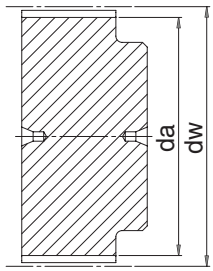
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 111,75 | 114,59 |
| **19** | 118,10 | 120,95 |
| **20** | 124,50 | 127,32 |
| **21** | 130,75 | 133,69 |
| **22** | 137,20 | 140,05 |
| **23** | 143,55 | 146,42 |
| **24** | 149,95 | 152,78 |
| **25** | 156,30 | 159,15 |
| **26** | 162,65 | 165,52 |
| **27** | 169,05 | 171,88 |
| **28** | 175,40 | 178,25 |
| **29** | 181,75 | 184,62 |
| **30** | 188,15 | 190,99 |
| **31** | 194,50 | 197,35 |
| **32** | 200,85 | 203,72 |
| **33** | 207,20 | 210,09 |
| **34** | 213,60 | 216,44 |
| **35** | 219,95 | 222,81 |
| **36** | 226,35 | 229,18 |
| **37** | 232,70 | 235,54 |
| **38** | 239,05 | 241,91 |
| **39** | 245,45 | 248,27 |
| **40** | 251,80 | 254,64 |
| **41** | 258,15 | 261,01 |
| **42** | 264,50 | 267,37 |
| **43** | 270,90 | 273,74 |
| **44** | 277,25 | 280,10 |
| **45** | 283,60 | 286,47 |
| **46** | 290,00 | 292,84 |
| **47** | 296,35 | 299,21 |

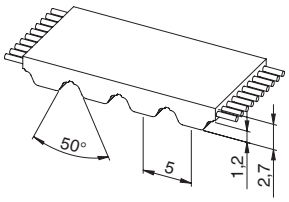
| z | da | dw |
|---|---|---|
| **48** | 302,70 | 305,58 |
| **49** | 309,10 | 311,93 |
| **50** | 315,45 | 318,30 |
| **51** | 321,80 | 324,67 |
| **52** | 328,20 | 331,03 |
| **53** | 334,55 | 337,40 |
| **54** | 340,90 | 343,76 |
| **55** | 347,30 | 350,13 |
| **56** | 353,65 | 356,50 |
| **57** | 360,00 | 362,86 |
| **58** | 366,40 | 369,23 |
| **59** | 372,75 | 375,59 |
| **60** | 379,10 | 381,96 |
| **61** | 385,45 | 388,33 |
| **62** | 391,85 | 394,69 |
| **63** | 398,20 | 401,06 |
| **64** | 404,55 | 407,43 |
| **65** | 410,95 | 413,79 |
| **66** | 417,30 | 420,16 |
| **67** | 423,65 | 426,52 |
| **68** | 430,05 | 432,89 |
| **69** | 436,40 | 439,26 |
| **70** | 442,80 | 445,63 |
| **71** | 449,15 | 451,99 |
| **72** | 455,50 | 458,36 |
| **73** | 461,85 | 464,73 |
| **74** | 468,25 | 471,08 |
| **75** | 474,60 | 477,45 |
| **76** | 480,95 | 483,82 |
| **77** | 487,35 | 490,19 |

| z | da | dw |
|---|---|---|
| **78** | 493,70 | 496,56 |
| **79** | 500,05 | 502,91 |
| **80** | 506,45 | 509,28 |
| **81** | 512,80 | 515,65 |
| **82** | 519,15 | 522,02 |
| **83** | 525,55 | 528,39 |
| **84** | 531,90 | 534,74 |
| **85** | 538,25 | 541,11 |
| **86** | 544,60 | 547,48 |
| **87** | 551,00 | 553,85 |
| **88** | 557,35 | 560,22 |
| **89** | 563,70 | 566,57 |
| **90** | 570,10 | 572,94 |
| **91** | 576,45 | 579,31 |
| **92** | 582,85 | 585,67 |
| **93** | 589,20 | 592,04 |
| **94** | 595,55 | 598,40 |
| **95** | 601,90 | 604,77 |
| **96** | 608,30 | 611,14 |
| **97** | 614,65 | 617,50 |
| **98** | 621,00 | 623,87 |
| **99** | 627,35 | 630,24 |
| **100** | 633,75 | 636,60 |
| **101** | 640,10 | 642,97 |
| **102** | 646,50 | 649,34 |
| **103** | 652,85 | 655,71 |
| **104** | 659,20 | 662,06 |
| **105** | 665,60 | 668,43 |
| **106** | 671,95 | 674,80 |
| **107** | 678,30 | 681,17 |

| z | da | dw |
|---|---|---|
| **108** | 684,70 | 687,54 |
| **109** | 691,05 | 693,89 |
| **110** | 697,40 | 700,26 |
| **111** | 703,80 | 706,63 |
| **112** | 710,15 | 712,99 |
| **113** | 716,50 | 719,36 |
| **114** | 722,90 | 725,72 |
| **115** | 729,24 | 732,09 |
| **116** | 735,61 | 738,46 |
| **117** | 741,96 | 744,83 |
| **118** | 748,34 | 751,19 |
| **119** | 754,70 | 757,56 |
| **120** | 761,07 | 763,93 |



# ATL 5




**Belt characteristics**

- High performance polyurethane timing belt with HPL steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 5 mm
- Specially designed for linear drives
- Tension cords with increased allowable tensile load compared to standard for lower elongation
- Produced with special pretension and pitch tolerance to guarantee high positioning precision in linear drives
- Negative length tolerance available on request

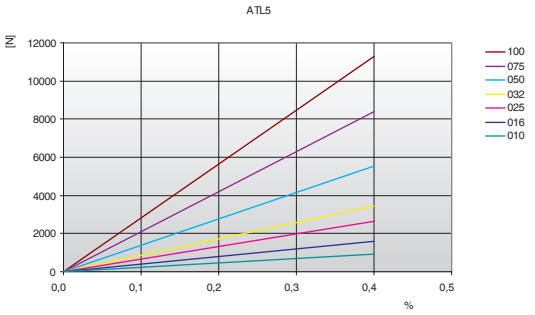
- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **10** | 920 | 3360 | 230000 | 0,04 |
| **16** | 1610 | 5880 | 402500 | 0,06 |
| **25** | 2650 | 9660 | 662500 | 0,10 |
| **32** | 3450 | 12600 | 862500 | 0,12 |
| **50** | 5520 | 20160 | 1380000 | 0,19 |
| **75** | 8400 | 30660 | 2100000 | 0,29 |
| **100** | 11270 | 41160 | 2817500 | 0,38 |

Other widths are available on request.

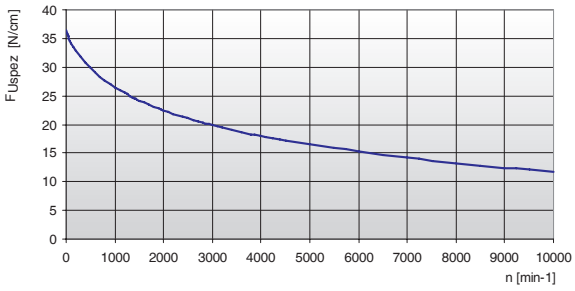
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 36,40 | **800** | 27,69 | **1900** | 22,73 | **4500** | 17,18 |
| **20** | 35,88 | **900** | 27,06 | **2000** | 22,42 | **5000** | 16,47 |
| **40** | 35,40 | **1000** | 26,49 | **2200** | 21,82 | **5500** | 15,83 |
| **60** | 34,97 | **1100** | 25,96 | **2400** | 21,28 | **6000** | 15,24 |
| **80** | 34,59 | **1200** | 25,47 | **2600** | 20,77 | **6500** | 14,69 |
| **100** | 34,24 | **1300** | 25,01 | **2800** | 20,29 | **7000** | 14,18 |
| **200** | 32,92 | **1400** | 24,57 | **3000** | 19,85 | **7500** | 13,71 |
| **300** | 31,92 | **1440** | 24,41 | **3200** | 19,43 | **8000** | 13,26 |
| **400** | 30,89 | **1500** | 24,16 | **3400** | 19,03 | **8500** | 12,85 |
| **500** | 29,95 | **1600** | 23,78 | **3600** | 18,66 | **9000** | 12,45 |
| **600** | 29,12 | **1700** | 23,41 | **3800** | 18,30 | **9500** | 12,07 |
| **700** | 28,37 | **1800** | 23,07 | **4000** | 17,96 | **10000** | 11,72 |

### 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:

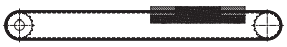
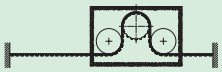
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# ATL 5



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 25 |
|  | Flat idler running on belt teeth $d_{min}$ | 40 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 25 |
|  | Flat idler running on belt back $d_{min}$ | 60 mm |

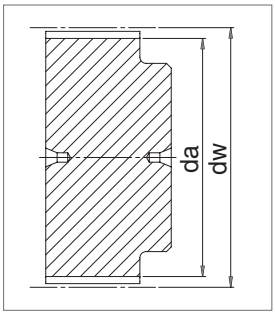
## Timing pulleys

| z | da | dw |
|---|---|---|
| **15** | 22,65 | 23,88 |
| **16** | 24,20 | 25,47 |
| **17** | 25,80 | 27,06 |
| **18** | 27,40 | 28,65 |
| **19** | 29,00 | 30,25 |
| **20** | 30,60 | 31,83 |
| **21** | 32,20 | 33,43 |
| **22** | 33,80 | 35,02 |
| **23** | 35,40 | 36,62 |
| **24** | 37,00 | 38,21 |
| **25** | 38,60 | 39,80 |
| **26** | 40,20 | 41,39 |
| **27** | 41,80 | 42,98 |
| **28** | 43,35 | 44,58 |
| **29** | 44,95 | 46,17 |
| **30** | 46,55 | 47,76 |
| **31** | 48,15 | 49,35 |
| **32** | 49,70 | 50,94 |
| **33** | 51,30 | 52,54 |
| **34** | 52,85 | 54,13 |
| **35** | 54,45 | 55,72 |
| **36** | 56,05 | 57,31 |
| **37** | 57,65 | 58,90 |
| **38** | 59,25 | 60,50 |
| **39** | 60,85 | 62,09 |
| **40** | 62,45 | 63,66 |
| **41** | 64,00 | 65,27 |
| **42** | 65,60 | 66,86 |
| **43** | 67,30 | 68,46 |
| **44** | 68,80 | 70,05 |

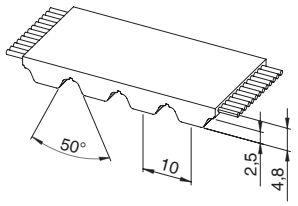
| z | da | dw |
|---|---|---|
| **45** | 70,40 | 71,64 |
| **46** | 72,00 | 73,23 |
| **47** | 73,55 | 74,82 |
| **48** | 75,15 | 76,42 |
| **49** | 76,75 | 78,01 |
| **50** | 78,35 | 79,60 |
| **51** | 79,95 | 81,19 |
| **52** | 81,55 | 82,78 |
| **53** | 83,10 | 84,38 |
| **54** | 84,70 | 85,97 |
| **55** | 86,30 | 87,54 |
| **56** | 87,90 | 89,15 |
| **57** | 89,50 | 90,74 |
| **58** | 91,10 | 92,34 |
| **59** | 92,65 | 93,93 |
| **60** | 94,25 | 95,52 |
| **61** | 95,85 | 97,11 |
| **62** | 97,45 | 98,70 |
| **63** | 99,05 | 100,30 |
| **64** | 100,65 | 101,89 |
| **65** | 102,25 | 103,48 |
| **66** | 103,80 | 105,07 |
| **67** | 105,40 | 106,66 |
| **68** | 107,00 | 108,26 |
| **69** | 108,60 | 109,85 |
| **70** | 110,20 | 111,44 |
| **71** | 111,80 | 113,03 |
| **72** | 113,35 | 114,62 |
| **73** | 114,95 | 116,22 |
| **74** | 116,55 | 117,81 |

| z | da | dw |
|---|---|---|
| **75** | 118,15 | 119,40 |
| **76** | 119,75 | 120,99 |
| **77** | 121,35 | 122,58 |
| **78** | 122,90 | 124,18 |
| **79** | 124,50 | 125,77 |
| **80** | 126,10 | 127,36 |
| **81** | 127,70 | 128,95 |
| **82** | 129,30 | 130,54 |
| **83** | 130,90 | 132,14 |
| **84** | 132,45 | 133,73 |
| **85** | 134,05 | 135,32 |
| **86** | 135,65 | 136,91 |
| **87** | 137,25 | 138,50 |
| **88** | 138,85 | 140,10 |
| **89** | 140,45 | 141,69 |
| **90** | 142,05 | 143,28 |
| **91** | 143,60 | 144,87 |
| **92** | 145,20 | 146,46 |
| **93** | 146,80 | 148,06 |
| **94** | 148,40 | 149,65 |
| **95** | 150,00 | 151,24 |
| **96** | 151,60 | 152,83 |
| **97** | 153,15 | 154,42 |
| **98** | 154,75 | 156,02 |
| **99** | 156,35 | 157,61 |
| **100** | 157,95 | 159,20 |
| **101** | 159,55 | 160,79 |
| **102** | 161,15 | 162,38 |
| **103** | 162,70 | 163,97 |
| **104** | 164,30 | 165,57 |

| z | da | dw |
|---|---|---|
| **105** | 165,90 | 167,16 |
| **106** | 167,50 | 168,75 |
| **107** | 169,10 | 170,34 |
| **108** | 170,70 | 171,94 |
| **109** | 172,25 | 173,53 |
| **110** | 173,85 | 175,12 |
| **111** | 175,45 | 176,71 |
| **112** | 177,05 | 178,30 |
| **113** | 178,65 | 179,84 |
| **114** | 180,25 | 181,49 |
| **115** | 181,85 | 183,08 |
| **116** | 183,45 | 184,67 |
| **117** | 185,00 | 186,26 |
| **118** | 186,60 | 187,86 |
| **119** | 188,20 | 189,45 |
| **120** | 189,80 | 191,04 |



# ATL 10




**Belt characteristics**

- High performance polyurethane timing belt with HPL steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- Specially designed for linear drives
- Tension cords with increased allowable tensile load compared to standard for lower elongation
- Produced with special pretension and pitch tolerance to guarantee high positioning precision in linear drives
- Negative length tolerance available on request

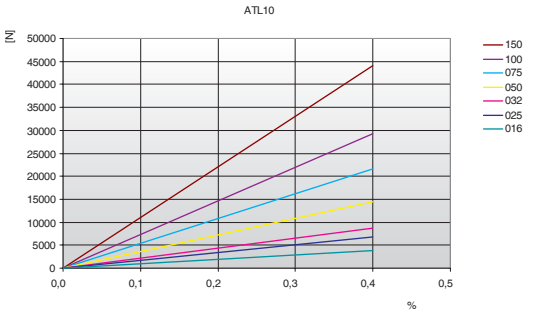
- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **16** | 3840 | 14000 | 960000 | 0,11 |
| **25** | 6720 | 24500 | 1680000 | 0,17 |
| **32** | 8640 | 31500 | 2160000 | 0,22 |
| **50** | 14400 | 52500 | 3600000 | 0,35 |
| **75** | 21600 | 78750 | 5400000 | 0,52 |
| **100** | 29280 | 106750 | 7320000 | 0,69 |
| **150** | 44160 | 161000 | 11040000 | 0,85 |

Other widths are available on request.

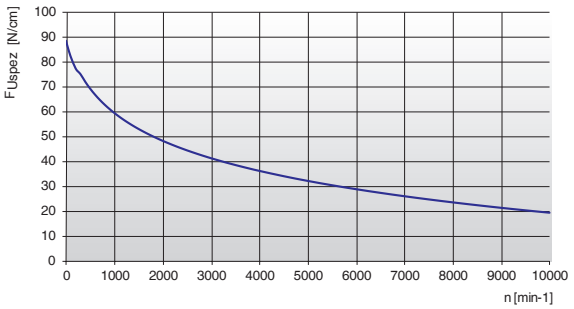
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 88,57 | **800** | 62,83 | **1900** | 49,16 | **4500** | 34,08 |
| **20** | 87,06 | **900** | 61,09 | **2000** | 48,29 | **5000** | 32,17 |
| **40** | 85,66 | **1000** | 59,49 | **2200** | 46,67 | **5500** | 30,43 |
| **60** | 84,35 | **1100** | 58,02 | **2400** | 45,18 | **6000** | 28,84 |
| **80** | 83,13 | **1200** | 56,66 | **2600** | 43,80 | **6500** | 27,37 |
| **100** | 81,99 | **1300** | 55,39 | **2800** | 42,51 | **7000** | 26,01 |
| **200** | 77,36 | **1400** | 54,20 | **3000** | 41,30 | **7500** | 24,73 |
| **300** | 75,09 | **1440** | 53,74 | **3200** | 40,17 | **8000** | 23,53 |
| **400** | 71,99 | **1500** | 53,08 | **3400** | 39,09 | **8500** | 22,41 |
| **500** | 69,27 | **1600** | 52,02 | **3600** | 38,08 | **9000** | 21,34 |
| **600** | 66,88 | **1700** | 51,02 | **3800** | 37,11 | **9500** | 20,33 |
| **700** | 64,75 | **1800** | 50,06 | **4000** | 36,20 | **10000** | 19,37 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

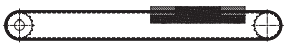
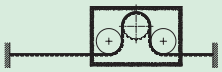
# ATL 10



## Specialties

| Belt width b [mm] | HFE High Flexibility | | STAINLESS STEEL | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **16** | 3680 | 15400 | 2400 | 11200 |
| **25** | 6440 | 26950 | 4200 | 19600 |
| **32** | 8280 | 34650 | 5400 | 25200 |
| **50** | 13800 | 57750 | 9000 | 42000 |
| **75** | 20700 | 86625 | 13500 | 63000 |
| **100** | 28060 | 117425 | 18300 | 85400 |
| **150** | 42320 | 177100 | 27600 | 128800 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | STANDARD | HFE | STAINLESS |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 25 | 20 | 32 |
| | Flat idler running on belt teeth $d_{min}$ | 80 mm | 60 mm | 100 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 20 | 40 |
| | Flat idler running on belt back $d_{min}$ | 150 mm | 100 mm | 250 mm |

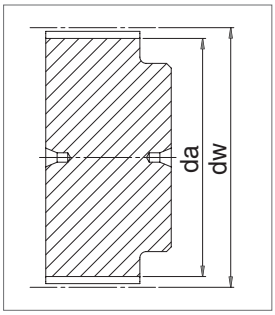
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 55,45 | 57,29 |
| **19** | 58,60 | 60,48 |
| **20** | 61,80 | 63,66 |
| **21** | 65,00 | 66,84 |
| **22** | 68,15 | 70,03 |
| **23** | 71,35 | 73,20 |
| **24** | 74,55 | 76,39 |
| **25** | 77,70 | 79,58 |
| **26** | 80,90 | 82,76 |
| **27** | 84,10 | 85,95 |
| **28** | 87,25 | 89,12 |
| **29** | 90,45 | 92,21 |
| **30** | 93,65 | 95,49 |
| **31** | 96,80 | 98,67 |
| **32** | 100,00 | 101,86 |
| **33** | 103,20 | 105,04 |
| **34** | 106,40 | 108,19 |
| **35** | 109,55 | 111,41 |
| **36** | 112,75 | 114,59 |
| **37** | 115,90 | 117,77 |
| **38** | 119,10 | 120,95 |
| **39** | 122,30 | 124,14 |
| **40** | 125,45 | 127,32 |
| **41** | 128,65 | 130,50 |
| **42** | 131,85 | 133,69 |
| **43** | 135,00 | 136,87 |
| **44** | 138,20 | 140,05 |
| **45** | 141,40 | 143,24 |
| **46** | 144,55 | 146,42 |
| **47** | 147,75 | 149,60 |

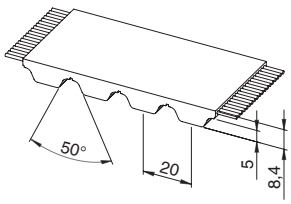
| z | da | dw |
|---|---|---|
| **48** | 150,95 | 152,78 |
| **49** | 154,10 | 155,97 |
| **50** | 157,30 | 159,15 |
| **51** | 160,50 | 162,33 |
| **52** | 163,65 | 165,52 |
| **53** | 166,85 | 168,70 |
| **54** | 170,05 | 171,88 |
| **55** | 173,20 | 175,06 |
| **56** | 176,40 | 178,25 |
| **57** | 179,60 | 181,43 |
| **58** | 182,75 | 184,61 |
| **59** | 185,95 | 187,80 |
| **60** | 189,10 | 190,98 |
| **61** | 192,30 | 194,16 |
| **62** | 195,50 | 197,35 |
| **63** | 198,65 | 200,53 |
| **64** | 201,85 | 203,71 |
| **65** | 205,05 | 206,90 |
| **66** | 208,20 | 210,08 |
| **67** | 211,40 | 213,26 |
| **68** | 214,60 | 216,44 |
| **69** | 217,75 | 219,63 |
| **70** | 220,95 | 222,81 |
| **71** | 224,15 | 225,99 |
| **72** | 227,30 | 229,18 |
| **73** | 230,50 | 232,33 |
| **74** | 233,70 | 235,54 |
| **75** | 236,90 | 238,72 |
| **76** | 240,05 | 241,94 |
| **77** | 243,25 | 245,09 |

| z | da | dw |
|---|---|---|
| **78** | 246,40 | 248,24 |
| **79** | 249,60 | 251,46 |
| **80** | 252,80 | 254,64 |
| **81** | 255,95 | 257,82 |
| **82** | 259,15 | 261,00 |
| **83** | 262,30 | 264,19 |
| **84** | 265,50 | 267,37 |
| **85** | 268,70 | 270,52 |
| **86** | 271,90 | 273,74 |
| **87** | 275,05 | 276,92 |
| **88** | 278,25 | 280,10 |
| **89** | 281,45 | 283,28 |
| **90** | 284,60 | 286,47 |
| **91** | 287,80 | 289,65 |
| **92** | 291,00 | 292,84 |
| **93** | 294,20 | 296,02 |
| **94** | 297,35 | 299,20 |
| **95** | 300,55 | 302,39 |
| **96** | 303,70 | 305,57 |
| **97** | 306,90 | 308,75 |
| **98** | 310,10 | 311,93 |
| **99** | 313,25 | 315,12 |
| **100** | 316,45 | 318,30 |
| **101** | 319,65 | 321,48 |
| **102** | 322,80 | 324,66 |
| **103** | 326,00 | 327,85 |
| **104** | 329,20 | 331,03 |
| **105** | 332,35 | 334,21 |
| **106** | 335,55 | 337,40 |
| **107** | 338,75 | 340,58 |

| z | da | dw |
|---|---|---|
| **108** | 341,90 | 343,76 |
| **109** | 345,10 | 346,95 |
| **110** | 348,30 | 350,13 |
| **111** | 351,45 | 353,31 |
| **112** | 354,65 | 356,50 |
| **113** | 357,80 | 359,68 |
| **114** | 361,00 | 362,86 |
| **115** | 364,19 | 366,04 |
| **116** | 367,39 | 369,23 |
| **117** | 370,56 | 372,41 |
| **118** | 373,74 | 375,59 |
| **119** | 376,93 | 378,78 |
| **120** | 380,11 | 381,96 |



# ATL 20




**Belt characteristics**

- High performance polyurethane timing belt with HPL steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 20 mm
- Specially designed for linear drives
- Tension cords with increased allowable tensile load compared to standard for lower elongation
- Produced with special pretension and pitch tolerance to guarantee high positioning precision in linear drives

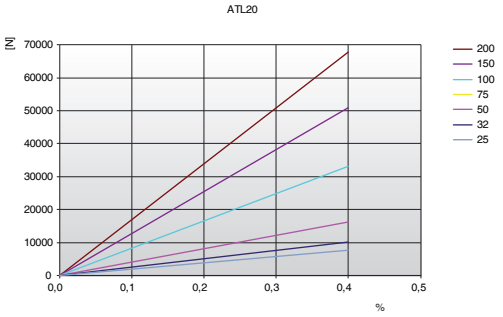
- Width tolerance: ±1,0 [mm]
- Thickness tolerance: ±0,4 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **25** | 7650 | 28800 | 1912500 | 0,28 |
| **32** | 10200 | 38400 | 2550000 | 0,36 |
| **50** | 16150 | 60800 | 4037500 | 0,56 |
| **75** | 24650 | 92800 | 6162500 | 0,84 |
| **100** | 33150 | 124800 | 8287500 | 1,12 |
| **150** | 51000 | 192000 | 12750000 | 1,68 |
| **200** | 68000 | 256000 | 17000000 | 2,25 |

Other widths are available on request.

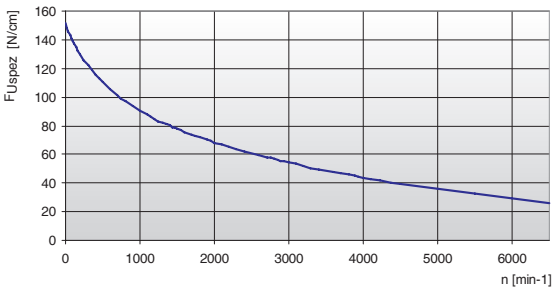
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 151,40 | **800** | 97,44 | **1900** | 69,96 | **4500** | 39,72 |
| **20** | 148,56 | **900** | 93,93 | **2000** | 68,22 | **5000** | 35,90 |
| **40** | 145,89 | **1000** | 90,73 | **2200** | 64,97 | **5500** | 32,42 |
| **60** | 143,38 | **1100** | 87,77 | **2400** | 61,98 | **6000** | 29,23 |
| **80** | 141,01 | **1200** | 85,02 | **2600** | 59,20 | **6500** | 26,29 |
| **100** | 138,78 | **1300** | 82,47 | **2800** | 56,62 | - | - |
| **200** | 129,43 | **1400** | 80,07 | **3000** | 54,20 | - | - |
| **300** | 122,28 | **1440** | 79,16 | **3200** | 51,92 | - | - |
| **400** | 115,96 | **1500** | 77,82 | **3400** | 49,77 | - | - |
| **500** | 110,45 | **1600** | 75,70 | **3600** | 47,74 | - | - |
| **600** | 105,61 | **1700** | 73,69 | **3800** | 45,80 | - | - |
| **700** | 101,31 | **1800** | 71,77 | **4000** | 43,96 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

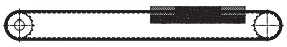
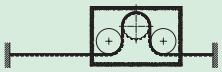
# ATL 20



## Specialties

| Belt width b [mm] | STAINLESS STEEL | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **25** | 5220 | 20700 |
| **32** | 6960 | 27600 |
| **50** | 11020 | 43700 |
| **75** | 16820 | 66700 |
| **100** | 22620 | 89700 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | |
|---|---|---|---|
| | | STANDARD | STAINLESS |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 25 | 32 |
| | Flat idler running on belt teeth $d_{min}$ | 160 mm | 200 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 40 |
| | Flat idler running on belt back $d_{min}$ | 250 mm | 250 mm |

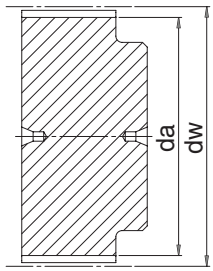
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 111,75 | 114,59 |
| **19** | 118,10 | 120,95 |
| **20** | 124,50 | 127,32 |
| **21** | 130,75 | 133,69 |
| **22** | 137,20 | 140,05 |
| **23** | 143,55 | 146,42 |
| **24** | 149,95 | 152,78 |
| **25** | 156,30 | 159,15 |
| **26** | 162,65 | 165,52 |
| **27** | 169,05 | 171,88 |
| **28** | 175,40 | 178,25 |
| **29** | 181,75 | 184,62 |
| **30** | 188,15 | 190,99 |
| **31** | 194,50 | 197,35 |
| **32** | 200,85 | 203,72 |
| **33** | 207,20 | 210,09 |
| **34** | 213,60 | 216,44 |
| **35** | 219,95 | 222,81 |
| **36** | 226,35 | 229,18 |
| **37** | 232,70 | 235,54 |
| **38** | 239,05 | 241,91 |
| **39** | 245,45 | 248,27 |
| **40** | 251,80 | 254,64 |
| **41** | 258,15 | 261,01 |
| **42** | 264,50 | 267,37 |
| **43** | 270,90 | 273,74 |
| **44** | 277,25 | 280,10 |
| **45** | 283,60 | 286,47 |
| **46** | 290,00 | 292,84 |
| **47** | 296,35 | 299,21 |

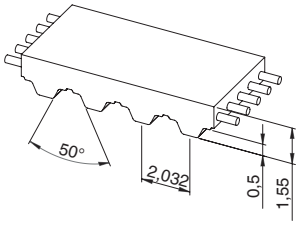
| z | da | dw |
|---|---|---|
| **48** | 302,70 | 305,58 |
| **49** | 309,10 | 311,93 |
| **50** | 315,45 | 318,30 |
| **51** | 321,80 | 324,67 |
| **52** | 328,20 | 331,03 |
| **53** | 334,55 | 337,40 |
| **54** | 340,90 | 343,76 |
| **55** | 347,30 | 350,13 |
| **56** | 353,65 | 356,50 |
| **57** | 360,00 | 362,86 |
| **58** | 366,40 | 369,23 |
| **59** | 372,75 | 375,59 |
| **60** | 379,10 | 381,96 |
| **61** | 385,45 | 388,33 |
| **62** | 391,85 | 394,69 |
| **63** | 398,20 | 401,06 |
| **64** | 404,55 | 407,43 |
| **65** | 410,95 | 413,79 |
| **66** | 417,30 | 420,16 |
| **67** | 423,65 | 426,52 |
| **68** | 430,05 | 432,89 |
| **69** | 436,40 | 439,26 |
| **70** | 442,80 | 445,63 |
| **71** | 449,15 | 451,99 |
| **72** | 455,50 | 458,36 |
| **73** | 461,85 | 464,73 |
| **74** | 468,25 | 471,08 |
| **75** | 474,60 | 477,45 |
| **76** | 480,95 | 483,82 |
| **77** | 487,35 | 490,19 |

| z | da | dw |
|---|---|---|
| **78** | 493,70 | 496,56 |
| **79** | 500,05 | 502,91 |
| **80** | 506,45 | 509,28 |
| **81** | 512,80 | 515,65 |
| **82** | 519,15 | 522,02 |
| **83** | 525,55 | 528,39 |
| **84** | 531,90 | 534,74 |
| **85** | 538,25 | 541,11 |
| **86** | 544,60 | 547,48 |
| **87** | 551,00 | 553,85 |
| **88** | 557,35 | 560,22 |
| **89** | 563,70 | 566,57 |
| **90** | 570,10 | 572,94 |
| **91** | 576,45 | 579,31 |
| **92** | 582,85 | 585,67 |
| **93** | 589,20 | 592,04 |
| **94** | 595,55 | 598,40 |
| **95** | 601,90 | 604,77 |
| **96** | 608,30 | 611,14 |
| **97** | 614,65 | 617,50 |
| **98** | 621,00 | 623,87 |
| **99** | 627,35 | 630,24 |
| **100** | 633,75 | 636,60 |
| **101** | 640,10 | 642,97 |
| **102** | 646,50 | 649,34 |
| **103** | 652,85 | 655,71 |
| **104** | 659,20 | 662,06 |
| **105** | 665,60 | 668,43 |
| **106** | 671,95 | 674,80 |
| **107** | 678,30 | 681,17 |

| z | da | dw |
|---|---|---|
| **108** | 684,70 | 687,54 |
| **109** | 691,05 | 693,89 |
| **110** | 697,40 | 700,26 |
| **111** | 703,80 | 706,63 |
| **112** | 710,15 | 712,99 |
| **113** | 716,50 | 719,36 |
| **114** | 722,90 | 725,72 |
| **115** | 729,24 | 732,09 |
| **116** | 735,61 | 738,46 |
| **117** | 741,96 | 744,83 |
| **118** | 748,34 | 751,19 |
| **119** | 754,70 | 757,56 |
| **120** | 761,07 | 763,93 |



# MXL




**Belt characteristics**

- Polyurethane timing belt with tooth profile according to UNI/ISO 5296 with steel tension cords
- Imperial pitch 2/25" = 2,032 mm
- Allow to use small diameter pulley
- Mainly used in applications where inch pitch is an advantage (USA / UK)
- Trasparent (natural) PU colour

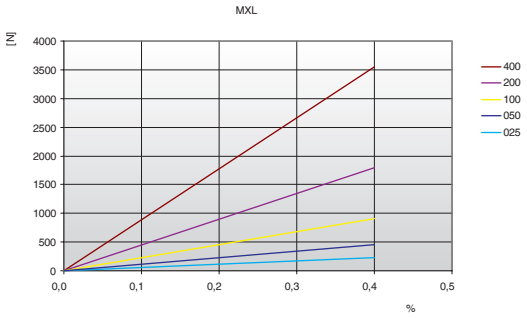
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,8 [mm/m] |
| • Thickness tolerance: | ±0,1 [mm] |

## Technical Data

| Belt width<br>b<br>Code / mm | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **025 / 6,35** | 220 | 110 | 875 | 55000 | 0,014 |
| **050 / 12,7** | 450 | 225 | 1750 | 112500 | 0,025 |
| **100 / 25,4** | 900 | 450 | 3500 | 225000 | 0,050 |
| **200 / 50,8** | 1790 | 895 | 7000 | 447500 | 0,095 |
| **400 / 101,6** | 3580 | 1790 | 14000 | 895000 | 0,190 |

Other widths are available on request.

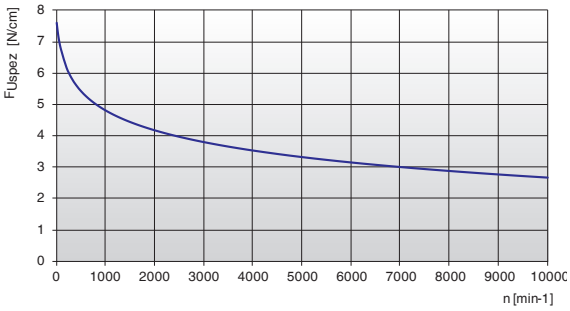
**Load / Elongation [ % ]**




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 7,58 | **800** | 4,99 | **1900** | 4,21 | **4500** | 3,41 |
| **20** | 7,31 | **900** | 4,88 | **2000** | 4,16 | **5000** | 3,31 |
| **40** | 7,09 | **1000** | 4,79 | **2200** | 4,07 | **5500** | 3,22 |
| **60** | 6,92 | **1100** | 4,70 | **2400** | 3,99 | **6000** | 3,14 |
| **80** | 6,78 | **1200** | 4,62 | **2600** | 3,92 | **6500** | 3,06 |
| **100** | 6,67 | **1300** | 4,55 | **2800** | 3,85 | **7000** | 2,99 |
| **200** | 6,15 | **1400** | 4,48 | **3000** | 3,78 | **7500** | 2,93 |
| **300** | 5,83 | **1440** | 4,46 | **3200** | 3,72 | **8000** | 2,86 |
| **400** | 5,59 | **1500** | 4,42 | **3400** | 3,67 | **8500** | 2,81 |
| **500** | 5,40 | **1600** | 4,36 | **3600** | 3,61 | **9000** | 2,75 |
| **600** | 5,24 | **1700** | 4,31 | **3800** | 3,56 | **9500** | 2,70 |
| **700** | 5,11 | **1800** | 4,25 | **4000** | 3,52 | **10000** | 2,65 |

**Tooth shear strength / rpm**



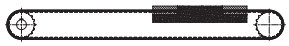
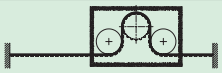

The specific load $F_{Uspez}$ is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.
This force is related to the drive rpm.
The total load $F_U$ transmissible by the belt in the drive is calculated by:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# MXL

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord |
|---|---|---|
| | | STANDARD |
| Drive without reverse bending | Timing pulley $z_{min}$ | 12 |
|  | Flat idler running on belt teeth $d_{min}$ | 20 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 15 |
|  | Flat idler running on belt back $d_{min}$ | 25 mm |

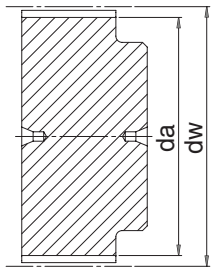
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 5,96 | 6,47 |
| **11** | 6,61 | 7,12 |
| **12** | 7,25 | 7,76 |
| **13** | 7,90 | 8,41 |
| **14** | 8,55 | 9,06 |
| **15** | 9,19 | 9,70 |
| **16** | 9,84 | 10,35 |
| **17** | 10,49 | 11,00 |
| **18** | 11,13 | 11,64 |
| **19** | 11,78 | 12,29 |
| **20** | 12,43 | 12,94 |
| **21** | 13,07 | 13,58 |
| **22** | 13,72 | 14,23 |
| **23** | 14,37 | 14,88 |
| **24** | 15,01 | 15,52 |
| **25** | 15,66 | 16,17 |
| **26** | 16,31 | 16,82 |
| **27** | 16,95 | 17,46 |
| **28** | 17,60 | 18,11 |
| **29** | 18,25 | 18,76 |
| **30** | 18,89 | 19,40 |
| **31** | 19,54 | 20,05 |
| **32** | 20,19 | 20,70 |
| **33** | 20,83 | 21,34 |
| **34** | 21,48 | 21,99 |
| **35** | 22,13 | 22,64 |
| **36** | 22,78 | 23,29 |
| **37** | 23,42 | 23,93 |
| **38** | 24,07 | 24,58 |
| **39** | 24,72 | 25,23 |
| **40** | 25,36 | 25,87 |
| **41** | 26,01 | 26,52 |
| **42** | 26,66 | 27,17 |
| **43** | 27,30 | 27,81 |

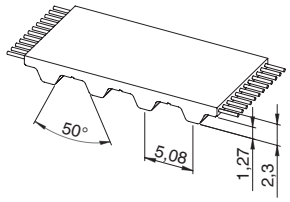
| z | da | dw |
|---|---|---|
| **44** | 27,95 | 28,46 |
| **45** | 28,60 | 29,11 |
| **46** | 29,24 | 29,75 |
| **47** | 29,89 | 30,40 |
| **48** | 30,54 | 31,05 |
| **49** | 31,18 | 31,69 |
| **50** | 31,83 | 32,34 |
| **51** | 32,48 | 32,99 |
| **52** | 33,12 | 33,63 |
| **53** | 33,77 | 34,28 |
| **54** | 34,42 | 34,93 |
| **55** | 35,06 | 35,57 |
| **56** | 35,71 | 36,22 |
| **57** | 36,36 | 36,87 |
| **58** | 37,00 | 37,51 |
| **59** | 37,65 | 38,16 |
| **60** | 38,30 | 38,81 |
| **61** | 38,95 | 39,46 |
| **62** | 39,59 | 40,10 |
| **63** | 40,24 | 40,75 |
| **64** | 40,89 | 41,40 |
| **65** | 41,53 | 42,04 |
| **66** | 42,18 | 42,69 |
| **67** | 42,83 | 43,34 |
| **68** | 43,47 | 43,98 |
| **69** | 44,12 | 44,63 |
| **70** | 44,77 | 45,28 |
| **71** | 45,41 | 45,92 |
| **72** | 46,06 | 46,57 |
| **73** | 46,71 | 47,22 |
| **74** | 47,35 | 47,86 |
| **75** | 48,00 | 48,51 |
| **76** | 48,65 | 49,16 |
| **77** | 49,20 | 49,80 |

| z | da | dw |
|---|---|---|
| **78** | 49,94 | 50,45 |
| **79** | 50,59 | 51,10 |
| **80** | 51,23 | 51,74 |
| **81** | 51,88 | 52,39 |
| **82** | 52,53 | 53,04 |
| **83** | 53,17 | 53,68 |
| **84** | 53,82 | 54,33 |
| **85** | 54,47 | 54,98 |
| **86** | 55,12 | 55,63 |
| **87** | 55,76 | 56,27 |
| **88** | 56,41 | 56,92 |
| **89** | 57,06 | 57,57 |
| **90** | 57,70 | 58,21 |
| **91** | 58,36 | 58,86 |
| **92** | 59,00 | 59,51 |
| **93** | 59,64 | 60,15 |
| **94** | 60,29 | 60,80 |
| **95** | 60,94 | 61,45 |
| **96** | 61,58 | 62,09 |
| **97** | 62,23 | 62,74 |
| **98** | 62,88 | 63,39 |
| **99** | 63,52 | 64,03 |
| **100** | 64,17 | 64,68 |
| **101** | 64,82 | 65,33 |
| **102** | 65,46 | 65,97 |
| **103** | 66,11 | 66,62 |
| **104** | 66,76 | 67,27 |
| **105** | 67,40 | 67,91 |
| **106** | 68,05 | 68,56 |
| **107** | 68,70 | 69,21 |
| **108** | 69,34 | 69,85 |
| **109** | 69,99 | 70,50 |
| **110** | 70,64 | 71,15 |
| **111** | 71,29 | 71,80 |

| z | da | dw |
|---|---|---|
| **112** | 71,93 | 72,44 |
| **113** | 72,58 | 73,09 |
| **114** | 73,23 | 73,74 |
| **115** | 73,87 | 74,38 |
| **116** | 74,52 | 75,03 |
| **117** | 75,17 | 75,68 |
| **118** | 75,81 | 76,32 |
| **119** | 76,46 | 76,97 |
| **120** | 77,11 | 77,62 |
| **121** | 77,75 | 78,26 |
| **122** | 78,40 | 78,91 |
| **123** | 79,05 | 79,56 |
| **124** | 79,69 | 80,20 |
| **125** | 80,34 | 80,85 |
| **126** | 80,99 | 81,50 |
| **127** | 81,63 | 82,14 |
| **128** | 82,28 | 82,79 |
| **129** | 82,93 | 83,44 |
| **130** | 83,57 | 84,08 |
| **131** | 84,22 | 84,73 |
| **132** | 84,87 | 85,38 |
| **133** | 85,51 | 86,02 |
| **134** | 86,16 | 88,67 |
| **135** | 86,81 | 87,32 |
| **136** | 87,46 | 87,97 |
| **137** | 88,10 | 88,61 |
| **138** | 88,75 | 89,26 |
| **139** | 89,40 | 89,91 |
| **140** | 90,04 | 90,55 |



# XL




**Belt characteristics**

- Polyurethane timing belt with tooth profile according to UNI/ISO 5296 with steel tension cords
- Imperial pitch 1/5" = 5,08 mm
- Allow to use small diameter pulley
- Mainly used in applications where inch pitch is an advantage (USA / UK)

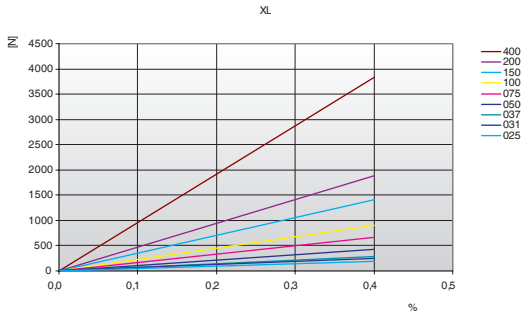
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width<br>b<br>Code / mm | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **025 / 6,35** | 190 | 95 | 750 | 47500 | 0,015 |
| **031 / 7,94** | 220 | 110 | 875 | 55000 | 0,019 |
| **037 / 9,53** | 290 | 145 | 1125 | 72500 | 0,023 |
| **050 / 12,7** | 420 | 210 | 1625 | 105000 | 0,031 |
| **075 / 19,1** | 670 | 335 | 2625 | 167500 | 0,046 |
| **100 / 25,4** | 900 | 450 | 3500 | 225000 | 0,061 |
| **150 / 38,1** | 1410 | 705 | 5500 | 352500 | 0,092 |
| **200 / 50,8** | 1890 | 945 | 7375 | 472500 | 0,122 |
| **400 / 101,6** | 3840 | 1920 | 15000 | 960000 | 0,244 |

Other widths are available on request.

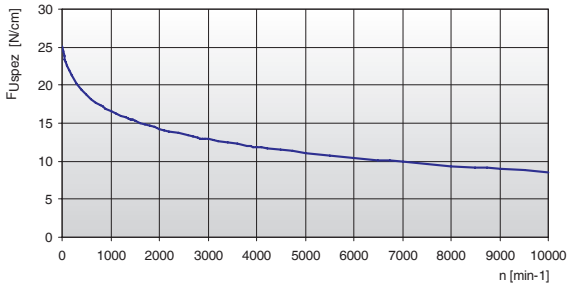
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 25,10 | **800** | 17,32 | **1900** | 14,46 | **4500** | 11,45 |
| **20** | 24,46 | **900** | 16,94 | **2000** | 14,28 | **5000** | 11,08 |
| **40** | 23,90 | **1000** | 16,60 | **2200** | 13,96 | **5500** | 10,74 |
| **60** | 23,42 | **1100** | 16,29 | **2400** | 13,66 | **6000** | 10,43 |
| **80** | 23,00 | **1200** | 16,01 | **2600** | 13,38 | **6500** | 10,14 |
| **100** | 22,63 | **1300** | 15,74 | **2800** | 13,12 | **7000** | 9,87 |
| **200** | 21,24 | **1400** | 15,49 | **3000** | 12,88 | **7500** | 9,63 |
| **300** | 20,22 | **1440** | 15,40 | **3200** | 12,65 | **8000** | 9,39 |
| **400** | 19,42 | **1500** | 15,26 | **3400** | 12,44 | **8500** | 9,17 |
| **500** | 18,77 | **1600** | 15,04 | **3600** | 12,24 | **9000** | 8,97 |
| **600** | 18,22 | **1700** | 14,84 | **3800** | 12,05 | **9500** | 8,77 |
| **700** | 17,74 | **1800** | 14,64 | **4000** | 11,87 | **10000** | 8,59 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

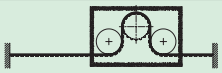
# XL



## Specialties

| Belt width b<br>Code / mm | ARAMID CORD<br>$F_{Tzul}$ [N]<br>**M type** | ARAMID CORD<br>$F_{Br}$ [N] |
|---|---|---|
| **025 / 6,35** | 420 | 1680 |
| **031 / 7,94** | 490 | 1960 |
| **037 / 9,53** | 630 | 2520 |
| **050 / 12,7** | 910 | 3640 |
| **075 / 19,1** | 1470 | 5880 |
| **100 / 25,4** | 1960 | 7840 |
| **150 / 38,1** | 3080 | 12320 |
| **200 / 50,8** | 4130 | 16520 |
| **400 / 101,6** | 8400 | 33600 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | |
|---|---|---|---|
| | | **STANDARD** | **ARAMID** |
| Drive without reverse bending | Timing pulley $z_{min}$ | 10 | 10 |
|  | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 15 | 15 |
|  | Flat idler running on belt back $d_{min}$ | 30 mm | 30 mm |

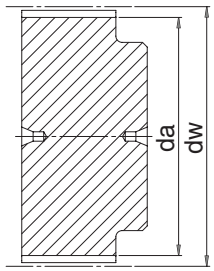
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 15,66 | 16,17 |
| **11** | 17,28 | 17,79 |
| **12** | 18,89 | 19,40 |
| **13** | 20,51 | 21,02 |
| **14** | 22,13 | 22,64 |
| **15** | 23,74 | 24,25 |
| **16** | 25,36 | 25,87 |
| **17** | 26,98 | 27,49 |
| **18** | 28,60 | 29,11 |
| **19** | 30,21 | 30,72 |
| **20** | 31,83 | 32,34 |
| **21** | 33,45 | 33,96 |
| **22** | 35,06 | 35,57 |
| **23** | 36,68 | 37,19 |
| **24** | 38,30 | 38,81 |
| **25** | 39,92 | 40,43 |
| **26** | 41,53 | 42,04 |
| **27** | 43,15 | 43,66 |
| **28** | 44,77 | 45,28 |
| **29** | 46,38 | 46,89 |
| **30** | 48,00 | 48,51 |
| **31** | 49,62 | 50,13 |
| **32** | 51,23 | 51,74 |
| **33** | 52,85 | 53,36 |
| **34** | 54,47 | 54,98 |
| **35** | 56,09 | 56,60 |
| **36** | 57,70 | 58,21 |
| **37** | 59,32 | 59,83 |
| **38** | 60,94 | 61,45 |
| **39** | 62,55 | 63,06 |

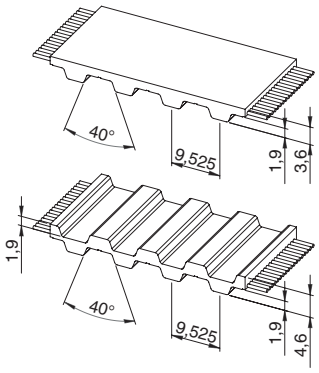
| z | da | dw |
|---|---|---|
| **40** | 64,17 | 64,68 |
| **41** | 65,79 | 66,30 |
| **42** | 67,40 | 67,91 |
| **43** | 69,02 | 69,53 |
| **44** | 70,64 | 71,15 |
| **45** | 72,26 | 72,77 |
| **46** | 73,87 | 74,38 |
| **47** | 75,49 | 76,00 |
| **48** | 77,11 | 77,62 |
| **49** | 78,72 | 79,23 |
| **50** | 80,34 | 80,85 |
| **51** | 81,96 | 82,47 |
| **52** | 83,57 | 84,08 |
| **53** | 85,19 | 85,70 |
| **54** | 86,81 | 87,32 |
| **55** | 88,42 | 88,93 |
| **56** | 90,04 | 90,55 |
| **57** | 91,66 | 92,17 |
| **58** | 93,28 | 93,79 |
| **59** | 94,89 | 95,40 |
| **60** | 96,51 | 97,02 |
| **61** | 98,13 | 98,64 |
| **62** | 99,74 | 100,25 |
| **63** | 101,36 | 101,87 |
| **64** | 102,98 | 103,49 |
| **65** | 104,60 | 105,11 |
| **66** | 106,21 | 106,72 |
| **67** | 107,83 | 108,34 |
| **68** | 109,45 | 109,96 |
| **69** | 111,06 | 111,57 |

| z | da | dw |
|---|---|---|
| **70** | 112,68 | 113,19 |
| **71** | 114,30 | 114,81 |
| **72** | 115,92 | 116,43 |
| **73** | 117,53 | 118,04 |
| **74** | 119,15 | 119,66 |
| **75** | 120,77 | 121,28 |
| **76** | 122,38 | 122,89 |
| **77** | 124,00 | 124,51 |
| **78** | 125,62 | 126,13 |
| **79** | 127,23 | 127,74 |
| **80** | 128,85 | 129,36 |
| **81** | 130,47 | 130,98 |
| **82** | 132,08 | 132,59 |
| **83** | 133,70 | 134,21 |
| **84** | 135,32 | 135,83 |
| **85** | 136,93 | 137,44 |
| **86** | 138,55 | 139,06 |
| **87** | 140,17 | 140,68 |
| **88** | 141,75 | 142,30 |
| **89** | 143,36 | 143,91 |
| **90** | 145,02 | 145,53 |
| **91** | 146,64 | 147,15 |
| **92** | 148,25 | 148,76 |
| **93** | 149,87 | 150,38 |
| **94** | 151,49 | 152,00 |
| **95** | 153,11 | 153,62 |
| **96** | 154,72 | 155,23 |
| **97** | 156,34 | 156,85 |
| **98** | 157,96 | 158,47 |
| **99** | 159,57 | 160,08 |

| z | da | dw |
|---|---|---|
| **100** | 161,19 | 161,70 |
| **101** | 162,81 | 163,32 |
| **102** | 164,42 | 164,93 |
| **103** | 166,04 | 166,55 |
| **104** | 167,66 | 168,17 |
| **105** | 169,28 | 169,79 |
| **106** | 170,89 | 171,40 |
| **107** | 172,51 | 173,02 |
| **108** | 174,13 | 174,64 |
| **109** | 175,74 | 176,25 |
| **110** | 177,36 | 177,87 |
| **111** | 178,98 | 179,49 |
| **112** | 180,59 | 181,10 |
| **113** | 182,21 | 182,72 |
| **114** | 183,83 | 184,34 |
| **115** | 185,44 | 185,95 |
| **116** | 187,06 | 187,57 |
| **117** | 188,68 | 189,19 |
| **118** | 190,30 | 190,81 |
| **119** | 191,91 | 192,42 |
| **120** | 193,53 | 194,04 |



# L




**Belt characteristics**

- Polyurethane timing belt with tooth profile according to UNI/ISO 5296 with steel tension cords
- Imperial pitch 3/8" = 9,525 mm
- Allow to use small diameter pulley
- Mainly used in applications where inch pitch is an advantage (USA / UK)

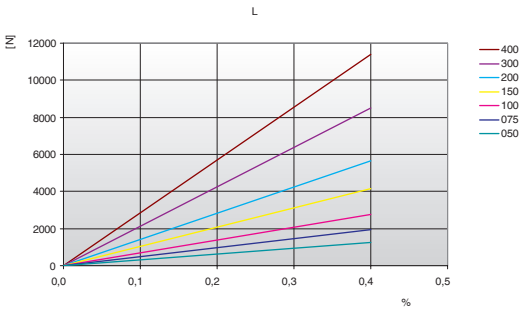
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b Code / mm | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **050 / 12,7** | 1270 | 635 | 4620 | 317500 | 0,049 |
| **075 / 19,1** | 1960 | 980 | 7140 | 490000 | 0,073 |
| **100 / 25,4** | 2760 | 1380 | 10080 | 690000 | 0,098 |
| **150 / 38,1** | 4260 | 2130 | 15540 | 1065000 | 0,146 |
| **200 / 50,8** | 5640 | 2820 | 20580 | 1410000 | 0,195 |
| **300 / 76,2** | 8510 | 4255 | 31080 | 2127500 | 0,293 |
| **400 / 101,6** | 11390 | 5695 | 41580 | 2847500 | 0,390 |

Other widths are available on request.

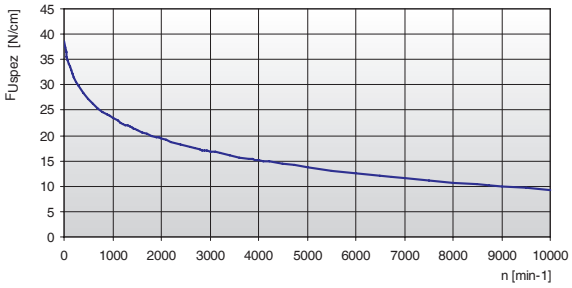
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 38,60 | **800** | 24,70 | **1900** | 19,66 | **4500** | 14,36 |
| **20** | 37,42 | **900** | 24,04 | **2000** | 19,35 | **5000** | 13,70 |
| **40** | 36,40 | **1000** | 23,44 | **2200** | 18,77 | **5500** | 13,10 |
| **60** | 35,51 | **1100** | 22,89 | **2400** | 18,24 | **6000** | 12,55 |
| **80** | 34,74 | **1200** | 22,38 | **2600** | 17,76 | **6500** | 12,05 |
| **100** | 34,07 | **1300** | 21,91 | **2800** | 17,30 | **7000** | 11,58 |
| **200** | 31,59 | **1400** | 21,48 | **3000** | 16,88 | **7500** | 11,14 |
| **300** | 29,79 | **1440** | 21,31 | **3200** | 16,48 | **8000** | 10,73 |
| **400** | 28,39 | **1500** | 21,07 | **3400** | 16,10 | **8500** | 10,35 |
| **500** | 27,25 | **1600** | 20,69 | **3600** | 15,75 | **9000** | 9,98 |
| **600** | 26,28 | **1700** | 20,33 | **3800** | 15,41 | **9500** | 9,64 |
| **700** | 25,44 | **1800** | 19,98 | **4000** | 15,09 | **10000** | 9,31 |

### 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:

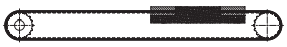
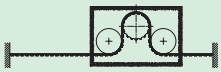
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

## Specialties

| Belt width b<br>Code / mm | ARAMID CORD | | STAINLESS STEEL | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **050 / 12,7** | 1210 | 4950 | 830 | 3300 |
| **075 / 19,1** | 1870 | 7650 | 1280 | 5100 |
| **100 / 25,4** | 2640 | 10800 | 1800 | 7200 |
| **150 / 38,1** | 4070 | 16650 | 2780 | 11100 |
| **200 / 50,8** | 5390 | 22050 | 3680 | 14700 |
| **300 / 76,2** | 8140 | 33300 | - | - |
| **400 / 101,6** | 10890 | 44550 | - | - |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 15 | 15 | 18 |
| | Flat idler running on belt teeth $d_{min}$ | 60 mm | 60 mm | 65 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 20 | 20 | 20 |
| | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm | 65 mm |

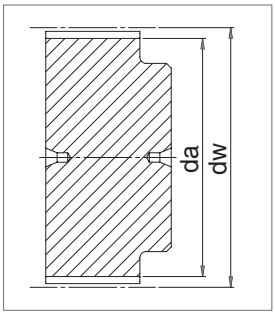
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 29,56 | 30,32 |
| **11** | 32,59 | 33,35 |
| **12** | 35,62 | 36,38 |
| **13** | 38,65 | 39,41 |
| **14** | 41,68 | 42,44 |
| **15** | 44,71 | 45,47 |
| **16** | 47,74 | 48,50 |
| **17** | 50,77 | 51,53 |
| **18** | 53,80 | 54,56 |
| **19** | 56,83 | 57,61 |
| **20** | 59,88 | 60,64 |
| **21** | 62,91 | 63,67 |
| **22** | 65,94 | 66,70 |
| **23** | 68,97 | 69,73 |
| **24** | 72,00 | 72,76 |
| **25** | 75,03 | 75,80 |
| **26** | 78,06 | 78,83 |
| **27** | 81,09 | 81,86 |
| **28** | 84,12 | 84,89 |
| **29** | 87,15 | 87,92 |
| **30** | 90,20 | 90,95 |
| **31** | 93,23 | 93,98 |
| **32** | 96,26 | 97,01 |
| **33** | 99,29 | 100,04 |
| **34** | 102,32 | 103,07 |
| **35** | 105,35 | 106,12 |
| **36** | 108,38 | 109,15 |
| **37** | 111,41 | 112,18 |
| **38** | 114,44 | 115,21 |
| **39** | 117,47 | 118,24 |

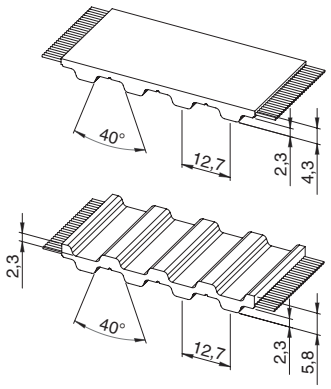
| z | da | dw |
|---|---|---|
| **40** | 120,52 | 121,27 |
| **41** | 123,55 | 124,30 |
| **42** | 126,58 | 127,33 |
| **43** | 129,61 | 130,36 |
| **44** | 132,64 | 133,39 |
| **45** | 135,67 | 136,44 |
| **46** | 138,70 | 139,47 |
| **47** | 141,73 | 142,50 |
| **48** | 144,76 | 145,53 |
| **49** | 147,80 | 148,56 |
| **50** | 150,83 | 151,59 |
| **51** | 153,86 | 154,62 |
| **52** | 156,89 | 157,65 |
| **53** | 159,92 | 160,68 |
| **54** | 162,95 | 163,71 |
| **55** | 166,00 | 166,76 |
| **56** | 169,03 | 169,79 |
| **57** | 172,06 | 172,82 |
| **58** | 175,09 | 175,85 |
| **59** | 178,12 | 178,88 |
| **60** | 181,15 | 181,91 |
| **61** | 184,18 | 184,94 |
| **62** | 187,21 | 187,97 |
| **63** | 190,24 | 191,00 |
| **64** | 193,27 | 194,03 |
| **65** | 196,30 | 197,06 |
| **66** | 199,33 | 200,11 |
| **67** | 202,38 | 203,14 |
| **68** | 205,41 | 206,17 |
| **69** | 208,44 | 209,20 |

| z | da | dw |
|---|---|---|
| **70** | 211,47 | 212,23 |
| **71** | 214,50 | 215,26 |
| **72** | 217,53 | 218,29 |
| **73** | 220,56 | 221,32 |
| **74** | 223,59 | 224,35 |
| **75** | 226,62 | 227,38 |
| **76** | 229,65 | 230,41 |
| **77** | 232,70 | 233,46 |
| **78** | 235,73 | 236,49 |
| **79** | 238,76 | 239,52 |
| **80** | 241,79 | 242,55 |
| **81** | 244,82 | 245,58 |
| **82** | 247,85 | 248,61 |
| **83** | 250,88 | 251,64 |
| **84** | 253,91 | 254,67 |
| **85** | 256,94 | 257,70 |
| **86** | 259,97 | 260,73 |
| **87** | 263,02 | 263,78 |
| **88** | 266,05 | 266,81 |
| **89** | 269,08 | 269,84 |
| **90** | 272,11 | 272,87 |
| **91** | 275,14 | 275,90 |
| **92** | 278,17 | 278,93 |
| **93** | 281,20 | 281,96 |
| **94** | 284,23 | 285,00 |
| **95** | 287,26 | 288,03 |
| **96** | 290,30 | 291,06 |
| **97** | 293,33 | 294,09 |
| **98** | 296,36 | 297,12 |
| **99** | 299,40 | 300,15 |

| z | da | dw |
|---|---|---|
| **100** | 302,43 | 303,18 |
| **101** | 305,46 | 306,21 |
| **102** | 308,49 | 309,24 |
| **103** | 311,52 | 312,29 |
| **104** | 314,55 | 315,32 |
| **105** | 317,58 | 318,35 |
| **106** | 320,61 | 321,38 |
| **107** | 323,64 | 324,41 |
| **108** | 326,69 | 327,44 |
| **109** | 329,72 | 330,47 |
| **110** | 332,75 | 333,50 |
| **111** | 335,78 | 336,53 |
| **112** | 338,81 | 339,56 |
| **113** | 341,84 | 342,61 |
| **114** | 344,87 | 345,64 |
| **115** | 347,90 | 348,67 |
| **116** | 350,93 | 351,70 |
| **117** | 353,96 | 354,73 |
| **118** | 357,00 | 357,76 |
| **119** | 360,03 | 360,79 |
| **120** | 363,07 | 363,82 |



# H




**Belt characteristics**

- Polyurethane timing belt with tooth profile according to UNI/ISO 5296 with steel tension cords
- Imperial pitch 1/2" = 12,7 mm
- Allow to use small diameter pulley
- Mainly used in applications where inch pitch is an advantage (USA / UK)

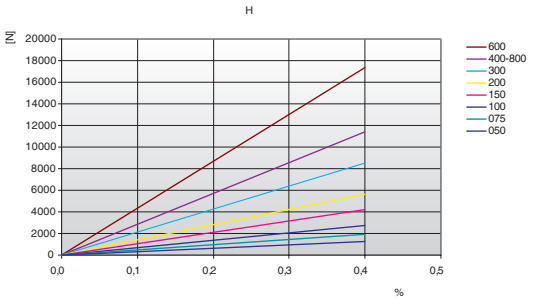
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b Code / mm | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **050 / 12,7** | 1270 | 635 | 4620 | 317500 | 0,05 |
| **075 / 19,1** | 1960 | 980 | 7140 | 490000 | 0,08 |
| **100 / 25,4** | 2760 | 1380 | 10080 | 690000 | 0,11 |
| **150 / 38,1** | 4260 | 2130 | 15540 | 1065000 | 0,16 |
| **200 / 50,8** | 5640 | 2820 | 20580 | 1410000 | 0,22 |
| **300 / 76,2** | 8510 | 4255 | 31080 | 2127500 | 0,32 |
| **400 / 101,6** | 11390 | 5695 | 41580 | 2847500 | 0,43 |
| **600 / 152,4** | 17250 | 8625 | 63000 | 4312500 | 0,56 |
| **800 / 203,2*** | 11390 | 5695 | 41580 | 2847500 | 0,65 |

Other widths are available on request. *= double cords spacing

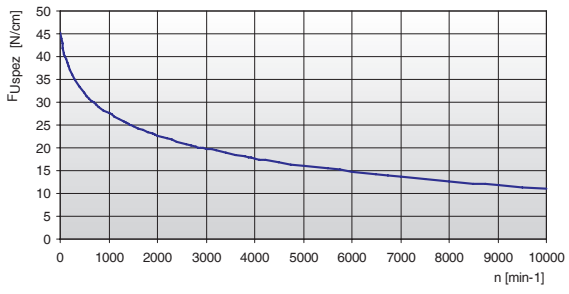
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [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 $F_{Uspez}$ 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# H

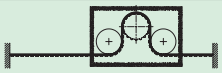


## Specialties

| Belt width b<br>Code / mm | ARAMID CORD | | STAINLESS STEEL | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **050 / 12,7** | 1210 | 4950 | 830 | 3300 |
| **075 / 19,1** | 1870 | 7650 | 1280 | 5100 |
| **100 / 25,4** | 2640 | 10800 | 1800 | 7200 |
| **150 / 38,1** | 4070 | 16650 | 2780 | 11100 |
| **200 / 50,8** | 5390 | 22050 | 3680 | 14700 |
| **300 / 76,2** | 8140 | 33300 | - | - |
| **400 / 101,6** | 10890 | 44550 | - | - |
| **600 / 152,4** | 16500 | 67500 | - | - |
| **800 / 203,2*** | 10890 | 45500 | - | - |

*= double cords spacing

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 14 | 14 | 20 |
| | Flat idler running on belt teeth $d_{min}$ | 60 mm | 60 mm | 80 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 20 | 20 | 40 |
| | Flat idler running on belt back $d_{min}$ | 80 mm | 80 mm | 100 mm |

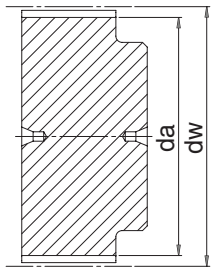
## Timing pulleys

| z | da | dw |
|---|---|---|
| **14** | 55,23 | 56,60 |
| **15** | 59,27 | 60,64 |
| **16** | 63,31 | 64,68 |
| **17** | 67,35 | 68,72 |
| **18** | 71,40 | 72,76 |
| **19** | 75,44 | 76,80 |
| **20** | 79,48 | 80,84 |
| **21** | 83,52 | 84,88 |
| **22** | 87,57 | 88,94 |
| **23** | 91,61 | 92,98 |
| **24** | 95,65 | 97,02 |
| **25** | 99,69 | 101,06 |
| **26** | 103,73 | 105,10 |
| **27** | 107,77 | 109,14 |
| **28** | 111,81 | 113,18 |
| **29** | 115,85 | 117,22 |
| **30** | 119,91 | 121,28 |
| **31** | 123,95 | 125,32 |
| **32** | 127,99 | 129,36 |
| **33** | 132,03 | 133,40 |
| **34** | 136,07 | 137,44 |
| **35** | 140,11 | 141,48 |
| **36** | 144,15 | 145,52 |
| **37** | 148,20 | 149,56 |
| **38** | 152,24 | 153,62 |
| **39** | 156,28 | 157,66 |
| **40** | 160,32 | 161,70 |
| **41** | 164,36 | 165,74 |
| **42** | 168,42 | 169,78 |
| **43** | 172,46 | 173,82 |

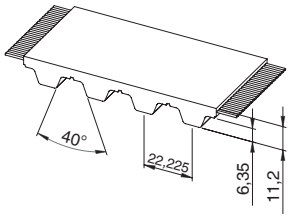
| z | da | dw |
|---|---|---|
| **44** | 176,50 | 177,86 |
| **45** | 180,54 | 181,90 |
| **46** | 184,58 | 185,96 |
| **47** | 188,62 | 190,00 |
| **48** | 192,67 | 194,04 |
| **49** | 196,71 | 198,08 |
| **50** | 200,75 | 202,13 |
| **51** | 204,80 | 206,17 |
| **52** | 208,84 | 210,21 |
| **53** | 212,88 | 214,25 |
| **54** | 216,92 | 218,29 |
| **55** | 220,96 | 222,33 |
| **56** | 225,00 | 226,37 |
| **57** | 229,04 | 230,41 |
| **58** | 233,10 | 234,47 |
| **59** | 237,14 | 238,51 |
| **60** | 241,18 | 242,55 |
| **61** | 245,22 | 246,59 |
| **62** | 249,26 | 250,63 |
| **63** | 253,30 | 254,67 |
| **64** | 257,34 | 258,71 |
| **65** | 261,38 | 262,75 |
| **66** | 265,44 | 266,81 |
| **67** | 269,48 | 270,85 |
| **68** | 273,52 | 274,89 |
| **69** | 277,56 | 278,93 |
| **70** | 281,60 | 282,97 |
| **71** | 285,64 | 287,01 |
| **72** | 289,68 | 291,05 |
| **73** | 293,72 | 295,10 |

| z | da | dw |
|---|---|---|
| **74** | 297,78 | 299,14 |
| **75** | 301,82 | 303,18 |
| **76** | 305,86 | 307,22 |
| **77** | 309,90 | 311,26 |
| **78** | 313,94 | 315,32 |
| **79** | 317,98 | 319,36 |
| **80** | 322,02 | 323,40 |
| **81** | 326,06 | 327,44 |
| **82** | 330,12 | 331,48 |
| **83** | 334,16 | 335,52 |
| **84** | 338,20 | 339,56 |
| **85** | 342,24 | 343,60 |
| **86** | 346,28 | 347,66 |
| **87** | 350,33 | 351,70 |
| **88** | 354,37 | 355,74 |
| **89** | 358,41 | 359,78 |
| **90** | 362,45 | 363,82 |
| **91** | 366,50 | 367,86 |
| **92** | 370,54 | 371,90 |
| **93** | 374,58 | 375,94 |
| **94** | 378,62 | 380,00 |
| **95** | 382,66 | 384,04 |
| **96** | 386,70 | 388,08 |
| **97** | 390,74 | 392,12 |
| **98** | 394,80 | 396,16 |
| **99** | 398,84 | 400,20 |
| **100** | 402,88 | 404,24 |
| **101** | 406,92 | 408,28 |
| **102** | 410,96 | 412,34 |
| **103** | 415,00 | 416,38 |

| z | da | dw |
|---|---|---|
| **104** | 419,04 | 420,42 |
| **105** | 423,08 | 424,46 |
| **106** | 427,14 | 428,50 |
| **107** | 431,18 | 432,54 |
| **108** | 435,22 | 436,58 |
| **109** | 439,26 | 440,62 |
| **110** | 443,30 | 444,68 |
| **111** | 447,34 | 448,72 |
| **112** | 451,38 | 452,76 |
| **113** | 455,42 | 456,80 |
| **114** | 459,48 | 460,84 |
| **115** | 463,52 | 464,88 |
| **116** | 467,56 | 468,92 |
| **117** | 471,60 | 472,96 |
| **118** | 475,64 | 477,02 |
| **119** | 479,68 | 481,06 |
| **120** | 483,72 | 485,10 |



# XH




**Belt characteristics**

- Polyurethane timing belt with tooth profile according to UNI/ISO 5296 with steel tension cords
- Imperial pitch 7/8" = 22,225 mm
- Mainly used in applications where inch pitch is an advantage (USA / UK)

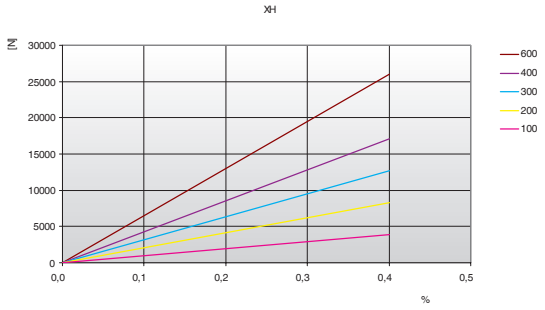
- Width tolerance: ±1,0 [mm]
- Length tolerance: ±0,5 [mm/m]
- Thickness tolerance: ±0,4 [mm]

## Technical Data

| Belt width<br>b<br>Code / mm | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **100 / 25,4** | 3920 | 1960 | 15200 | 980000 | 0,37 |
| **200 / 50,8** | 8330 | 4165 | 32300 | 2082500 | 0,66 |
| **300 / 76,2** | 12740 | 6370 | 49400 | 3185000 | 0,99 |
| **400 / 101,6** | 17150 | 8575 | 66500 | 4287500 | 1,33 |
| **600 / 152,4** | 25970 | 12985 | 100700 | 6492500 | 1,99 |

Other widths are available on request.

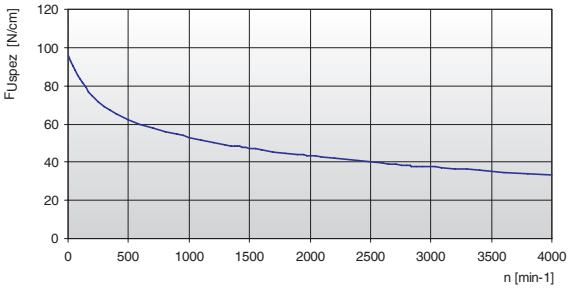
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 96,00 | **800** | 55,99 | **1900** | 43,86 | **4000** | 33,31 |
| **20** | 92,98 | **900** | 54,35 | **2000** | 43,14 | - | - |
| **40** | 90,27 | **1000** | 52,88 | **2200** | 41,79 | - | - |
| **60** | 87,85 | **1100** | 51,55 | **2400** | 40,56 | - | - |
| **80** | 85,68 | **1200** | 50,33 | **2600** | 39,43 | - | - |
| **100** | 83,73 | **1300** | 49,20 | **2800** | 38,37 | - | - |
| **200** | 74,80 | **1400** | 48,16 | **2880** | 37,98 | - | - |
| **300** | 69,42 | **1440** | 47,77 | **3000** | 37,40 | - | - |
| **400** | 65,53 | **1500** | 47,19 | **3200** | 36,48 | - | - |
| **500** | 62,48 | **1600** | 46,29 | **3400** | 35,62 | - | - |
| **600** | 59,97 | **1700** | 45,43 | **3600** | 34,81 | - | - |
| **700** | 57,84 | **1800** | 44,62 | **3800** | 34,04 | - | - |

### 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:

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

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

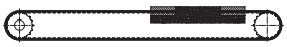
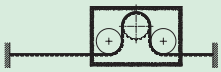
# XH



## Specialties

| Belt width b<br>Code / mm | ARAMID CORD | | STAINLESS STEEL | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **100 / 25,4** | 3520 | 16000 | 2880 | 12000 |
| **200 / 50,8** | 7480 | 34000 | 6120 | 25500 |
| **300 / 76,2** | 11440 | 52000 | 9360 | 39000 |
| **400 / 101,6** | 15400 | 70000 | 12600 | 52500 |
| **600 / 152,4** | 23320 | 106000 | - | - |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 18 | 18 | 24 |
| | Flat idler running on belt teeth $d_{min}$ | 150 mm | 150 mm | 160 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 20 | 20 | 30 |
| | Flat idler running on belt back $d_{min}$ | 180 mm | 180 mm | 200 mm |

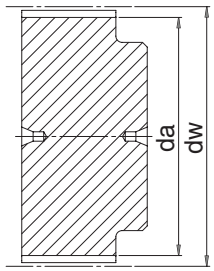
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 124,55 | 127,34 |
| **19** | 131,62 | 134,41 |
| **20** | 138,68 | 141,48 |
| **21** | 145,76 | 148,55 |
| **22** | 152,84 | 155,64 |
| **23** | 159,91 | 162,71 |
| **24** | 167,00 | 169,78 |
| **25** | 174,07 | 176,85 |
| **26** | 181,13 | 183,94 |
| **27** | 188,20 | 191,01 |
| **28** | 195,27 | 198,08 |
| **29** | 202,37 | 205,15 |
| **30** | 209,44 | 212,22 |
| **31** | 216,51 | 219,31 |
| **32** | 223,58 | 226,38 |
| **33** | 230,66 | 233,45 |
| **34** | 237,73 | 240,52 |
| **35** | 244,80 | 247,59 |
| **36** | 251,87 | 254,68 |
| **37** | 258,94 | 261,75 |
| **38** | 266,02 | 268,82 |
| **39** | 273,11 | 275,89 |
| **40** | 280,18 | 282,98 |
| **41** | 287,25 | 290,05 |
| **42** | 294,33 | 297,12 |
| **43** | 301,40 | 304,19 |
| **44** | 308,47 | 311,26 |
| **45** | 315,54 | 318,35 |
| **46** | 322,61 | 325,42 |
| **47** | 329,70 | 332,49 |

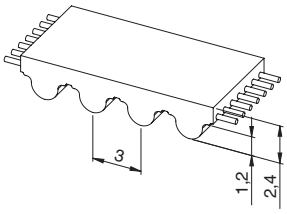
| z | da | dw |
|---|---|---|
| **48** | 336,77 | 339,57 |
| **49** | 343,87 | 346,66 |
| **50** | 350,93 | 353,73 |
| **51** | 358,00 | 360,80 |
| **52** | 365,07 | 367,87 |
| **53** | 372,14 | 374,94 |
| **54** | 379,21 | 382,01 |
| **55** | 386,30 | 389,08 |
| **56** | 393,37 | 396,17 |
| **57** | 400,44 | 403,24 |
| **58** | 407,51 | 410,31 |
| **59** | 414,58 | 417,38 |
| **60** | 421,68 | 424,47 |
| **61** | 428,75 | 431,54 |
| **62** | 435,90 | 438,61 |
| **63** | 442,90 | 445,68 |
| **64** | 449,97 | 452,75 |
| **65** | 457,05 | 459,84 |
| **66** | 464,10 | 466,91 |
| **67** | 471,20 | 473,98 |
| **68** | 478,25 | 481,05 |
| **69** | 485,32 | 488,12 |
| **70** | 492,39 | 495,21 |
| **71** | 499,48 | 502,28 |
| **72** | 506,57 | 509,35 |
| **73** | 513,63 | 516,42 |
| **74** | 520,70 | 523,51 |
| **75** | 527,77 | 530,58 |
| **76** | 534,84 | 537,65 |
| **77** | 541,93 | 544,72 |

| z | da | dw |
|---|---|---|
| **78** | 549,00 | 551,79 |
| **79** | 556,07 | 558,88 |
| **80** | 563,15 | 565,95 |
| **81** | 570,22 | 573,02 |
| **82** | 577,29 | 580,09 |
| **83** | 584,36 | 587,18 |
| **84** | 591,43 | 594,25 |
| **85** | 598,60 | 601,32 |
| **86** | 605,61 | 608,39 |
| **87** | 612,68 | 615,46 |
| **88** | 619,75 | 622,55 |
| **89** | 626,82 | 629,62 |
| **90** | 633,89 | 636,69 |
| **91** | 640,96 | 643,76 |
| **92** | 648,04 | 650,85 |
| **93** | 655,11 | 657,92 |
| **94** | 662,18 | 664,99 |
| **95** | 669,25 | 672,06 |
| **96** | 676,33 | 679,13 |
| **97** | 683,40 | 686,22 |
| **98** | 690,47 | 693,29 |
| **99** | 697,55 | 700,36 |
| **100** | 704,62 | 707,43 |
| **101** | 711,70 | 714,50 |
| **102** | 718,77 | 721,59 |
| **103** | 725,85 | 728,66 |
| **104** | 732,92 | 735,73 |
| **105** | 740,01 | 742,80 |
| **106** | 747,08 | 749,87 |
| **107** | 754,15 | 756,96 |

| z | da | dw |
|---|---|---|
| **108** | 761,22 | 764,03 |
| **109** | 768,30 | 771,10 |
| **110** | 775,37 | 778,17 |
| **111** | 782,44 | 785,26 |
| **112** | 789,51 | 792,33 |
| **113** | 796,60 | 799,40 |
| **114** | 803,67 | 806,47 |
| **115** | 810,74 | 813,54 |
| **116** | 817,81 | 820,63 |
| **117** | 824,88 | 827,70 |
| **118** | 831,95 | 834,77 |
| **119** | 839,03 | 841,84 |
| **120** | 846,12 | 848,93 |



# HTD 3M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 3 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- Widely used in linear positioning, light power transmission applications

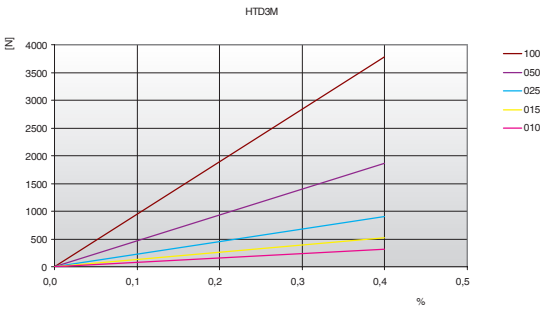
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 320 | 160 | 1250 | 80000 | 0,02 |
| **15** | 510 | 255 | 2000 | 127500 | 0,03 |
| **25** | 900 | 450 | 3500 | 225000 | 0,06 |
| **50** | 1860 | 930 | 7250 | 465000 | 0,12 |
| **100** | 3780 | 1890 | 14750 | 945000 | 0,24 |

Other widths are available on request.

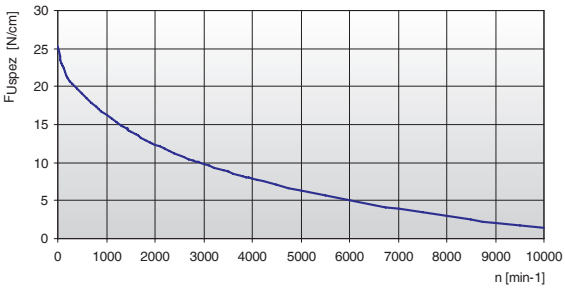
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 25,20 | **800** | 17,30 | **1900** | 12,67 | **4500** | 7,05 |
| **20** | 24,60 | **900** | 16,75 | **2000** | 12,36 | **5000** | 6,32 |
| **40** | 24,06 | **1000** | 16,24 | **2200** | 11,77 | **5500** | 5,66 |
| **60** | 23,57 | **1100** | 15,75 | **2400** | 11,22 | **6000** | 5,04 |
| **80** | 23,12 | **1200** | 15,29 | **2600** | 10,71 | **6500** | 4,47 |
| **100** | 22,72 | **1300** | 14,86 | **2800** | 10,24 | **7000** | 3,94 |
| **200** | 21,22 | **1400** | 14,45 | **3000** | 9,79 | **7500** | 3,44 |
| **300** | 20,31 | **1440** | 14,29 | **3200** | 9,36 | **8000** | 2,98 |
| **400** | 19,75 | **1500** | 14,06 | **3400** | 8,96 | **8500** | 2,54 |
| **500** | 19,14 | **1600** | 13,69 | **3600** | 8,57 | **9000** | 2,12 |
| **600** | 18,50 | **1700** | 13,33 | **3800** | 8,21 | **9500** | 1,72 |
| **700** | 17,88 | **1800** | 12,99 | **4000** | 7,86 | **10000** | 1,35 |

### Tooth shear strength / rpm



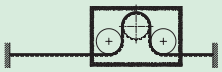

The specific load $F_{Uspez}$ is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.
This force is related to the drive rpm.
The total load $F_U$ transmissible by the belt in the drive is calculated by:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# HTD 3M

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 20 |
|  | Flat idler running on belt teeth $d_{min}$ | 30 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 20 |
|  | Flat idler running on belt back $d_{min}$ | 30 mm |

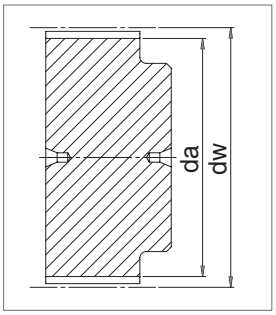
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 8,79 | 9,55 |
| **11** | 9,74 | 10,50 |
| **12** | 10,70 | 11,46 |
| **13** | 11,65 | 12,41 |
| **14** | 12,61 | 13,37 |
| **15** | 13,56 | 14,32 |
| **16** | 14,52 | 15,28 |
| **17** | 15,47 | 16,23 |
| **18** | 16,43 | 17,19 |
| **19** | 17,38 | 18,14 |
| **20** | 18,34 | 19,10 |
| **21** | 19,29 | 20,05 |
| **22** | 20,25 | 21,01 |
| **23** | 21,20 | 21,96 |
| **24** | 22,16 | 22,92 |
| **25** | 23,11 | 23,87 |
| **26** | 24,07 | 24,83 |
| **27** | 25,02 | 25,78 |
| **28** | 25,98 | 26,74 |
| **29** | 26,93 | 27,69 |
| **30** | 27,89 | 28,65 |
| **31** | 28,84 | 29,60 |
| **32** | 29,80 | 30,56 |
| **33** | 30,75 | 31,51 |
| **34** | 31,71 | 32,47 |
| **35** | 32,66 | 33,42 |
| **36** | 33,62 | 34,38 |
| **37** | 34,57 | 35,33 |
| **38** | 35,53 | 36,29 |
| **39** | 36,48 | 37,24 |
| **40** | 37,44 | 38,20 |
| **41** | 38,39 | 39,15 |
| **42** | 39,35 | 40,11 |
| **43** | 40,30 | 41,06 |

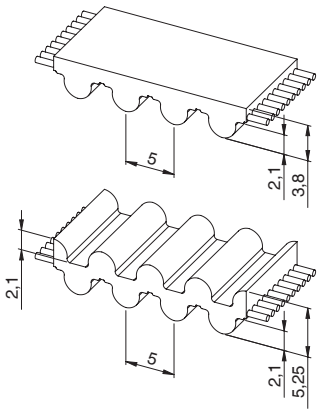
| z | da | dw |
|---|---|---|
| **44** | 41,26 | 42,02 |
| **45** | 42,21 | 42,97 |
| **46** | 43,17 | 43,93 |
| **47** | 44,12 | 44,88 |
| **48** | 45,08 | 45,84 |
| **49** | 46,03 | 46,79 |
| **50** | 46,99 | 47,75 |
| **51** | 47,94 | 48,70 |
| **52** | 48,90 | 49,66 |
| **53** | 49,85 | 50,61 |
| **54** | 50,81 | 51,57 |
| **55** | 51,76 | 52,52 |
| **56** | 52,72 | 53,48 |
| **57** | 53,67 | 54,43 |
| **58** | 54,63 | 55,39 |
| **59** | 55,58 | 56,34 |
| **60** | 56,54 | 57,30 |
| **61** | 57,49 | 58,25 |
| **62** | 58,45 | 59,21 |
| **63** | 59,40 | 60,16 |
| **64** | 60,36 | 61,12 |
| **65** | 61,31 | 62,07 |
| **66** | 62,27 | 63,03 |
| **67** | 63,22 | 63,98 |
| **68** | 64,18 | 64,94 |
| **69** | 65,13 | 65,89 |
| **70** | 66,09 | 66,85 |
| **71** | 67,04 | 67,80 |
| **72** | 68,00 | 68,76 |
| **73** | 68,95 | 69,71 |
| **74** | 69,91 | 70,67 |
| **75** | 70,86 | 71,62 |
| **76** | 71,82 | 72,58 |
| **77** | 72,77 | 73,53 |

| z | da | dw |
|---|---|---|
| **78** | 73,73 | 74,49 |
| **79** | 74,68 | 75,44 |
| **80** | 75,64 | 76,40 |
| **81** | 76,59 | 77,35 |
| **82** | 77,55 | 78,31 |
| **83** | 78,50 | 79,26 |
| **84** | 79,46 | 80,22 |
| **85** | 80,41 | 81,17 |
| **86** | 81,37 | 82,13 |
| **87** | 82,32 | 83,08 |
| **88** | 83,28 | 84,04 |
| **89** | 84,23 | 84,99 |
| **90** | 85,19 | 85,95 |
| **91** | 86,14 | 86,90 |
| **92** | 87,10 | 87,86 |
| **93** | 88,05 | 88,81 |
| **94** | 89,01 | 89,77 |
| **95** | 89,96 | 90,72 |
| **96** | 90,92 | 91,68 |
| **97** | 91,87 | 92,63 |
| **98** | 92,83 | 93,59 |
| **99** | 93,78 | 94,54 |
| **100** | 94,74 | 95,50 |
| **101** | 95,69 | 96,45 |
| **102** | 96,65 | 97,41 |
| **103** | 97,60 | 98,36 |
| **104** | 98,56 | 99,32 |
| **105** | 99,51 | 100,27 |
| **106** | 100,47 | 101,23 |
| **107** | 101,42 | 102,18 |
| **108** | 102,38 | 103,14 |
| **109** | 103,33 | 104,09 |
| **110** | 104,29 | 105,05 |
| **111** | 105,24 | 106,00 |

| z | da | dw |
|---|---|---|
| **112** | 106,2 | 106,96 |
| **113** | 107,15 | 107,91 |
| **114** | 108,11 | 108,87 |
| **115** | 109,06 | 109,82 |
| **116** | 110,02 | 110,78 |
| **117** | 110,97 | 111,73 |
| **118** | 111,93 | 112,69 |
| **119** | 112,88 | 113,64 |
| **120** | 113,83 | 114,59 |
| **121** | 114,79 | 115,55 |
| **122** | 115,74 | 116,50 |
| **123** | 116,70 | 117,46 |
| **124** | 117,65 | 118,41 |
| **125** | 118,61 | 119,37 |
| **126** | 119,56 | 120,32 |
| **127** | 120,52 | 121,28 |
| **128** | 121,47 | 122,23 |
| **129** | 122,43 | 123,19 |
| **130** | 123,38 | 124,14 |
| **131** | 124,34 | 125,10 |
| **132** | 125,29 | 126,05 |
| **133** | 126,25 | 127,01 |
| **134** | 127,20 | 127,96 |
| **135** | 128,16 | 128,92 |
| **136** | 129,11 | 129,87 |
| **137** | 130,07 | 130,83 |
| **138** | 131,02 | 131,78 |
| **139** | 131,98 | 132,74 |
| **140** | 132,93 | 133,69 |



# HTD 5M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 5 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- Widely used in linear positioning, light power transmission applications
- Double sided tooth construction available

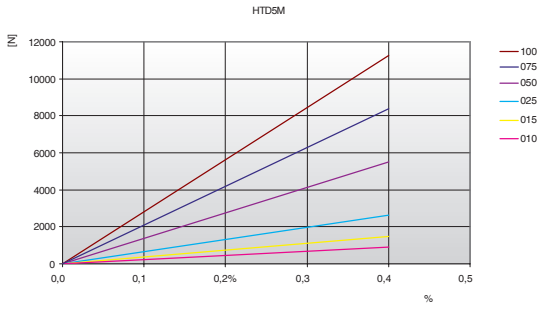
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 920 | 460 | 3360 | 230000 | 0,05 |
| **15** | 1500 | 750 | 5460 | 375000 | 0,07 |
| **25** | 2650 | 1325 | 9660 | 662500 | 0,12 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,24 |
| **75** | 8400 | 4200 | 30660 | 2100000 | 0,36 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,48 |

Other widths are available on request.

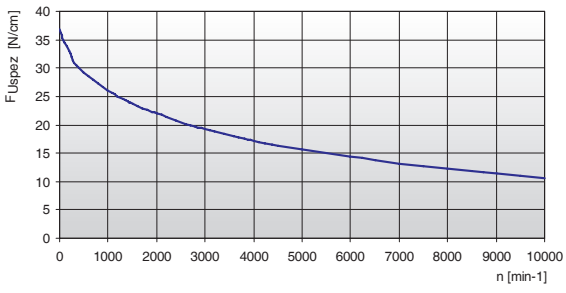
**Load / Elongation [ % ]**




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 36,80 | **800** | 27,21 | **1900** | 22,24 | **4500** | 16,40 |
| **20** | 36,25 | **900** | 26,61 | **2000** | 21,91 | **5000** | 15,64 |
| **40** | 35,75 | **1000** | 26,05 | **2200** | 21,30 | **5500** | 14,95 |
| **60** | 35,30 | **1100** | 25,52 | **2400** | 20,72 | **6000** | 14,32 |
| **80** | 34,89 | **1200** | 25,03 | **2600** | 20,19 | **6500** | 13,74 |
| **100** | 34,52 | **1300** | 24,56 | **2800** | 19,69 | **7000** | 13,19 |
| **200** | 33,13 | **1400** | 24,13 | **3000** | 19,23 | **7500** | 12,68 |
| **300** | 30,87 | **1440** | 23,96 | **3200** | 18,78 | **8000** | 12,20 |
| **400** | 30,10 | **1500** | 23,71 | **3400** | 18,37 | **8500** | 11,75 |
| **500** | 29,31 | **1600** | 23,32 | **3600** | 17,97 | **9000** | 11,33 |
| **600** | 28,56 | **1700** | 22,94 | **3800** | 17,59 | **9500** | 10,92 |
| **700** | 27,86 | **1800** | 22,58 | **4000** | 17,23 | **10000** | 10,53 |

**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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

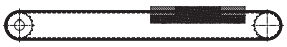
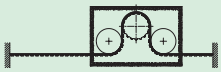
# HTD 5M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 880 | 3600 | 600 | 2400 |
| **15** | 1430 | 5850 | 980 | 3900 |
| **25** | 2530 | 10350 | 1730 | 6900 |
| **50** | 5280 | 21600 | 3600 | 14400 |
| **75** | 8030 | 32850 | 5475 | 21900 |
| **100** | 10780 | 44100 | 7350 | 29400 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 16 | 16 | 18 |
| | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm | 40 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 25 | 25 |
| | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm | 65 mm |

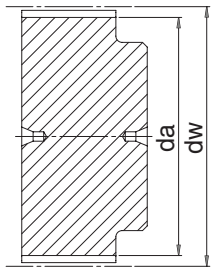
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 14,77 | 15,91 |
| **11** | 16,36 | 17,50 |
| **12** | 17,96 | 19,10 |
| **13** | 19,55 | 20,69 |
| **14** | 21,14 | 22,28 |
| **15** | 22,73 | 23,87 |
| **16** | 24,32 | 25,46 |
| **17** | 25,91 | 27,05 |
| **18** | 27,51 | 28,65 |
| **19** | 29,09 | 30,23 |
| **20** | 30,69 | 31,83 |
| **21** | 32,28 | 33,42 |
| **22** | 33,87 | 35,01 |
| **23** | 35,46 | 36,60 |
| **24** | 37,06 | 38,20 |
| **25** | 38,64 | 39,78 |
| **26** | 40,24 | 41,38 |
| **27** | 41,83 | 42,97 |
| **28** | 43,42 | 44,56 |
| **29** | 45,01 | 46,15 |
| **30** | 46,61 | 47,75 |
| **31** | 48,19 | 49,33 |
| **32** | 49,79 | 50,93 |
| **33** | 51,38 | 52,52 |
| **34** | 52,97 | 54,11 |
| **35** | 54,56 | 55,70 |
| **36** | 56,16 | 57,30 |
| **37** | 57,75 | 58,89 |
| **38** | 59,34 | 60,48 |
| **39** | 60,93 | 62,07 |

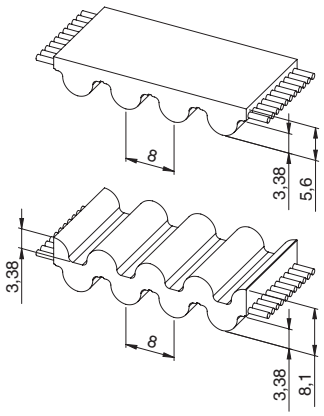
| z | da | dw |
|---|---|---|
| **40** | 62,52 | 63,66 |
| **41** | 64,11 | 65,25 |
| **42** | 65,70 | 66,84 |
| **43** | 67,29 | 68,43 |
| **44** | 68,88 | 70,02 |
| **45** | 70,47 | 71,61 |
| **46** | 72,06 | 73,20 |
| **47** | 73,65 | 74,79 |
| **48** | 75,24 | 76,38 |
| **49** | 76,84 | 77,98 |
| **50** | 78,44 | 79,58 |
| **51** | 80,03 | 81,17 |
| **52** | 81,62 | 82,76 |
| **53** | 83,21 | 84,35 |
| **54** | 84,80 | 85,94 |
| **55** | 86,39 | 87,53 |
| **56** | 87,98 | 89,12 |
| **57** | 89,57 | 90,71 |
| **58** | 91,17 | 92,31 |
| **59** | 92,76 | 93,90 |
| **60** | 94,35 | 95,49 |
| **61** | 95,94 | 97,08 |
| **62** | 97,53 | 98,67 |
| **63** | 99,12 | 100,26 |
| **64** | 100,72 | 101,86 |
| **65** | 102,31 | 103,45 |
| **66** | 103,90 | 105,04 |
| **67** | 105,49 | 106,63 |
| **68** | 107,08 | 108,22 |
| **69** | 108,67 | 109,81 |

| z | da | dw |
|---|---|---|
| **70** | 110,27 | 111,41 |
| **71** | 111,86 | 113,00 |
| **72** | 113,45 | 114,59 |
| **73** | 115,04 | 116,18 |
| **74** | 116,63 | 117,77 |
| **75** | 118,22 | 119,36 |
| **76** | 119,81 | 120,95 |
| **77** | 121,40 | 122,54 |
| **78** | 122,99 | 124,13 |
| **79** | 124,58 | 125,72 |
| **80** | 126,18 | 127,32 |
| **81** | 127,77 | 128,91 |
| **82** | 129,36 | 130,50 |
| **83** | 130,95 | 132,09 |
| **84** | 132,54 | 133,68 |
| **85** | 134,14 | 135,28 |
| **86** | 135,73 | 136,87 |
| **87** | 137,32 | 138,46 |
| **88** | 138,91 | 140,05 |
| **89** | 140,51 | 141,65 |
| **90** | 142,10 | 143,24 |
| **91** | 143,69 | 144,83 |
| **92** | 145,28 | 146,42 |
| **93** | 146,87 | 148,01 |
| **94** | 148,46 | 149,60 |
| **95** | 150,06 | 151,20 |
| **96** | 151,64 | 152,78 |
| **97** | 153,24 | 154,38 |
| **98** | 154,83 | 155,97 |
| **99** | 156,42 | 157,56 |

| z | da | dw |
|---|---|---|
| **100** | 158,01 | 159,15 |
| **101** | 159,61 | 160,75 |
| **102** | 161,2 | 162,34 |
| **103** | 162,81 | 163,95 |
| **104** | 164,38 | 165,52 |
| **105** | 165,97 | 167,11 |
| **106** | 167,56 | 168,70 |
| **107** | 169,09 | 170,23 |
| **108** | 170,75 | 171,89 |
| **109** | 172,34 | 173,48 |
| **110** | 173,93 | 175,07 |
| **111** | 175,52 | 176,66 |
| **112** | 177,11 | 178,25 |
| **113** | 178,70 | 179,84 |
| **114** | 180,29 | 181,43 |
| **115** | 181,88 | 183,02 |
| **116** | 183,47 | 184,61 |
| **117** | 185,07 | 186,21 |
| **118** | 186,66 | 187,80 |
| **119** | 188,25 | 189,39 |
| **120** | 189,84 | 190,98 |



# HTD 8M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 8 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- Widely used in linear positioning, medium power transmission applications
- Double sided tooth construction available

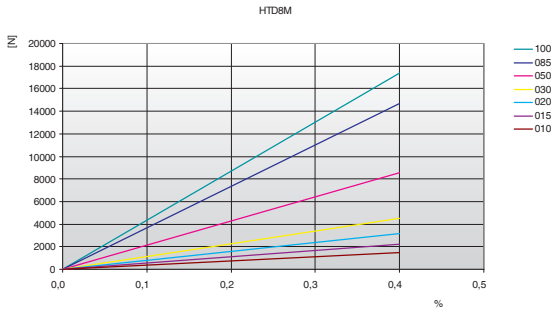
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 1470 | 735 | 5700 | 367500 | 0,07 |
| **15** | 2210 | 1105 | 8550 | 552500 | 0,10 |
| **20** | 3190 | 1595 | 12350 | 797500 | 0,14 |
| **30** | 4660 | 2330 | 18050 | 1165000 | 0,21 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,35 |
| **85** | 14700 | 7350 | 57000 | 3675000 | 0,59 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,69 |

Other widths are available on request.

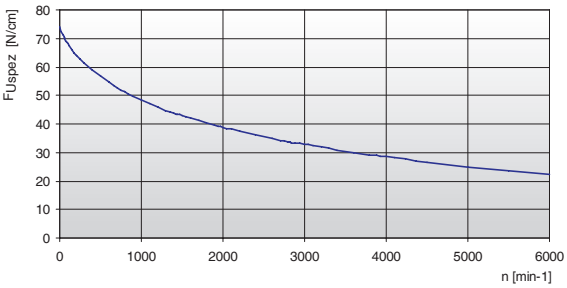
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 74,00 | **800** | 51,20 | **1900** | 39,52 | **4500** | 26,63 |
| **20** | 72,62 | **900** | 49,71 | **2000** | 38,78 | **5000** | 25,00 |
| **40** | 71,34 | **1000** | 48,35 | **2200** | 37,39 | **5500** | 23,51 |
| **60** | 70,16 | **1100** | 47,09 | **2400** | 36,12 | **6000** | 22,15 |
| **80** | 69,07 | **1200** | 45,93 | **2600** | 34,94 | - | - |
| **100** | 68,07 | **1300** | 44,84 | **2800** | 33,83 | - | - |
| **200** | 64,09 | **1400** | 43,82 | **3000** | 32,80 | - | - |
| **300** | 61,68 | **1440** | 43,43 | **3200** | 31,83 | - | - |
| **400** | 59,03 | **1500** | 42,86 | **3400** | 30,91 | - | - |
| **500** | 56,71 | **1600** | 41,96 | **3600** | 30,05 | - | - |
| **600** | 54,66 | **1700** | 41,10 | **3800** | 29,22 | - | - |
| **700** | 52,84 | **1800** | 40,29 | **4000** | 28,44 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

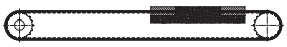
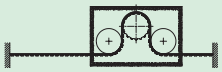
# HTD 8M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HPL High Performance | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 1320 | 6000 | 1080 | 4500 | - | - |
| **15** | 1980 | 9000 | 1620 | 6750 | - | - |
| **20** | 2860 | 13000 | 2340 | 9750 | 5280 | 19250 |
| **30** | 4180 | 19000 | 3420 | 14250 | 8160 | 29750 |
| **50** | 7700 | 35000 | 6300 | 26250 | 14400 | 52500 |
| **85** | 13200 | 60000 | 10800 | 45000 | 24480 | 89250 |
| **100** | 15620 | 71000 | 12780 | 53250 | 29280 | 106750 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS | HPL |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 18 | 18 | 24 | 30 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm | 50 mm | 70 mm | 80 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 30 | 30 | 40 | 30 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 120 mm | 150 mm |

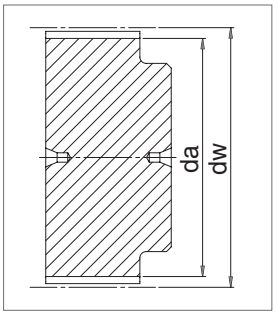
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 44,46 | 45,83 |
| **19** | 47,01 | 48,38 |
| **20** | 49,56 | 50,93 |
| **21** | 52,10 | 53,47 |
| **22** | 54,65 | 56,02 |
| **23** | 57,20 | 58,57 |
| **24** | 59,75 | 61,12 |
| **25** | 62,29 | 63,66 |
| **26** | 64,84 | 66,21 |
| **27** | 67,38 | 68,75 |
| **28** | 70,08 | 71,30 |
| **29** | 72,59 | 73,84 |
| **30** | 75,13 | 76,39 |
| **31** | 77,65 | 78,94 |
| **32** | 80,16 | 81,49 |
| **33** | 82,68 | 84,03 |
| **34** | 85,21 | 86,58 |
| **35** | 87,76 | 89,12 |
| **36** | 90,30 | 91,67 |
| **37** | 92,85 | 94,22 |
| **38** | 95,40 | 96,77 |
| **39** | 97,94 | 99,31 |
| **40** | 100,49 | 101,86 |
| **41** | 103,04 | 104,40 |
| **42** | 105,58 | 106,95 |
| **43** | 108,13 | 109,50 |
| **44** | 110,68 | 112,05 |
| **45** | 113,22 | 114,59 |
| **46** | 115,77 | 117,14 |
| **47** | 118,31 | 119,68 |

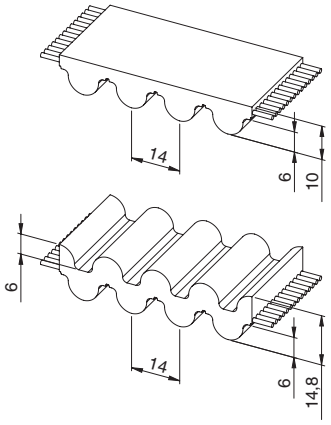
| z | da | dw |
|---|---|---|
| **48** | 120,86 | 122,23 |
| **49** | 123,40 | 124,77 |
| **50** | 125,95 | 127,32 |
| **51** | 128,50 | 129,87 |
| **52** | 131,05 | 132,41 |
| **53** | 133,59 | 134,96 |
| **54** | 136,14 | 137,51 |
| **55** | 138,68 | 140,05 |
| **56** | 141,23 | 142,60 |
| **57** | 143,78 | 145,15 |
| **58** | 146,32 | 147,69 |
| **59** | 148,87 | 150,24 |
| **60** | 151,42 | 152,79 |
| **61** | 153,96 | 155,33 |
| **62** | 156,52 | 157,89 |
| **63** | 159,06 | 160,43 |
| **64** | 161,60 | 162,97 |
| **65** | 164,15 | 165,52 |
| **66** | 166,69 | 168,06 |
| **67** | 169,24 | 170,61 |
| **68** | 171,79 | 173,16 |
| **69** | 174,33 | 175,70 |
| **70** | 176,88 | 178,25 |
| **71** | 179,43 | 180,80 |
| **72** | 181,98 | 183,35 |
| **73** | 184,52 | 185,89 |
| **74** | 187,07 | 188,44 |
| **75** | 189,61 | 190,98 |
| **76** | 192,16 | 193,53 |
| **77** | 194,71 | 196,08 |

| z | da | dw |
|---|---|---|
| **78** | 197,25 | 198,62 |
| **79** | 199,80 | 201,17 |
| **80** | 202,35 | 203,72 |
| **81** | 204,89 | 206,26 |
| **82** | 207,44 | 208,81 |
| **83** | 209,98 | 211,35 |
| **84** | 212,53 | 213,90 |
| **85** | 215,08 | 216,45 |
| **86** | 217,63 | 219,00 |
| **87** | 220,17 | 221,54 |
| **88** | 222,72 | 224,09 |
| **89** | 225,26 | 226,63 |
| **90** | 227,81 | 229,18 |
| **91** | 230,35 | 231,72 |
| **92** | 232,90 | 234,27 |
| **93** | 235,45 | 236,82 |
| **94** | 238,00 | 239,37 |
| **95** | 240,54 | 241,91 |
| **96** | 243,09 | 244,46 |
| **97** | 245,63 | 247,00 |
| **98** | 248,18 | 249,55 |
| **99** | 250,73 | 252,10 |
| **100** | 253,28 | 254,67 |
| **101** | 255,82 | 257,19 |
| **102** | 258,37 | 259,74 |
| **103** | 260,91 | 262,28 |
| **104** | 263,46 | 264,83 |
| **105** | 266,01 | 267,38 |
| **106** | 268,55 | 269,92 |
| **107** | 271,10 | 272,47 |

| z | da | dw |
|---|---|---|
| **108** | 273,64 | 275,01 |
| **109** | 276,19 | 277,56 |
| **110** | 278,74 | 280,11 |
| **111** | 281,29 | 282,66 |
| **112** | 283,84 | 285,21 |
| **113** | 286,38 | 287,75 |
| **114** | 288,93 | 290,30 |
| **115** | 291,47 | 292,84 |
| **116** | 294,02 | 295,39 |
| **117** | 296,57 | 297,94 |
| **118** | 299,11 | 300,48 |
| **119** | 301,66 | 303,03 |
| **120** | 304,20 | 305,57 |



# HTD 14M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 14 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- Widely used in linear positioning, heavy power transmission applications
- Double sided tooth construction available

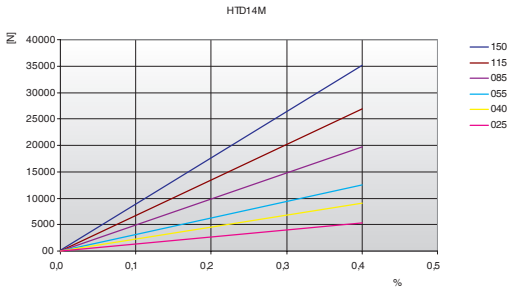
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **25** | 5280 | 2640 | 19250 | 1320000 | 0,28 |
| **40** | 9120 | 4560 | 33250 | 2280000 | 0,44 |
| **55** | 12480 | 6240 | 45500 | 3120000 | 0,61 |
| **85** | 19680 | 9840 | 71750 | 4920000 | 0,94 |
| **115** | 26880 | 13440 | 98000 | 6720000 | 1,25 |
| **150** | 35520 | 17760 | 129500 | 8880000 | 1,68 |

Other widths are available on request.

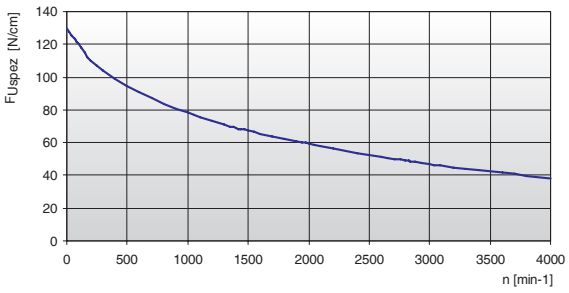
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|
| **0** | 130,00 | **800** | 83,80 | **1900** | 60,49 |
| **20** | 127,69 | **900** | 80,85 | **2000** | 59,01 |
| **40** | 125,56 | **1000** | 78,14 | **2200** | 56,23 |
| **60** | 123,60 | **1100** | 75,63 | **2400** | 53,68 |
| **80** | 121,78 | **1200** | 73,31 | **2600** | 51,30 |
| **100** | 120,11 | **1300** | 71,14 | **2800** | 49,09 |
| **200** | 109,77 | **1400** | 69,11 | **3000** | 47,01 |
| **300** | 104,29 | **1440** | 68,33 | **3200** | 45,06 |
| **400** | 99,19 | **1500** | 67,19 | **3400** | 43,22 |
| **500** | 94,65 | **1600** | 65,38 | **3600** | 41,48 |
| **600** | 90,64 | **1700** | 63,67 | **3800** | 39,82 |
| **700** | 87,04 | **1800** | 62,04 | **4000** | 38,24 |

### 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:

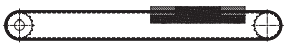
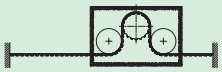
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# HTD 14M



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 28 |
|  | Flat idler running on belt teeth $d_{min}$ | 120 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 28 |
|  | Flat idler running on belt back $d_{min}$ | 180 mm |

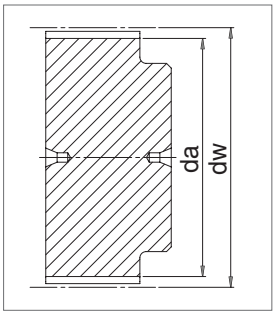
## Timing pulleys

| z | da | dw |
|---|---|---|
| **28** | 122,12 | 124,77 |
| **29** | 126,58 | 129,22 |
| **30** | 130,99 | 133,69 |
| **31** | 135,45 | 138,14 |
| **32** | 139,88 | 142,59 |
| **33** | 144,35 | 147,06 |
| **34** | 148,79 | 151,51 |
| **35** | 153,25 | 155,96 |
| **36** | 157,68 | 160,41 |
| **37** | 162,14 | 164,88 |
| **38** | 166,60 | 169,34 |
| **39** | 171,02 | 173,79 |
| **40** | 175,48 | 178,24 |
| **41** | 179,92 | 182,71 |
| **42** | 184,37 | 187,16 |
| **43** | 188,83 | 191,61 |
| **44** | 193,29 | 196,08 |
| **45** | 197,75 | 200,53 |
| **46** | 202,21 | 204,98 |
| **47** | 206,65 | 209,43 |
| **48** | 211,11 | 213,90 |
| **49** | 215,57 | 218,35 |
| **50** | 220,03 | 222,80 |
| **51** | 224,49 | 227,27 |
| **52** | 228,95 | 231,72 |
| **53** | 233,39 | 236,18 |
| **54** | 237,85 | 240,64 |
| **55** | 242,30 | 245,09 |
| **56** | 246,76 | 249,55 |
| **57** | 251,22 | 254,01 |

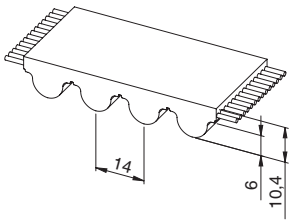
| z | da | dw |
|---|---|---|
| **58** | 255,68 | 258,46 |
| **59** | 260,14 | 262,91 |
| **60** | 264,60 | 267,38 |
| **61** | 269,04 | 271,83 |
| **62** | 273,50 | 276,28 |
| **63** | 277,96 | 280,75 |
| **64** | 282,42 | 285,20 |
| **65** | 286,88 | 289,65 |
| **66** | 291,32 | 294,11 |
| **67** | 295,78 | 298,56 |
| **68** | 300,24 | 303,03 |
| **69** | 304,70 | 307,48 |
| **70** | 309,16 | 311,93 |
| **71** | 313,61 | 316,40 |
| **72** | 318,07 | 320,85 |
| **73** | 322,53 | 325,30 |
| **74** | 326,98 | 329,77 |
| **75** | 331,44 | 334,22 |
| **76** | 335,90 | 338,67 |
| **77** | 340,34 | 343,12 |
| **78** | 344,80 | 347,59 |
| **79** | 349,26 | 352,04 |
| **80** | 353,72 | 356,49 |
| **81** | 358,17 | 360,96 |
| **82** | 362,63 | 365,41 |
| **83** | 367,09 | 369,86 |
| **84** | 371,54 | 374,33 |
| **85** | 376,00 | 378,78 |
| **86** | 380,46 | 383,23 |
| **87** | 384,91 | 387,70 |

| z | da | dw |
|---|---|---|
| **88** | 389,37 | 392,15 |
| **89** | 393,83 | 396,60 |
| **90** | 398,29 | 401,07 |
| **91** | 402,73 | 405,52 |
| **92** | 407,19 | 409,97 |
| **93** | 411,65 | 414,44 |
| **94** | 416,10 | 418,89 |
| **95** | 420,56 | 423,35 |
| **96** | 425,02 | 427,80 |
| **97** | 429,48 | 432,25 |
| **98** | 433,94 | 436,72 |
| **99** | 438,38 | 441,17 |
| **100** | 442,84 | 445,62 |
| **101** | 447,30 | 450,09 |
| **102** | 451,76 | 454,54 |
| **103** | 456,21 | 459,00 |
| **104** | 460,67 | 463,45 |
| **105** | 465,13 | 467,90 |
| **106** | 469,58 | 472,37 |
| **107** | 474,03 | 476,82 |
| **108** | 478,49 | 481,28 |
| **109** | 482,95 | 485,74 |
| **110** | 487,41 | 490,19 |
| **111** | 491,87 | 494,64 |
| **112** | 496,32 | 499,10 |
| **113** | 500,78 | 503,55 |
| **114** | 505,23 | 508,02 |
| **116** | 514,14 | 516,93 |
| **117** | 518,60 | 521,38 |
| **118** | 523,06 | 525,83 |

| z | da | dw |
|---|---|---|
| **119** | 527,51 | 530,30 |
| **120** | 531,97 | 534,75 |



# HTD 14M XHPL




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 14 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- **HTD14M - XHPL is the ideal belt for heavy duty synchronous lifting applications**
- **Black color and PAZ fabric as standard for XHPL execution**

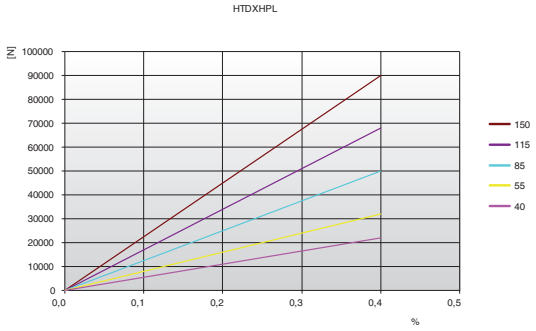
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,5 [mm] |

## Technical Data - HTD14M XHPL

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **40** | 22000 | 77000 | 5500000 | 0,59 |
| **55** | 32000 | 112000 | 8000000 | 0,75 |
| **85** | 50000 | 175000 | 12500000 | 1,29 |
| **115** | 68000 | 238000 | 17000000 | 1,75 |
| **150** | 90000 | 315000 | 22500000 | 2,21 |

Other widths are available on request.

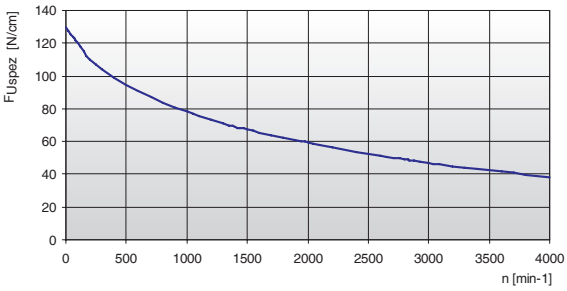
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|
| **0** | 130,00 | **800** | 83,80 | **1900** | 60,49 |
| **20** | 127,69 | **900** | 80,85 | **2000** | 59,01 |
| **40** | 125,56 | **1000** | 78,14 | **2200** | 56,23 |
| **60** | 123,60 | **1100** | 75,63 | **2400** | 53,68 |
| **80** | 121,78 | **1200** | 73,31 | **2600** | 51,30 |
| **100** | 120,11 | **1300** | 71,14 | **2800** | 49,09 |
| **200** | 109,77 | **1400** | 69,11 | **3000** | 47,01 |
| **300** | 104,29 | **1440** | 68,33 | **3200** | 45,06 |
| **400** | 99,19 | **1500** | 67,19 | **3400** | 43,22 |
| **500** | 94,65 | **1600** | 65,38 | **3600** | 41,48 |
| **600** | 90,64 | **1700** | 63,67 | **3800** | 39,82 |
| **700** | 87,04 | **1800** | 62,04 | **4000** | 38,24 |

### 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:

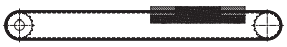
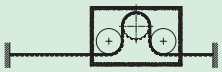
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# HTD 14M
# XHPL



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 34 |
|  | Flat idler running on belt teeth $d_{min}$ | 140 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 34 |
|  | Flat idler running on belt back $d_{min}$ | 200 mm |

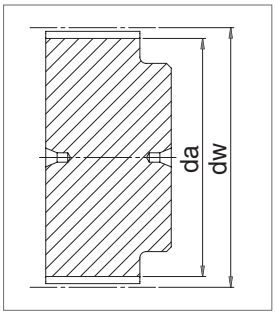
## Timing pulleys

| z | da | dw |
|---|---|---|
| **28** | 122,12 | 124,77 |
| **29** | 126,58 | 129,22 |
| **30** | 130,99 | 133,69 |
| **31** | 135,45 | 138,14 |
| **32** | 139,88 | 142,59 |
| **33** | 144,35 | 147,06 |
| **34** | 148,79 | 151,51 |
| **35** | 153,25 | 155,96 |
| **36** | 157,68 | 160,41 |
| **37** | 162,14 | 164,88 |
| **38** | 166,60 | 169,34 |
| **39** | 171,02 | 173,79 |
| **40** | 175,48 | 178,24 |
| **41** | 179,92 | 182,71 |
| **42** | 184,37 | 187,16 |
| **43** | 188,83 | 191,61 |
| **44** | 193,29 | 196,08 |
| **45** | 197,75 | 200,53 |
| **46** | 202,21 | 204,98 |
| **47** | 206,65 | 209,43 |
| **48** | 211,11 | 213,90 |
| **49** | 215,57 | 218,35 |
| **50** | 220,03 | 222,80 |
| **51** | 224,49 | 227,27 |
| **52** | 228,95 | 231,72 |
| **53** | 233,39 | 236,18 |
| **54** | 237,85 | 240,64 |
| **55** | 242,30 | 245,09 |
| **56** | 246,76 | 249,55 |
| **57** | 251,22 | 254,01 |

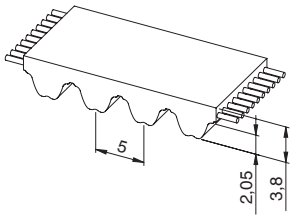
| z | da | dw |
|---|---|---|
| **58** | 255,68 | 258,46 |
| **59** | 260,14 | 262,91 |
| **60** | 264,60 | 267,38 |
| **61** | 269,04 | 271,83 |
| **62** | 273,50 | 276,28 |
| **63** | 277,96 | 280,75 |
| **64** | 282,42 | 285,20 |
| **65** | 286,88 | 289,65 |
| **66** | 291,32 | 294,11 |
| **67** | 295,78 | 298,56 |
| **68** | 300,24 | 303,03 |
| **69** | 304,70 | 307,48 |
| **70** | 309,16 | 311,93 |
| **71** | 313,61 | 316,40 |
| **72** | 318,07 | 320,85 |
| **73** | 322,53 | 325,30 |
| **74** | 326,98 | 329,77 |
| **75** | 331,44 | 334,22 |
| **76** | 335,90 | 338,67 |
| **77** | 340,34 | 343,12 |
| **78** | 344,80 | 347,59 |
| **79** | 349,26 | 352,04 |
| **80** | 353,72 | 356,49 |
| **81** | 358,17 | 360,96 |
| **82** | 362,63 | 365,41 |
| **83** | 367,09 | 369,86 |
| **84** | 371,54 | 374,33 |
| **85** | 376,00 | 378,78 |
| **86** | 380,46 | 383,23 |
| **87** | 384,91 | 387,70 |

| z | da | dw |
|---|---|---|
| **88** | 389,37 | 392,15 |
| **89** | 393,83 | 396,60 |
| **90** | 398,29 | 401,07 |
| **91** | 402,73 | 405,52 |
| **92** | 407,19 | 409,97 |
| **93** | 411,65 | 414,44 |
| **94** | 416,10 | 418,89 |
| **95** | 420,56 | 423,35 |
| **96** | 425,02 | 427,80 |
| **97** | 429,48 | 432,25 |
| **98** | 433,94 | 436,72 |
| **99** | 438,38 | 441,17 |
| **100** | 442,84 | 445,62 |
| **101** | 447,30 | 450,09 |
| **102** | 451,76 | 454,54 |
| **103** | 456,21 | 459,00 |
| **104** | 460,67 | 463,45 |
| **105** | 465,13 | 467,90 |
| **106** | 469,58 | 472,37 |
| **107** | 474,03 | 476,82 |
| **108** | 478,49 | 481,28 |
| **109** | 482,95 | 485,74 |
| **110** | 487,41 | 490,19 |
| **111** | 491,87 | 494,64 |
| **112** | 496,32 | 499,10 |
| **113** | 500,78 | 503,55 |
| **114** | 505,23 | 508,02 |
| **116** | 514,14 | 516,93 |
| **117** | 518,60 | 521,38 |
| **118** | 523,06 | 525,83 |

| z | da | dw |
|---|---|---|
| **119** | 527,51 | 530,30 |
| **120** | 531,97 | 534,75 |



# RTD 5M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 5 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- PAZ fabric on tooth side delivered as standard reduces noise in the drive
- Widely used in linear positioning, light power transmission applications

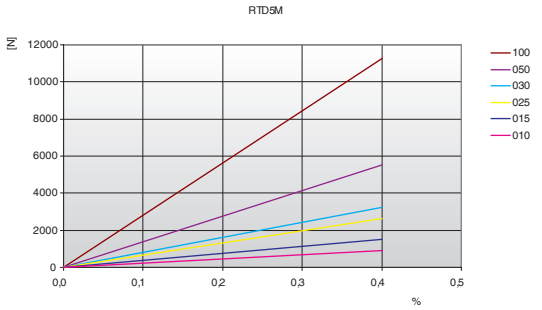
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 920 | 460 | 3360 | 230000 | 0,05 |
| **15** | 1500 | 750 | 5460 | 375000 | 0,07 |
| **25** | 2650 | 1325 | 9660 | 662500 | 0,12 |
| **30** | 3220 | 1610 | 11760 | 805000 | 0,15 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,23 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,46 |

Other widths are available on request.

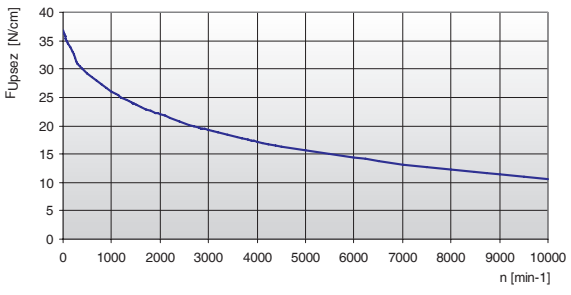
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 37,80 | **900** | 28,61 | **2200** | 23,30 | **5500** | 16,95 |
| **20** | 37,25 | **1000** | 28,05 | **2400** | 22,72 | **6000** | 16,32 |
| **40** | 36,75 | **1100** | 27,52 | **2600** | 22,19 | **6500** | 15,74 |
| **60** | 36,30 | **1200** | 27,03 | **2800** | 21,69 | **7000** | 15,19 |
| **80** | 35,89 | **1300** | 26,56 | **2880** | 21,50 | **7500** | 14,68 |
| **100** | 35,52 | **1400** | 26,13 | **3000** | 21,23 | **8000** | 14,20 |
| **200** | 34,13 | **1440** | 25,96 | **3200** | 20,78 | **8500** | 13,75 |
| **300** | 32,87 | **1500** | 25,71 | **3400** | 20,37 | **9000** | 13,33 |
| **400** | 32,10 | **1600** | 25,32 | **3600** | 19,97 | **9500** | 12,92 |
| **500** | 31,31 | **1700** | 24,94 | **3800** | 19,59 | **10000** | 12,53 |
| **600** | 30,56 | **1800** | 24,58 | **4000** | 19,23 | - | - |
| **700** | 29,86 | **1900** | 24,24 | **4500** | 18,40 | - | - |
| **800** | 29,21 | **2000** | 23,91 | **5000** | 17,64 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

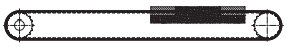
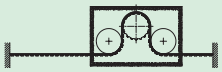
# RTD 5M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HFE High Flexibility | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 880 | 3600 | 600 | 2400 | 960 | 3440 |
| **15** | 1430 | 5850 | 980 | 3900 | 1560 | 5590 |
| **25** | 2530 | 10350 | 1730 | 6900 | 2760 | 9890 |
| **30** | 3080 | 12600 | 2100 | 8400 | 3360 | 12040 |
| **50** | 5280 | 21600 | 3600 | 14400 | 5760 | 20640 |
| **100** | 10780 | 44100 | - | - | - | - |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | **STANDARD** | **ARAMID** | **STAINLESS** | **HFE** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 16 | 16 | 18 | 15 |
| | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm | 40 mm | 25 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 25 | 25 | 20 |
| | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm | 65 mm | 60 mm |

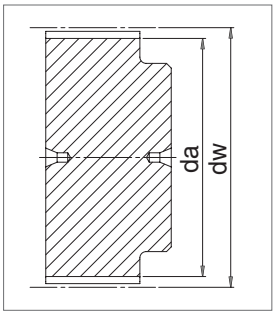
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 14,77 | 15,91 |
| **11** | 16,36 | 17,50 |
| **12** | 17,96 | 19,10 |
| **13** | 19,55 | 20,69 |
| **14** | 21,14 | 22,28 |
| **15** | 22,73 | 23,87 |
| **16** | 24,32 | 25,46 |
| **17** | 25,91 | 27,05 |
| **18** | 27,51 | 28,65 |
| **19** | 29,09 | 30,23 |
| **20** | 30,69 | 31,83 |
| **21** | 32,28 | 33,42 |
| **22** | 33,87 | 35,01 |
| **23** | 35,46 | 36,60 |
| **24** | 37,06 | 38,20 |
| **25** | 38,64 | 39,78 |
| **26** | 40,24 | 41,38 |
| **27** | 41,83 | 42,97 |
| **28** | 43,42 | 44,56 |
| **29** | 45,01 | 46,15 |
| **30** | 46,61 | 47,75 |
| **31** | 48,19 | 49,33 |
| **32** | 49,79 | 50,93 |
| **33** | 51,38 | 52,52 |
| **34** | 52,97 | 54,11 |
| **35** | 54,56 | 55,70 |
| **36** | 56,16 | 57,30 |
| **37** | 57,75 | 58,89 |
| **38** | 59,34 | 60,48 |
| **39** | 60,93 | 62,07 |

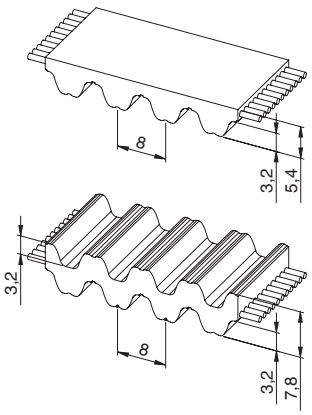
| z | da | dw |
|---|---|---|
| **40** | 62,52 | 63,66 |
| **41** | 64,11 | 65,25 |
| **42** | 65,70 | 66,84 |
| **43** | 67,29 | 68,43 |
| **44** | 68,88 | 70,02 |
| **45** | 70,47 | 71,61 |
| **46** | 72,06 | 73,20 |
| **47** | 73,65 | 74,79 |
| **48** | 75,24 | 76,38 |
| **49** | 76,84 | 77,98 |
| **50** | 78,44 | 79,58 |
| **51** | 80,03 | 81,17 |
| **52** | 81,62 | 82,76 |
| **53** | 83,21 | 84,35 |
| **54** | 84,80 | 85,94 |
| **55** | 86,39 | 87,53 |
| **56** | 87,98 | 89,12 |
| **57** | 89,57 | 90,71 |
| **58** | 91,17 | 92,31 |
| **59** | 92,76 | 93,90 |
| **60** | 94,35 | 95,49 |
| **61** | 95,94 | 97,08 |
| **62** | 97,53 | 98,67 |
| **63** | 99,12 | 100,26 |
| **64** | 100,72 | 101,86 |
| **65** | 102,31 | 103,45 |
| **66** | 103,90 | 105,04 |
| **67** | 105,49 | 106,63 |
| **68** | 107,08 | 108,22 |
| **69** | 108,67 | 109,81 |

| z | da | dw |
|---|---|---|
| **70** | 110,27 | 111,41 |
| **71** | 111,86 | 113,00 |
| **72** | 113,45 | 114,59 |
| **73** | 115,04 | 116,18 |
| **74** | 116,63 | 117,77 |
| **75** | 118,22 | 119,36 |
| **76** | 119,81 | 120,95 |
| **77** | 121,40 | 122,54 |
| **78** | 122,99 | 124,13 |
| **79** | 124,58 | 125,72 |
| **80** | 126,18 | 127,32 |
| **81** | 127,77 | 128,91 |
| **82** | 129,36 | 130,50 |
| **83** | 130,95 | 132,09 |
| **84** | 132,54 | 133,68 |
| **85** | 134,14 | 135,28 |
| **86** | 135,73 | 136,87 |
| **87** | 137,32 | 138,46 |
| **88** | 138,91 | 140,05 |
| **89** | 140,51 | 141,65 |
| **90** | 142,10 | 143,24 |
| **91** | 143,69 | 144,83 |
| **92** | 145,28 | 146,42 |
| **93** | 146,87 | 148,01 |
| **94** | 148,46 | 149,60 |
| **95** | 150,06 | 151,20 |
| **96** | 151,64 | 152,78 |
| **97** | 153,24 | 154,38 |
| **98** | 154,83 | 155,97 |
| **99** | 156,42 | 157,56 |

| z | da | dw |
|---|---|---|
| **100** | 158,01 | 159,15 |
| **101** | 159,61 | 160,75 |
| **102** | 161,20 | 162,34 |
| **103** | 162,81 | 163,95 |
| **104** | 164,38 | 165,52 |
| **105** | 165,97 | 167,11 |
| **106** | 167,56 | 168,70 |
| **107** | 169,09 | 170,23 |
| **108** | 170,75 | 171,89 |
| **109** | 172,34 | 173,48 |
| **110** | 173,93 | 175,07 |
| **111** | 175,52 | 176,66 |
| **112** | 177,11 | 178,25 |
| **113** | 178,70 | 179,84 |
| **114** | 180,29 | 181,43 |
| **115** | 181,88 | 183,02 |
| **116** | 183,47 | 184,61 |
| **117** | 185,07 | 186,21 |
| **118** | 186,66 | 187,80 |
| **119** | 188,25 | 189,39 |
| **120** | 189,84 | 190,98 |



# RTD 8M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 8 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- PAZ fabric on tooth side delivered as standard reduces noise in the drive
- Widely used in linear positioning, medium power transmission applications

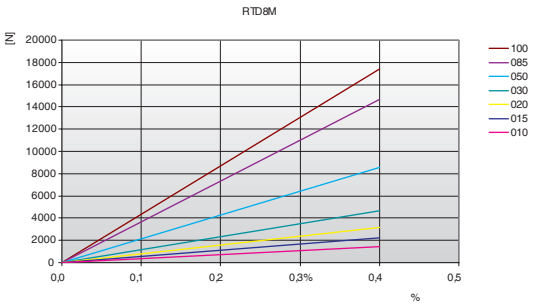
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 1470 | 735 | 5700 | 367500 | 0,07 |
| **15** | 2210 | 1105 | 8550 | 552500 | 0,10 |
| **20** | 3190 | 1595 | 12350 | 797500 | 0,14 |
| **30** | 4660 | 2330 | 18050 | 1165000 | 0,20 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,35 |
| **85** | 14700 | 7350 | 57000 | 3675000 | 0,60 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,75 |

Other widths are available on request.

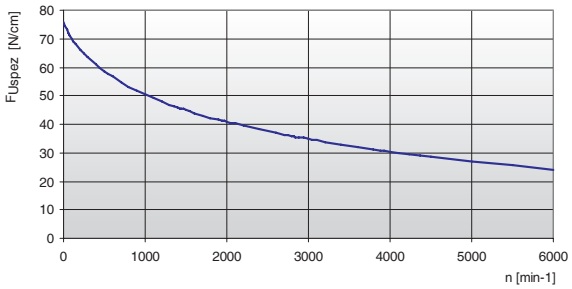
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 76,00 | **800** | 53,20 | **1900** | 41,52 | **4000** | 30,44 |
| **20** | 74,62 | **900** | 51,71 | **2000** | 40,78 | **4500** | 28,63 |
| **40** | 73,34 | **1000** | 50,35 | **2200** | 39,39 | **5000** | 27,00 |
| **60** | 72,16 | **1100** | 49,09 | **2400** | 38,12 | **5500** | 25,51 |
| **80** | 71,07 | **1200** | 47,93 | **2600** | 36,94 | **6000** | 24,15 |
| **100** | 70,07 | **1300** | 46,84 | **2800** | 35,83 | - | - |
| **200** | 66,09 | **1400** | 45,82 | **2880** | 35,41 | - | - |
| **300** | 63,68 | **1440** | 45,43 | **3000** | 34,80 | - | - |
| **400** | 61,03 | **1500** | 44,86 | **3200** | 33,83 | - | - |
| **500** | 58,71 | **1600** | 43,96 | **3400** | 32,91 | - | - |
| **600** | 56,66 | **1700** | 43,10 | **3600** | 32,05 | - | - |
| **700** | 54,84 | **1800** | 42,29 | **3800** | 31,22 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

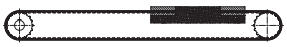
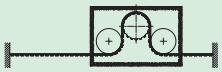
# RTD 8M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HPL High Performance | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 1320 | 6000 | 1080 | 4500 | - | - |
| **15** | 1980 | 9000 | 1620 | 6750 | - | - |
| **20** | 2860 | 13000 | 2340 | 9750 | 5280 | 19250 |
| **30** | 4180 | 19000 | 3420 | 14250 | 8160 | 29750 |
| **50** | 7700 | 35000 | 6300 | 26250 | 14400 | 52500 |
| **85** | 13200 | 60000 | 10800 | 45000 | 24480 | 89250 |
| **100** | 15620 | 71000 | 12780 | 53250 | 29280 | 106750 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS | HPL |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 18 | 18 | 24 | 30 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm | 50 mm | 70 mm | 80 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 30 | 30 | 40 | 30 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 120 mm | 150 mm |

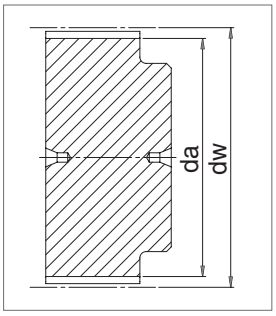
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 44,46 | 45,83 |
| **19** | 47,01 | 48,38 |
| **20** | 49,56 | 50,93 |
| **21** | 52,10 | 53,47 |
| **22** | 54,65 | 56,02 |
| **23** | 57,20 | 58,57 |
| **24** | 59,75 | 61,12 |
| **25** | 62,29 | 63,66 |
| **26** | 64,84 | 66,21 |
| **27** | 67,38 | 68,75 |
| **28** | 70,08 | 71,30 |
| **29** | 72,59 | 73,84 |
| **30** | 75,13 | 76,39 |
| **31** | 77,65 | 78,94 |
| **32** | 80,16 | 81,49 |
| **33** | 82,68 | 84,03 |
| **34** | 85,21 | 86,58 |
| **35** | 87,76 | 89,12 |
| **36** | 90,30 | 91,67 |
| **37** | 92,85 | 94,22 |
| **38** | 95,40 | 96,77 |
| **39** | 97,94 | 99,31 |
| **40** | 100,49 | 101,86 |
| **41** | 103,04 | 104,40 |
| **42** | 105,58 | 106,95 |
| **43** | 108,13 | 109,50 |
| **44** | 110,68 | 112,05 |
| **45** | 113,22 | 114,59 |
| **46** | 115,77 | 117,14 |
| **47** | 118,31 | 119,68 |

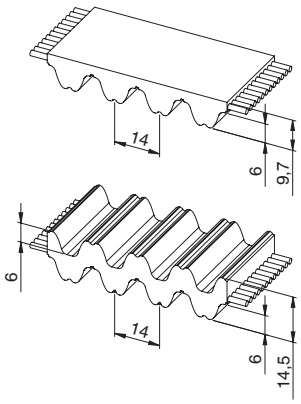
| z | da | dw |
|---|---|---|
| **48** | 120,86 | 122,23 |
| **49** | 123,40 | 124,77 |
| **50** | 125,95 | 127,32 |
| **51** | 128,50 | 129,87 |
| **52** | 131,05 | 132,41 |
| **53** | 133,59 | 134,96 |
| **54** | 136,14 | 137,51 |
| **55** | 138,68 | 140,05 |
| **56** | 141,23 | 142,60 |
| **57** | 143,78 | 145,15 |
| **58** | 146,32 | 147,69 |
| **59** | 148,87 | 150,24 |
| **60** | 151,42 | 152,79 |
| **61** | 153,96 | 155,33 |
| **62** | 156,52 | 157,89 |
| **63** | 159,06 | 160,43 |
| **64** | 161,60 | 162,97 |
| **65** | 164,15 | 165,52 |
| **66** | 166,69 | 168,06 |
| **67** | 169,24 | 170,61 |
| **68** | 171,79 | 173,16 |
| **69** | 174,33 | 175,70 |
| **70** | 176,88 | 178,25 |
| **71** | 179,43 | 180,80 |
| **72** | 181,98 | 183,35 |
| **73** | 184,52 | 185,89 |
| **74** | 187,07 | 188,44 |
| **75** | 189,61 | 190,98 |
| **76** | 192,16 | 193,53 |
| **77** | 194,71 | 196,08 |

| z | da | dw |
|---|---|---|
| **78** | 197,25 | 198,62 |
| **79** | 199,80 | 201,17 |
| **80** | 202,35 | 203,72 |
| **81** | 204,89 | 206,26 |
| **82** | 207,44 | 208,81 |
| **83** | 209,98 | 211,35 |
| **84** | 212,53 | 213,90 |
| **85** | 215,08 | 216,45 |
| **86** | 217,63 | 219,00 |
| **87** | 220,17 | 221,54 |
| **88** | 222,72 | 224,09 |
| **89** | 225,26 | 226,63 |
| **90** | 227,81 | 229,18 |
| **91** | 230,35 | 231,72 |
| **92** | 232,90 | 234,27 |
| **93** | 235,45 | 236,82 |
| **94** | 238,00 | 239,37 |
| **95** | 240,54 | 241,91 |
| **96** | 243,09 | 244,46 |
| **97** | 245,63 | 247,00 |
| **98** | 248,18 | 249,55 |
| **99** | 250,73 | 252,10 |
| **100** | 253,28 | 254,67 |
| **101** | 255,82 | 257,19 |
| **102** | 258,37 | 259,74 |
| **103** | 260,91 | 262,28 |
| **104** | 263,46 | 264,83 |
| **105** | 266,01 | 267,38 |
| **106** | 268,55 | 269,92 |
| **107** | 271,10 | 272,47 |

| z | da | dw |
|---|---|---|
| **108** | 273,64 | 275,01 |
| **109** | 276,19 | 277,56 |
| **110** | 278,74 | 280,11 |
| **111** | 281,29 | 282,66 |
| **112** | 283,84 | 285,21 |
| **113** | 286,38 | 287,75 |
| **114** | 288,93 | 290,30 |
| **115** | 291,47 | 292,84 |
| **116** | 294,02 | 295,39 |
| **117** | 296,57 | 297,94 |
| **118** | 299,11 | 300,48 |
| **119** | 301,66 | 303,03 |
| **120** | 304,20 | 305,57 |



# RTD 14M




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 14 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- PAZ fabric on tooth side delivered as standard reduces noise in the drive
- Widely used in linear positioning, heavy power transmission applications

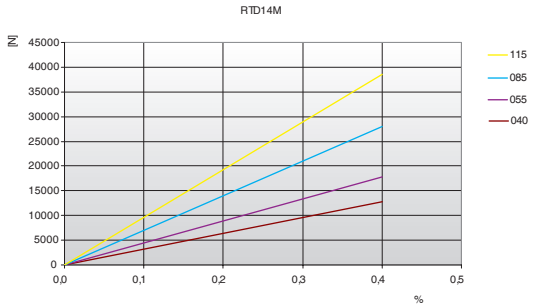
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **40** | 12750 | 6375 | 48000 | 3187500 | 0,48 |
| **55** | 17850 | 8925 | 67200 | 4462500 | 0,68 |
| **85** | 28050 | 14025 | 105600 | 7012500 | 1,00 |
| **115** | 39100 | 19550 | 147200 | 9775000 | 1,40 |

Other widths are available on request.

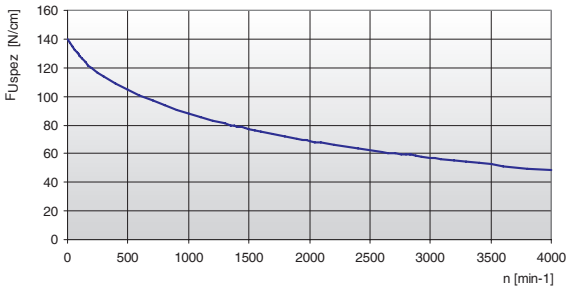
**Load / Elongation [ % ]**




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 140,00 | **800** | 93,80 | **1900** | 70,49 | **4000** | 48,24 |
| **20** | 137,31 | **900** | 90,85 | **2000** | 69,01 | - | - |
| **40** | 134,83 | **1000** | 88,14 | **2200** | 66,23 | - | - |
| **60** | 132,53 | **1100** | 85,63 | **2400** | 63,68 | - | - |
| **80** | 130,42 | **1200** | 83,31 | **2600** | 61,30 | - | - |
| **100** | 128,46 | **1300** | 81,14 | **2800** | 59,09 | - | - |
| **200** | 119,77 | **1400** | 79,11 | **2880** | 58,24 | - | - |
| **300** | 114,29 | **1440** | 78,33 | **3000** | 57,01 | - | - |
| **400** | 109,19 | **1500** | 77,19 | **3200** | 55,06 | - | - |
| **500** | 104,65 | **1600** | 75,38 | **3400** | 53,22 | - | - |
| **600** | 100,64 | **1700** | 73,67 | **3600** | 51,48 | - | - |
| **700** | 97,04 | **1800** | 72,04 | **3800** | 49,82 | - | - |

**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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

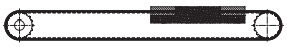
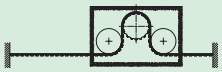
# RTD 14M



## Specialties

| Belt width b [mm] | HPL High Performance | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **40** | 14300 | 58500 |
| **55** | 19800 | 81000 |
| **75** | 27500 | 112500 |
| **85** | 30800 | 126000 |
| **100** | 35200 | 144000 |
| **115** | 41800 | 171000 |
| **150** | 55000 | 225000 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | |
|---|---|---|---|
| | | STANDARD | HPL |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 32 | 32 |
| | Flat idler running on belt teeth $d_{min}$ | 140 mm | 140 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 32 | 32 |
| | Flat idler running on belt back $d_{min}$ | 200 mm | 200 mm |

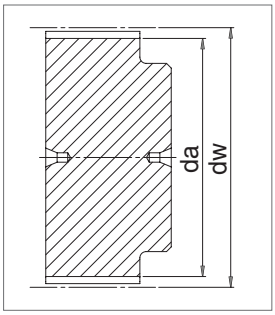
## Timing pulleys

| z | da | dw |
|---|---|---|
| **28** | 122,12 | 124,77 |
| **29** | 126,58 | 129,22 |
| **30** | 130,99 | 133,69 |
| **31** | 135,45 | 138,14 |
| **32** | 139,88 | 142,59 |
| **33** | 144,35 | 147,06 |
| **34** | 148,79 | 151,51 |
| **35** | 153,25 | 155,96 |
| **36** | 157,68 | 160,41 |
| **37** | 162,14 | 164,88 |
| **38** | 166,60 | 169,34 |
| **39** | 171,02 | 173,79 |
| **40** | 175,48 | 178,24 |
| **41** | 179,92 | 182,71 |
| **42** | 184,37 | 187,16 |
| **43** | 188,83 | 191,61 |
| **44** | 193,29 | 196,08 |
| **45** | 197,75 | 200,53 |
| **46** | 202,21 | 204,98 |
| **47** | 206,65 | 209,43 |
| **48** | 211,11 | 213,90 |
| **49** | 215,57 | 218,35 |
| **50** | 220,03 | 222,80 |
| **51** | 224,49 | 227,27 |
| **52** | 228,95 | 231,72 |
| **53** | 233,39 | 236,18 |
| **54** | 237,85 | 240,64 |
| **55** | 242,30 | 245,09 |
| **56** | 246,76 | 249,55 |
| **57** | 251,22 | 254,01 |

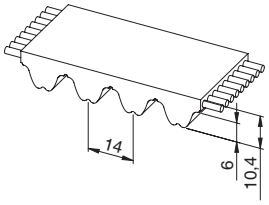
| z | da | dw |
|---|---|---|
| **58** | 255,68 | 258,46 |
| **59** | 260,14 | 262,91 |
| **60** | 264,60 | 267,38 |
| **61** | 269,04 | 271,83 |
| **62** | 273,50 | 276,28 |
| **63** | 277,96 | 280,75 |
| **64** | 282,42 | 285,20 |
| **65** | 286,88 | 289,65 |
| **66** | 291,32 | 294,11 |
| **67** | 295,78 | 298,56 |
| **68** | 300,24 | 303,03 |
| **69** | 304,70 | 307,48 |
| **70** | 309,16 | 311,93 |
| **71** | 313,61 | 316,40 |
| **72** | 318,07 | 320,85 |
| **73** | 322,53 | 325,30 |
| **74** | 326,98 | 329,77 |
| **75** | 331,44 | 334,22 |
| **76** | 335,90 | 338,67 |
| **77** | 340,34 | 343,12 |
| **78** | 344,80 | 347,59 |
| **79** | 349,26 | 352,04 |
| **80** | 353,72 | 356,49 |
| **81** | 358,17 | 360,96 |
| **82** | 362,63 | 365,41 |
| **83** | 367,09 | 369,86 |
| **84** | 371,54 | 374,33 |
| **85** | 376,00 | 378,78 |
| **86** | 380,46 | 383,23 |
| **87** | 384,91 | 387,70 |

| z | da | dw |
|---|---|---|
| **88** | 389,37 | 392,15 |
| **89** | 393,83 | 396,60 |
| **90** | 398,29 | 401,07 |
| **91** | 402,73 | 405,52 |
| **92** | 407,19 | 409,97 |
| **93** | 411,65 | 414,44 |
| **94** | 416,10 | 418,89 |
| **95** | 420,56 | 423,35 |
| **96** | 425,02 | 427,80 |
| **97** | 429,48 | 432,25 |
| **98** | 433,94 | 436,72 |
| **99** | 438,38 | 441,17 |
| **100** | 442,84 | 445,62 |
| **101** | 447,30 | 450,09 |
| **102** | 451,76 | 454,54 |
| **103** | 456,21 | 459,00 |
| **104** | 460,67 | 463,45 |
| **105** | 465,13 | 467,90 |
| **106** | 469,58 | 472,37 |
| **107** | 474,03 | 476,82 |
| **108** | 478,49 | 481,28 |
| **109** | 482,95 | 485,74 |
| **110** | 487,41 | 490,19 |
| **111** | 491,87 | 494,64 |
| **112** | 496,32 | 499,10 |
| **113** | 500,78 | 503,55 |
| **114** | 505,23 | 508,02 |
| **116** | 514,14 | 516,93 |
| **117** | 518,60 | 521,38 |
| **118** | 523,06 | 525,83 |

| z | da | dw |
|---|---|---|
| **119** | 527,51 | 530,30 |
| **120** | 531,97 | 534,75 |



# RTD 14M XHPL




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 14 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- PAZ fabric on tooth side delivered as standard reduces noise in the drive
- **RTD14M - XHPL is the ideal belt for heavy duty synchronous lifting applications. Black colour as standard.**

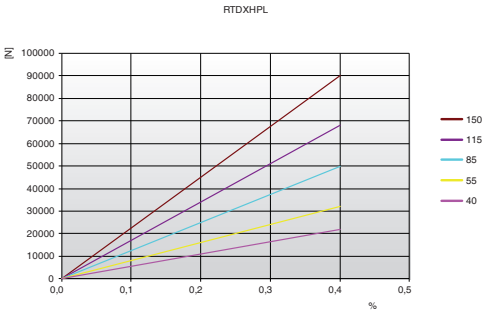
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **40** | 22000 | 77000 | 5500000 | 0,59 |
| **55** | 32000 | 112000 | 8000000 | 0,75 |
| **85** | 50000 | 175000 | 12500000 | 1,29 |
| **115** | 68000 | 238000 | 17000000 | 1,75 |
| **150** | 90000 | 315000 | 22500000 | 2,21 |

Other widths are available on request.

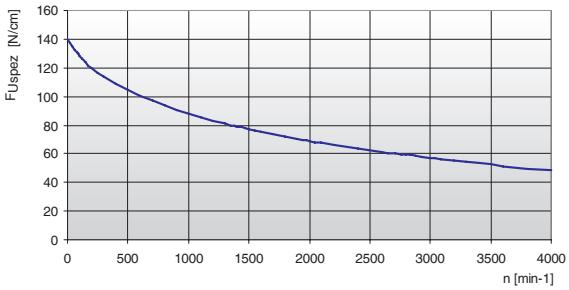
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 140,00 | **800** | 93,80 | **1900** | 70,49 | **4000** | 48,24 |
| **20** | 137,31 | **900** | 90,85 | **2000** | 69,01 | - | - |
| **40** | 134,83 | **1000** | 88,14 | **2200** | 66,23 | - | - |
| **60** | 132,53 | **1100** | 85,63 | **2400** | 63,68 | - | - |
| **80** | 130,42 | **1200** | 83,31 | **2600** | 61,30 | - | - |
| **100** | 128,46 | **1300** | 81,14 | **2800** | 59,09 | - | - |
| **200** | 119,77 | **1400** | 79,11 | **2880** | 58,24 | - | - |
| **300** | 114,29 | **1440** | 78,33 | **3000** | 57,01 | - | - |
| **400** | 109,19 | **1500** | 77,19 | **3200** | 55,06 | - | - |
| **500** | 104,65 | **1600** | 75,38 | **3400** | 53,22 | - | - |
| **600** | 100,64 | **1700** | 73,67 | **3600** | 51,48 | - | - |
| **700** | 97,04 | **1800** | 72,04 | **3800** | 49,82 | - | - |

### 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:

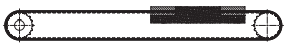
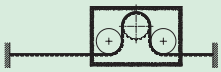
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# RTD 14M
# XHPL



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 34 |
|  | Flat idler running on belt teeth $d_{min}$ | 140 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 34 |
|  | Flat idler running on belt back $d_{min}$ | 250 mm |

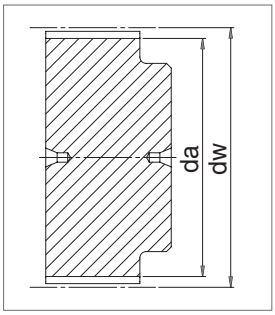
## Timing pulleys

| z | da | dw |
|---|---|---|
| **28** | 122,12 | 124,77 |
| **29** | 126,58 | 129,22 |
| **30** | 130,99 | 133,69 |
| **31** | 135,45 | 138,14 |
| **32** | 139,88 | 142,59 |
| **33** | 144,35 | 147,06 |
| **34** | 148,79 | 151,51 |
| **35** | 153,25 | 155,96 |
| **36** | 157,68 | 160,41 |
| **37** | 162,14 | 164,88 |
| **38** | 166,60 | 169,34 |
| **39** | 171,02 | 173,79 |
| **40** | 175,48 | 178,24 |
| **41** | 179,92 | 182,71 |
| **42** | 184,37 | 187,16 |
| **43** | 188,83 | 191,61 |
| **44** | 193,29 | 196,08 |
| **45** | 197,75 | 200,53 |
| **46** | 202,21 | 204,98 |
| **47** | 206,65 | 209,43 |
| **48** | 211,11 | 213,90 |
| **49** | 215,57 | 218,35 |
| **50** | 220,03 | 222,80 |
| **51** | 224,49 | 227,27 |
| **52** | 228,95 | 231,72 |
| **53** | 233,39 | 236,18 |
| **54** | 237,85 | 240,64 |
| **55** | 242,30 | 245,09 |
| **56** | 246,76 | 249,55 |
| **57** | 251,22 | 254,01 |

| z | da | dw |
|---|---|---|
| **58** | 255,68 | 258,46 |
| **59** | 260,14 | 262,91 |
| **60** | 264,60 | 267,38 |
| **61** | 269,04 | 271,83 |
| **62** | 273,50 | 276,28 |
| **63** | 277,96 | 280,75 |
| **64** | 282,42 | 285,20 |
| **65** | 286,88 | 289,65 |
| **66** | 291,32 | 294,11 |
| **67** | 295,78 | 298,56 |
| **68** | 300,24 | 303,03 |
| **69** | 304,70 | 307,48 |
| **70** | 309,16 | 311,93 |
| **71** | 313,61 | 316,40 |
| **72** | 318,07 | 320,85 |
| **73** | 322,53 | 325,30 |
| **74** | 326,98 | 329,77 |
| **75** | 331,44 | 334,22 |
| **76** | 335,90 | 338,67 |
| **77** | 340,34 | 343,12 |
| **78** | 344,80 | 347,59 |
| **79** | 349,26 | 352,04 |
| **80** | 353,72 | 356,49 |
| **81** | 358,17 | 360,96 |
| **82** | 362,63 | 365,41 |
| **83** | 367,09 | 369,86 |
| **84** | 371,54 | 374,33 |
| **85** | 376,00 | 378,78 |
| **86** | 380,46 | 383,23 |
| **87** | 384,91 | 387,70 |

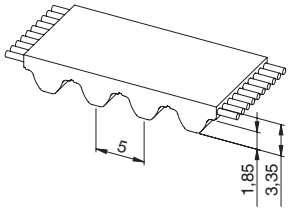
| z | da | dw |
|---|---|---|
| **88** | 389,37 | 392,15 |
| **89** | 393,83 | 396,60 |
| **90** | 398,29 | 401,07 |
| **91** | 402,73 | 405,52 |
| **92** | 407,19 | 409,97 |
| **93** | 411,65 | 414,44 |
| **94** | 416,10 | 418,89 |
| **95** | 420,56 | 423,35 |
| **96** | 425,02 | 427,80 |
| **97** | 429,48 | 432,25 |
| **98** | 433,94 | 436,72 |
| **99** | 438,38 | 441,17 |
| **100** | 442,84 | 445,62 |
| **101** | 447,30 | 450,09 |
| **102** | 451,76 | 454,54 |
| **103** | 456,21 | 459,00 |
| **104** | 460,67 | 463,45 |
| **105** | 465,13 | 467,90 |
| **106** | 469,58 | 472,37 |
| **107** | 474,03 | 476,82 |
| **108** | 478,49 | 481,28 |
| **109** | 482,95 | 485,74 |
| **110** | 487,41 | 490,19 |
| **111** | 491,87 | 494,64 |
| **112** | 496,32 | 499,10 |
| **113** | 500,78 | 503,55 |
| **114** | 505,23 | 508,02 |
| **116** | 514,14 | 516,93 |
| **117** | 518,60 | 521,38 |
| **118** | 523,06 | 525,83 |

| z | da | dw |
|---|---|---|
| **119** | 527,51 | 530,30 |
| **120** | 531,97 | 534,75 |




**Note**
Special pulley profile required.
Contact ELATECH Technical Dept. for details.

# STD 5M




**Belt characteristics**

- Polyurethane timing belt with involute tooth, high tensile load steel cords and high torque capacity
- Tooth profile according to ISO 13050
- Metric pitch 5 mm
- Low noise generation in high speed drives
- Offers excellent operational reliability in linear positioning and light power transmission applications
- The special profile allows smooth running properties

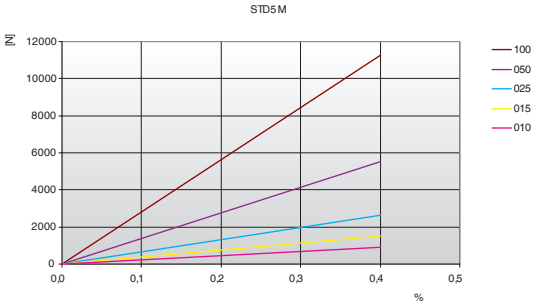
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 920 | 460 | 3360 | 230000 | 0,05 |
| **15** | 1500 | 750 | 5460 | 375000 | 0,07 |
| **25** | 2650 | 1325 | 9660 | 662500 | 0,12 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,23 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,46 |

Other widths are available on request.

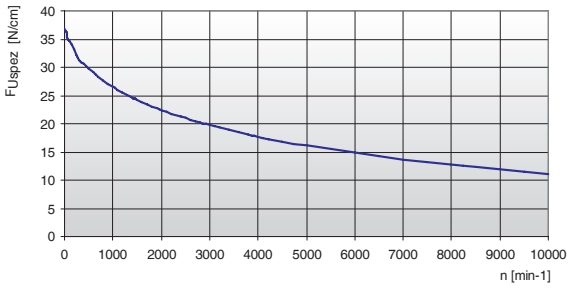
**Load / Elongation [ % ]**




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 36,90 | **800** | 27,71 | **1900** | 22,74 | **4500** | 16,90 |
| **20** | 36,35 | **900** | 27,11 | **2000** | 22,41 | **5000** | 16,14 |
| **40** | 35,85 | **1000** | 26,55 | **2200** | 21,80 | **5500** | 15,45 |
| **60** | 35,40 | **1100** | 26,02 | **2400** | 21,22 | **6000** | 14,82 |
| **80** | 34,99 | **1200** | 25,53 | **2600** | 20,69 | **6500** | 14,24 |
| **100** | 34,62 | **1300** | 25,06 | **2800** | 20,19 | **7000** | 13,69 |
| **200** | 33,23 | **1400** | 24,63 | **3000** | 19,73 | **7500** | 13,18 |
| **300** | 31,37 | **1440** | 24,46 | **3200** | 19,28 | **8000** | 12,70 |
| **400** | 30,60 | **1500** | 24,21 | **3400** | 18,87 | **8500** | 12,25 |
| **500** | 29,81 | **1600** | 23,82 | **3600** | 18,47 | **9000** | 11,83 |
| **600** | 29,06 | **1700** | 23,44 | **3800** | 18,09 | **9500** | 11,42 |
| **700** | 28,36 | **1800** | 23,08 | **4000** | 17,73 | **10000** | 11,03 |

**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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

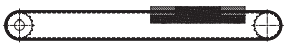
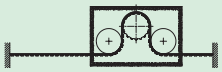
# STD 5M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HFE High Flexibility | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 880 | 3600 | 600 | 2400 | 960 | 3440 |
| **15** | 1430 | 5850 | 980 | 3900 | 1560 | 5590 |
| **25** | 2530 | 10350 | 1730 | 6900 | 2760 | 9890 |
| **50** | 5280 | 21600 | 3600 | 14400 | 5760 | 20640 |
| **100** | 10780 | 44100 | - | - | - | - |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | STANDARD | ARAMID | STAINLESS | HFE |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 16 | 16 | 18 | 15 |
| | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm | 40 mm | 40 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 | 25 | 25 | 20 |
| | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm | 65 mm | 40 mm |

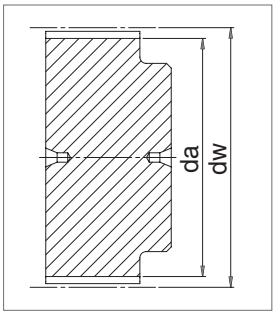
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 14,95 | 15,91 |
| **11** | 16,54 | 17,50 |
| **12** | 18,14 | 19,10 |
| **13** | 19,73 | 20,69 |
| **14** | 21,32 | 22,28 |
| **15** | 22,91 | 23,87 |
| **16** | 24,51 | 25,47 |
| **17** | 26,10 | 27,06 |
| **18** | 27,69 | 28,65 |
| **19** | 29,27 | 30,23 |
| **20** | 30,87 | 31,83 |
| **21** | 32,46 | 33,42 |
| **22** | 34,05 | 35,01 |
| **23** | 35,65 | 36,61 |
| **24** | 37,23 | 38,19 |
| **25** | 38,83 | 39,79 |
| **26** | 40,42 | 41,38 |
| **27** | 42,01 | 42,97 |
| **28** | 43,60 | 44,56 |
| **29** | 45,19 | 46,15 |
| **30** | 46,79 | 47,75 |
| **31** | 48,38 | 49,34 |
| **32** | 49,97 | 50,93 |
| **33** | 51,56 | 52,52 |
| **34** | 53,15 | 54,11 |
| **35** | 54,75 | 55,71 |
| **36** | 56,34 | 57,30 |
| **37** | 57,93 | 58,89 |
| **38** | 59,52 | 60,48 |
| **39** | 61,11 | 62,07 |

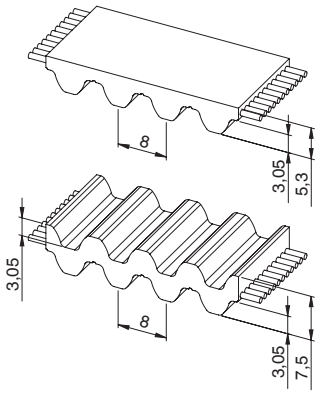
| z | da | dw |
|---|---|---|
| **40** | 62,70 | 63,66 |
| **41** | 64,30 | 65,26 |
| **42** | 65,89 | 66,85 |
| **43** | 67,48 | 68,44 |
| **44** | 69,07 | 70,03 |
| **45** | 70,66 | 71,62 |
| **46** | 72,25 | 73,21 |
| **47** | 73,84 | 74,80 |
| **48** | 75,43 | 76,39 |
| **49** | 77,03 | 77,99 |
| **50** | 78,62 | 79,58 |
| **51** | 80,21 | 81,17 |
| **52** | 81,80 | 82,76 |
| **53** | 83,39 | 84,35 |
| **54** | 84,99 | 85,95 |
| **55** | 86,58 | 87,54 |
| **56** | 88,17 | 89,13 |
| **57** | 89,76 | 90,72 |
| **58** | 91,35 | 92,31 |
| **59** | 92,94 | 93,90 |
| **60** | 94,53 | 95,49 |
| **61** | 96,13 | 97,09 |
| **62** | 97,72 | 98,68 |
| **63** | 99,31 | 100,27 |
| **64** | 100,90 | 101,86 |
| **65** | 102,49 | 103,45 |
| **66** | 104,08 | 105,04 |
| **67** | 105,67 | 106,63 |
| **68** | 107,27 | 108,23 |
| **69** | 108,86 | 109,82 |

| z | da | dw |
|---|---|---|
| **70** | 110,45 | 111,41 |
| **71** | 112,04 | 113,00 |
| **72** | 113,63 | 114,59 |
| **73** | 115,23 | 116,19 |
| **74** | 116,82 | 117,78 |
| **75** | 118,41 | 119,37 |
| **76** | 120,00 | 120,96 |
| **77** | 121,59 | 122,55 |
| **78** | 123,18 | 124,14 |
| **79** | 124,77 | 125,73 |
| **80** | 126,36 | 127,32 |
| **81** | 127,95 | 128,91 |
| **82** | 129,54 | 130,50 |
| **83** | 131,14 | 132,10 |
| **84** | 132,73 | 133,69 |
| **85** | 134,32 | 135,28 |
| **86** | 135,91 | 136,87 |
| **87** | 137,51 | 138,47 |
| **88** | 139,09 | 140,05 |
| **89** | 140,69 | 141,65 |
| **90** | 142,28 | 143,24 |
| **91** | 143,87 | 144,83 |
| **92** | 145,46 | 146,42 |
| **93** | 147,05 | 148,01 |
| **94** | 148,64 | 149,60 |
| **95** | 150,24 | 151,20 |
| **96** | 151,83 | 152,71 |
| **97** | 153,42 | 154,38 |
| **98** | 155,01 | 155,97 |
| **99** | 156,60 | 157,56 |

| z | da | dw |
|---|---|---|
| **100** | 158,19 | 159,15 |
| **101** | 159,79 | 160,75 |
| **102** | 161,38 | 162,34 |
| **103** | 162,99 | 163,95 |
| **104** | 164,56 | 165,52 |
| **105** | 166,15 | 167,11 |
| **106** | 167,74 | 168,70 |
| **107** | 169,34 | 170,3 |
| **108** | 170,93 | 171,89 |
| **109** | 172,52 | 173,48 |
| **110** | 174,10 | 175,06 |
| **111** | 175,7 | 176,66 |
| **112** | 177,29 | 178,25 |
| **113** | 178,88 | 179,84 |
| **114** | 180,47 | 181,43 |
| **115** | 182,06 | 183,02 |
| **116** | 183,65 | 184,61 |
| **117** | 185,25 | 186,21 |
| **118** | 186,84 | 187,8 |
| **119** | 188,43 | 189,39 |
| **120** | 190,02 | 190,98 |



# STD 8M




**Belt characteristics**

- Polyurethane timing belt with involute tooth, high tensile load steel cords and high torque capacity
- Tooth profile according to ISO 13050
- Metric pitch 8 mm
- Low noise generation in high speed drives
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- Widely used in automatic doors
- The special profile allows smooth running properties

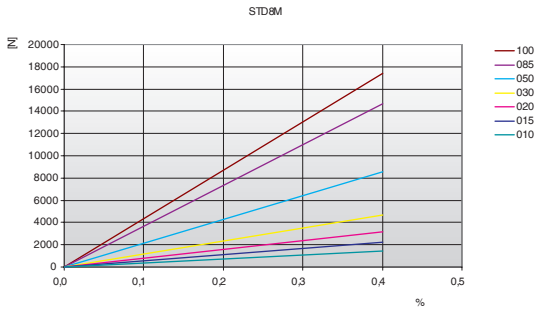
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 1470 | 735 | 5700 | 367500 | 0,07 |
| **15** | 2210 | 1105 | 8550 | 552500 | 0,10 |
| **20** | 3190 | 1595 | 12350 | 797500 | 0,13 |
| **30** | 4660 | 2330 | 18050 | 1165000 | 0,20 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,33 |
| **85** | 14700 | 7350 | 57000 | 3675000 | 0,56 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,66 |

Other widths are available on request.

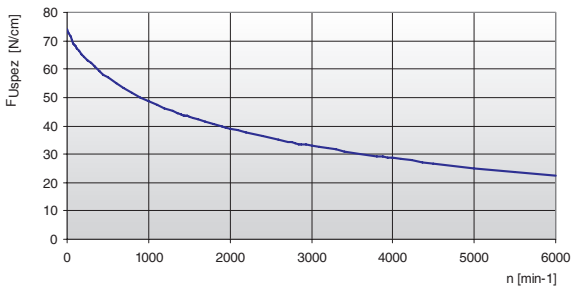
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 74,10 | **800** | 51,53 | **1900** | 39,76 | **4500** | 26,79 |
| **20** | 73,05 | **900** | 50,03 | **2000** | 39,02 | **5000** | 25,14 |
| **40** | 72,06 | **1000** | 48,66 | **2200** | 37,62 | **5500** | 23,65 |
| **60** | 71,13 | **1100** | 47,39 | **2400** | 36,34 | **6000** | 22,28 |
| **80** | 70,26 | **1200** | 46,22 | **2600** | 35,15 | - | - |
| **100** | 69,43 | **1300** | 45,12 | **2800** | 34,04 | - | - |
| **200** | 65,98 | **1400** | 44,10 | **3000** | 33,00 | - | - |
| **300** | 62,11 | **1440** | 43,70 | **3200** | 32,02 | - | - |
| **400** | 59,43 | **1500** | 43,13 | **3400** | 31,10 | - | - |
| **500** | 57,08 | **1600** | 42,22 | **3600** | 30,23 | - | - |
| **600** | 55,02 | **1700** | 41,36 | **3800** | 29,40 | - | - |
| **700** | 53,18 | **1800** | 40,54 | **4000** | 28,61 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

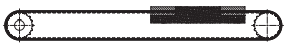
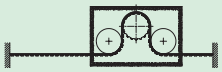
# STD 8M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HPL High Performance | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 1320 | 6000 | 1080 | 4500 | - | - |
| **15** | 1980 | 9000 | 1620 | 6750 | - | - |
| **20** | 2860 | 13000 | 2340 | 9750 | 5280 | 19250 |
| **30** | 4180 | 19000 | 3420 | 14250 | 8160 | 29750 |
| **50** | 7700 | 35000 | 6300 | 26250 | 14400 | 52500 |
| **85** | 13200 | 60000 | 10800 | 45000 | 24480 | 89250 |
| **100** | 15620 | 71000 | 12780 | 53250 | 29280 | 106750 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | | |
|---|---|---|---|---|---|
| | | **STANDARD** | **ARAMID** | **STAINLESS** | **HPL** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 18 | 18 | 24 | 30 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm | 50 mm | 70 mm | 80 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 30 | 30 | 40 | 30 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 120 mm | 150 mm |

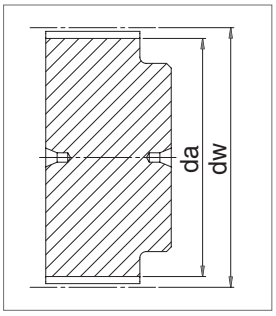
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 44,46 | 45,83 |
| **19** | 47,01 | 48,38 |
| **20** | 49,56 | 50,93 |
| **21** | 52,10 | 53,47 |
| **22** | 54,65 | 56,02 |
| **23** | 57,20 | 58,57 |
| **24** | 59,75 | 61,12 |
| **25** | 62,29 | 63,66 |
| **26** | 64,84 | 66,21 |
| **27** | 67,38 | 68,75 |
| **28** | 70,08 | 71,30 |
| **29** | 72,59 | 73,84 |
| **30** | 75,13 | 76,39 |
| **31** | 77,65 | 78,94 |
| **32** | 80,16 | 81,49 |
| **33** | 82,68 | 84,03 |
| **34** | 85,21 | 86,58 |
| **35** | 87,76 | 89,12 |
| **36** | 90,30 | 91,67 |
| **37** | 92,85 | 94,22 |
| **38** | 95,40 | 96,77 |
| **39** | 97,94 | 99,31 |
| **40** | 100,49 | 101,86 |
| **41** | 103,04 | 104,40 |
| **42** | 105,58 | 106,95 |
| **43** | 108,13 | 109,50 |
| **44** | 110,68 | 112,05 |
| **45** | 113,22 | 114,59 |
| **46** | 115,77 | 117,14 |
| **47** | 118,31 | 119,68 |

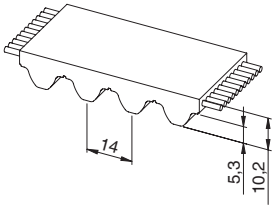
| z | da | dw |
|---|---|---|
| **48** | 120,86 | 122,23 |
| **49** | 123,40 | 124,77 |
| **50** | 125,95 | 127,32 |
| **51** | 128,50 | 129,87 |
| **52** | 131,05 | 132,41 |
| **53** | 133,59 | 134,96 |
| **54** | 136,14 | 137,51 |
| **55** | 138,68 | 140,05 |
| **56** | 141,23 | 142,60 |
| **57** | 143,78 | 145,15 |
| **58** | 146,32 | 147,69 |
| **59** | 148,87 | 150,24 |
| **60** | 151,42 | 152,79 |
| **61** | 153,96 | 155,33 |
| **62** | 156,52 | 157,89 |
| **63** | 159,06 | 160,43 |
| **64** | 161,60 | 162,97 |
| **65** | 164,15 | 165,52 |
| **66** | 166,69 | 168,06 |
| **67** | 169,24 | 170,61 |
| **68** | 171,79 | 173,16 |
| **69** | 174,33 | 175,70 |
| **70** | 176,88 | 178,25 |
| **71** | 179,43 | 180,8 |
| **72** | 181,98 | 183,35 |
| **73** | 184,52 | 185,89 |
| **74** | 187,07 | 188,44 |
| **75** | 189,61 | 190,98 |
| **76** | 192,16 | 193,53 |
| **77** | 194,71 | 196,08 |

| z | da | dw |
|---|---|---|
| **78** | 197,25 | 198,62 |
| **79** | 199,80 | 201,17 |
| **80** | 202,35 | 203,72 |
| **81** | 204,89 | 206,26 |
| **82** | 207,44 | 208,81 |
| **83** | 209,98 | 211,35 |
| **84** | 212,53 | 213,90 |
| **85** | 215,08 | 216,45 |
| **86** | 217,63 | 219,00 |
| **87** | 220,17 | 221,54 |
| **88** | 222,72 | 224,09 |
| **89** | 225,26 | 226,63 |
| **90** | 227,81 | 229,18 |
| **91** | 230,35 | 231,72 |
| **92** | 232,90 | 234,27 |
| **93** | 235,45 | 236,82 |
| **94** | 238,00 | 239,37 |
| **95** | 240,54 | 241,91 |
| **96** | 243,09 | 244,46 |
| **97** | 245,63 | 247,00 |
| **98** | 248,18 | 249,55 |
| **99** | 250,73 | 252,10 |
| **100** | 253,28 | 254,67 |
| **101** | 255,82 | 257,19 |
| **102** | 258,37 | 259,74 |
| **103** | 260,91 | 262,28 |
| **104** | 263,46 | 264,83 |
| **105** | 266,01 | 267,38 |
| **106** | 268,55 | 269,92 |
| **107** | 271,10 | 272,47 |

| z | da | dw |
|---|---|---|
| **108** | 273,64 | 275,01 |
| **109** | 276,19 | 277,56 |
| **110** | 278,74 | 280,11 |
| **111** | 281,29 | 282,66 |
| **112** | 283,84 | 285,21 |
| **113** | 286,38 | 287,75 |
| **114** | 288,93 | 290,30 |
| **115** | 291,47 | 292,84 |
| **116** | 294,02 | 295,39 |
| **117** | 296,57 | 297,94 |
| **118** | 299,11 | 300,48 |
| **119** | 301,66 | 303,03 |
| **120** | 304,20 | 305,57 |



# STD 14M




**Belt characteristics**

- Polyurethane timing belt with involute tooth, high tensile load steel cords and high torque capacity
- Tooth profile according to ISO 13050
- Metric pitch 14 mm
- Low noise generation in high speed drives
- Tension cords with increased tensile load for lower elongation
- Superior perfomance in lifting applications
- The special profile allows smooth running properties

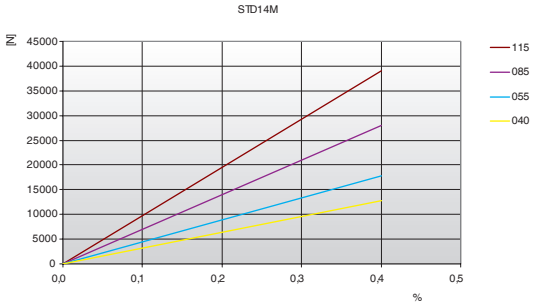
| | |
|---|---|
| • Width tolerance: | ±1,0 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **40** | 12750 | 6375 | 48000 | 3187500 | 0,50 |
| **55** | 17850 | 8925 | 67200 | 4462500 | 0,70 |
| **85** | 28050 | 14025 | 105600 | 7012500 | 1,08 |
| **115** | 39100 | 19550 | 147200 | 9775000 | 1,48 |

Other widths are available on request.

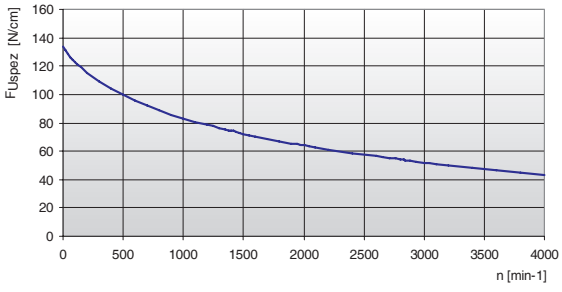
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 134,00 | **800** | 88,80 | **1900** | 65,49 | **4000** | 43,24 |
| **20** | 131,31 | **900** | 85,85 | **2000** | 64,01 | - | - |
| **40** | 128,83 | **1000** | 83,14 | **2200** | 61,23 | - | - |
| **60** | 126,53 | **1100** | 80,63 | **2400** | 58,68 | - | - |
| **80** | 124,42 | **1200** | 78,31 | **2600** | 56,30 | - | - |
| **100** | 122,46 | **1300** | 76,14 | **2800** | 54,09 | - | - |
| **200** | 114,77 | **1400** | 74,11 | **2880** | 53,24 | - | - |
| **300** | 109,29 | **1440** | 73,33 | **3000** | 52,01 | - | - |
| **400** | 104,19 | **1500** | 72,19 | **3200** | 50,06 | - | - |
| **500** | 99,65 | **1600** | 70,38 | **3400** | 48,22 | - | - |
| **600** | 95,64 | **1700** | 68,67 | **3600** | 46,48 | - | - |
| **700** | 92,04 | **1800** | 67,04 | **3800** | 44,82 | - | - |

### 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:

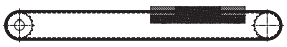
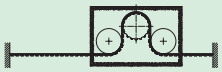
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# STD 14M



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 32 |
|  | Flat idler running on belt teeth $d_{min}$ | 140 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 32 |
|  | Flat idler running on belt back $d_{min}$ | 250 mm |

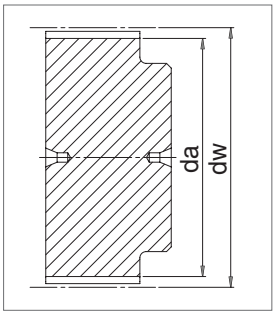
## Timing pulleys

| z | da | dw |
|---|---|---|
| **28** | 122,12 | 124,77 |
| **29** | 126,58 | 129,22 |
| **30** | 130,99 | 133,69 |
| **31** | 135,45 | 138,14 |
| **32** | 139,88 | 142,59 |
| **33** | 144,35 | 147,06 |
| **34** | 148,79 | 151,51 |
| **35** | 153,25 | 155,96 |
| **36** | 157,68 | 160,41 |
| **37** | 162,14 | 164,88 |
| **38** | 166,60 | 169,34 |
| **39** | 171,02 | 173,79 |
| **40** | 175,48 | 178,24 |
| **41** | 179,92 | 182,71 |
| **42** | 184,37 | 187,16 |
| **43** | 188,83 | 191,61 |
| **44** | 193,29 | 196,08 |
| **45** | 197,75 | 200,53 |
| **46** | 202,21 | 204,98 |
| **47** | 206,65 | 209,43 |
| **48** | 211,11 | 213,90 |
| **49** | 215,57 | 218,35 |
| **50** | 220,03 | 222,80 |
| **51** | 224,49 | 227,27 |
| **52** | 228,95 | 231,72 |
| **53** | 233,39 | 236,18 |
| **54** | 237,85 | 240,64 |
| **55** | 242,30 | 245,09 |
| **56** | 246,76 | 249,55 |
| **57** | 251,22 | 254,01 |

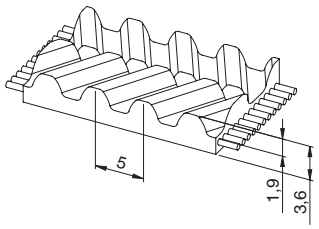
| z | da | dw |
|---|---|---|
| **58** | 255,68 | 258,46 |
| **59** | 260,14 | 262,91 |
| **60** | 264,60 | 267,38 |
| **61** | 269,04 | 271,83 |
| **62** | 273,50 | 276,28 |
| **63** | 277,96 | 280,75 |
| **64** | 282,42 | 285,20 |
| **65** | 286,88 | 289,65 |
| **66** | 291,32 | 294,11 |
| **67** | 295,78 | 298,56 |
| **68** | 300,24 | 303,03 |
| **69** | 304,70 | 307,48 |
| **70** | 309,16 | 311,93 |
| **71** | 313,61 | 316,40 |
| **72** | 318,07 | 320,85 |
| **73** | 322,53 | 325,30 |
| **74** | 326,98 | 329,77 |
| **75** | 331,44 | 334,22 |
| **76** | 335,90 | 338,67 |
| **77** | 340,34 | 343,12 |
| **78** | 344,80 | 347,59 |
| **79** | 349,26 | 352,04 |
| **80** | 353,72 | 356,49 |
| **81** | 358,17 | 360,96 |
| **82** | 362,63 | 365,41 |
| **83** | 367,09 | 369,86 |
| **84** | 371,54 | 374,33 |
| **85** | 376,00 | 378,78 |
| **86** | 380,46 | 383,23 |
| **87** | 384,91 | 387,70 |

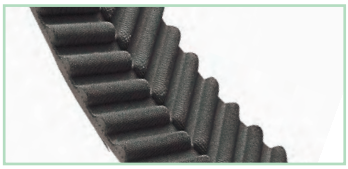
| z | da | dw |
|---|---|---|
| **88** | 389,37 | 392,15 |
| **89** | 393,83 | 396,60 |
| **90** | 398,29 | 401,07 |
| **91** | 402,73 | 405,52 |
| **92** | 407,19 | 409,97 |
| **93** | 411,65 | 414,44 |
| **94** | 416,10 | 418,89 |
| **95** | 420,56 | 423,35 |
| **96** | 425,02 | 427,80 |
| **97** | 429,48 | 432,25 |
| **98** | 433,94 | 436,72 |
| **99** | 438,38 | 441,17 |
| **100** | 442,84 | 445,62 |
| **101** | 447,30 | 450,09 |
| **102** | 451,76 | 454,54 |
| **103** | 456,21 | 459,00 |
| **104** | 460,67 | 463,45 |
| **105** | 465,13 | 467,90 |
| **106** | 469,58 | 472,37 |
| **107** | 474,03 | 476,82 |
| **108** | 478,49 | 481,28 |
| **109** | 482,95 | 485,74 |
| **110** | 487,41 | 490,19 |
| **111** | 491,87 | 494,64 |
| **112** | 496,32 | 499,10 |
| **113** | 500,78 | 503,55 |
| **114** | 505,23 | 508,02 |
| **116** | 514,14 | 516,93 |
| **117** | 518,60 | 521,38 |
| **118** | 523,06 | 525,83 |

| z | da | dw |
|---|---|---|
| **119** | 527,51 | 530,30 |
| **120** | 531,97 | 534,75 |



# EAGLE 5M



**Belt characteristics**

- Polyurethane timing belt with helical offset tooth, high tensile load steel cords and high torque capacity
- **Self tracking no need of pulley flanges**
- Metric pitch 5 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- The special profile allows most compact drive
- Black colour and black fabric on tooth side (PAZ) as standard

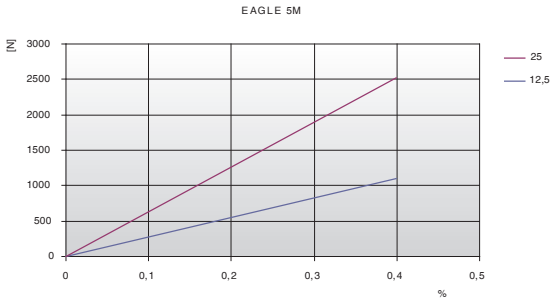
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **12,5** | 1150 | 575 | 4200 | 287500 | 0,06 |
| **25** | 2530 | 1265 | 9240 | 632500 | 0,12 |

Other widths are available on request.

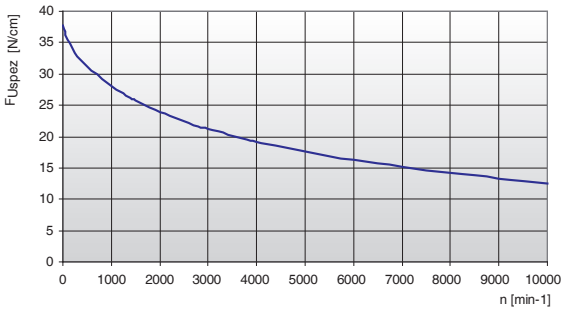
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 37,80 | **900** | 28,61 | **2200** | 23,30 | **5500** | 16,95 |
| **20** | 37,25 | **1000** | 28,05 | **2400** | 22,72 | **6000** | 16,32 |
| **40** | 36,75 | **1100** | 27,52 | **2600** | 22,19 | **6500** | 15,74 |
| **60** | 36,30 | **1200** | 27,03 | **2800** | 21,69 | **7000** | 15,19 |
| **80** | 35,89 | **1300** | 26,56 | **2880** | 21,50 | **7500** | 14,68 |
| **100** | 35,52 | **1400** | 26,13 | **3000** | 21,23 | **8000** | 14,20 |
| **200** | 34,13 | **1440** | 25,96 | **3200** | 20,78 | **8500** | 13,75 |
| **300** | 32,87 | **1500** | 25,71 | **3400** | 20,37 | **9000** | 13,33 |
| **400** | 32,10 | **1600** | 25,32 | **3600** | 19,97 | **9500** | 12,92 |
| **500** | 31,31 | **1700** | 24,94 | **3800** | 19,59 | **10000** | 12,53 |
| **600** | 30,56 | **1800** | 24,58 | **4000** | 19,23 | - | - |
| **700** | 29,86 | **1900** | 24,24 | **4500** | 18,40 | - | - |
| **800** | 29,21 | **2000** | 23,91 | **5000** | 17,64 | - | - |

### 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:

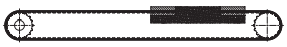
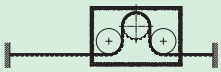
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# EAGLE 5M



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending  | Timing pulley $z_{min}$ | 16 |
| | Flat idler running on belt teeth $d_{min}$ | 30 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 |
| | Flat idler running on belt back $d_{min}$ | 60 mm |

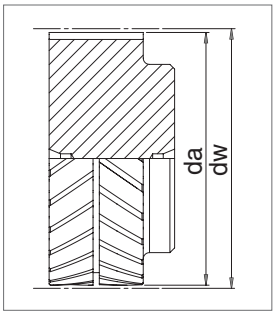
## Timing pulleys

| z | da | dw |
|---|---|---|
| **10** | 14,95 | 15,91 |
| **11** | 16,54 | 17,50 |
| **12** | 18,14 | 19,10 |
| **13** | 19,73 | 20,69 |
| **14** | 21,32 | 22,28 |
| **15** | 22,91 | 23,87 |
| **16** | 24,51 | 25,47 |
| **17** | 26,10 | 27,06 |
| **18** | 27,69 | 28,65 |
| **19** | 29,27 | 30,23 |
| **20** | 30,87 | 31,83 |
| **21** | 32,46 | 33,42 |
| **22** | 34,05 | 35,01 |
| **23** | 35,65 | 36,61 |
| **24** | 37,23 | 38,19 |
| **25** | 38,83 | 39,79 |
| **26** | 40,42 | 41,38 |
| **27** | 42,01 | 42,97 |
| **28** | 43,60 | 44,56 |
| **29** | 45,19 | 46,15 |
| **30** | 46,79 | 47,75 |
| **31** | 48,38 | 49,34 |
| **32** | 49,97 | 50,93 |
| **33** | 51,56 | 52,52 |
| **34** | 53,15 | 54,11 |
| **35** | 54,75 | 55,71 |
| **36** | 56,34 | 57,30 |
| **37** | 57,93 | 58,89 |
| **38** | 59,52 | 60,48 |
| **39** | 61,11 | 62,07 |

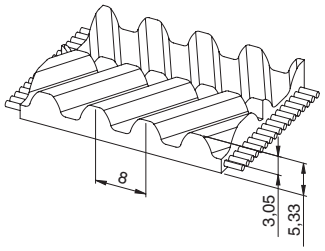
| z | da | dw |
|---|---|---|
| **40** | 62,70 | 63,66 |
| **41** | 64,30 | 65,26 |
| **42** | 65,89 | 66,85 |
| **43** | 67,48 | 68,44 |
| **44** | 69,07 | 70,03 |
| **45** | 70,66 | 71,62 |
| **46** | 72,25 | 73,21 |
| **47** | 73,84 | 74,80 |
| **48** | 75,43 | 76,39 |
| **49** | 77,03 | 77,99 |
| **50** | 78,62 | 79,58 |
| **51** | 80,21 | 81,17 |
| **52** | 81,80 | 82,76 |
| **53** | 83,39 | 84,35 |
| **54** | 84,99 | 85,95 |
| **55** | 86,58 | 87,54 |
| **56** | 88,17 | 89,13 |
| **57** | 89,76 | 90,72 |
| **58** | 91,35 | 92,31 |
| **59** | 92,94 | 93,90 |
| **60** | 94,53 | 95,49 |
| **61** | 96,13 | 97,09 |
| **62** | 97,72 | 98,68 |
| **63** | 99,31 | 100,27 |
| **64** | 100,90 | 101,86 |
| **65** | 102,49 | 103,45 |
| **66** | 104,08 | 105,04 |
| **67** | 105,67 | 106,63 |
| **68** | 107,27 | 108,23 |
| **69** | 108,86 | 109,82 |

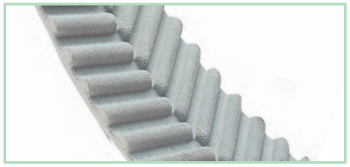
| z | da | dw |
|---|---|---|
| **70** | 110,45 | 111,41 |
| **71** | 112,04 | 113,00 |
| **72** | 113,63 | 114,59 |
| **73** | 115,23 | 116,19 |
| **74** | 116,82 | 117,78 |
| **75** | 118,41 | 119,37 |
| **76** | 120,00 | 120,96 |
| **77** | 121,59 | 122,55 |
| **78** | 123,18 | 124,14 |
| **79** | 124,77 | 125,73 |
| **80** | 126,36 | 127,32 |
| **81** | 127,95 | 128,91 |
| **82** | 129,54 | 130,50 |
| **83** | 131,14 | 132,10 |
| **84** | 132,73 | 133,69 |
| **85** | 134,32 | 135,28 |
| **86** | 135,91 | 136,87 |
| **87** | 137,51 | 138,47 |
| **88** | 139,09 | 140,05 |
| **89** | 140,69 | 141,65 |
| **90** | 142,28 | 143,24 |
| **91** | 143,87 | 144,83 |
| **92** | 145,46 | 146,42 |
| **93** | 147,05 | 148,01 |
| **94** | 148,64 | 149,60 |
| **95** | 150,24 | 151,20 |
| **96** | 151,83 | 152,71 |
| **97** | 153,42 | 154,38 |
| **98** | 155,01 | 155,97 |
| **99** | 156,60 | 157,56 |

| z | da | dw |
|---|---|---|
| **100** | 158,19 | 159,15 |
| **101** | 159,79 | 160,75 |
| **102** | 161,38 | 162,34 |
| **103** | 162,99 | 163,95 |
| **104** | 164,56 | 165,52 |
| **105** | 166,15 | 167,11 |
| **106** | 167,74 | 168,70 |
| **107** | 169,34 | 170,30 |
| **108** | 170,93 | 171,89 |
| **109** | 172,52 | 173,48 |
| **110** | 174,1 | 175,06 |
| **111** | 175,7 | 176,66 |
| **112** | 177,29 | 178,25 |
| **113** | 178,88 | 179,84 |
| **114** | 180,47 | 181,43 |
| **115** | 182,06 | 183,02 |
| **116** | 183,65 | 184,61 |
| **117** | 185,25 | 186,21 |
| **118** | 186,84 | 187,8 |
| **119** | 188,43 | 189,39 |
| **120** | 190,02 | 190,98 |



# EAGLE 8M



**Belt characteristics**

- Polyurethane timing belt with helical offset tooth, high tensile load steel cords and high torque capacity
- **Self tracking no need of pulley flanges**
- Metric pitch 8 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- The special profile allows most compact drive
- White colour and grey fabric on tooth side (PAZ) as standard

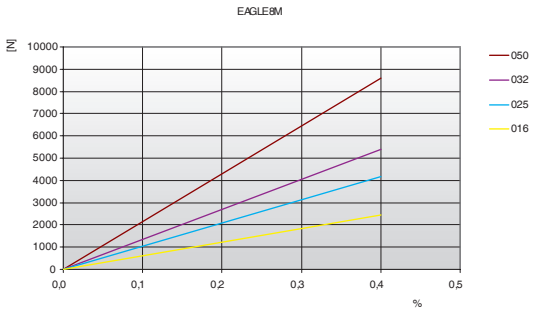
- Width tolerance: ±0,8 [mm]
- Length tolerance: ±0,8 [mm/m]
- Thickness tolerance: ±0,3 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **16** | 2450 | 1200 | 9500 | 612500 | 0,085 |
| **25** | 4170 | 2100 | 16150 | 1042500 | 0,145 |
| **32** | 5390 | 2700 | 20900 | 1347500 | 0,180 |
| **50** | 8580 | 4300 | 33250 | 2145000 | 0,300 |

Other widths are available on request.

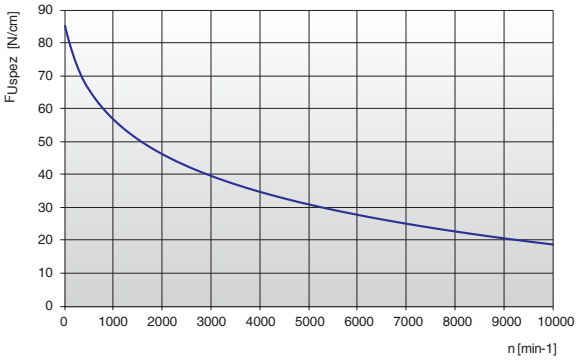
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 85,00 | **800** | 59,66 | **1900** | 46,95 | **4500** | 32,75 |
| **20** | 83,78 | **900** | 58,05 | **2000** | 46,14 | **5000** | 30,94 |
| **40** | 82,62 | **1000** | 56,58 | **2200** | 44,62 | **5500** | 29,30 |
| **60** | 81,49 | **1100** | 55,22 | **2400** | 43,22 | **6000** | 27,79 |
| **80** | 80,42 | **1200** | 53,95 | **2600** | 41,91 | **6500** | 26,40 |
| **100** | 79,38 | **1300** | 52,77 | **2800** | 40,70 | **7000** | 25,11 |
| **200** | 74,78 | **1400** | 51,66 | **3000** | 39,56 | **7500** | 23,90 |
| **300** | 71,01 | **1440** | 51,23 | **3200** | 38,49 | **8000** | 22,77 |
| **400** | 67,93 | **1500** | 50,61 | **3400** | 37,48 | **8500** | 21,70 |
| **500** | 65,52 | **1600** | 49,62 | **3600** | 36,52 | **9000** | 20,69 |
| **600** | 63,36 | **1700** | 48,69 | **3800** | 35,61 | **9500** | 19,73 |
| **700** | 61,42 | **1800** | 47,80 | **4000** | 34,75 | **10000** | 18,82 |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

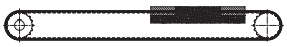
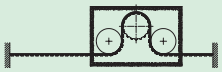
# EAGLE 8M



## Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | | HPL High Performance | |
|---|---|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **16** | 2200 | 10000 | 1800 | 7500 | 3840 | 14000 |
| **25** | 3740 | 17000 | 3060 | 12750 | 6720 | 24500 |
| **32** | 4840 | 22000 | 3960 | 16500 | 8640 | 31500 |
| **50** | 7700 | 35000 | 6300 | 26250 | 14400 | 52500 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | | |
|---|---|---|---|---|
| | | **STANDARD** | **STAINLESS** | **HPL** |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 20 | 24 | 30 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm | 70 mm | 80 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 30 | 40 | 30 |
| | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm | 150 mm |

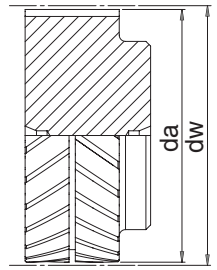
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 44,46 | 45,83 |
| **19** | 47,01 | 48,38 |
| **20** | 49,56 | 50,93 |
| **21** | 52,10 | 53,47 |
| **22** | 54,65 | 56,02 |
| **23** | 57,20 | 58,57 |
| **24** | 59,75 | 61,12 |
| **25** | 62,29 | 63,66 |
| **26** | 64,84 | 66,21 |
| **27** | 67,38 | 68,75 |
| **28** | 70,08 | 71,30 |
| **29** | 72,59 | 73,84 |
| **30** | 75,13 | 76,39 |
| **31** | 77,65 | 78,94 |
| **32** | 80,16 | 81,49 |
| **33** | 82,68 | 84,03 |
| **34** | 85,21 | 86,58 |
| **35** | 87,76 | 89,12 |
| **36** | 90,30 | 91,67 |
| **37** | 92,85 | 94,22 |
| **38** | 95,40 | 96,77 |
| **39** | 97,94 | 99,31 |
| **40** | 100,49 | 101,86 |
| **41** | 103,04 | 104,40 |
| **42** | 105,58 | 106,95 |
| **43** | 108,13 | 109,50 |
| **44** | 110,68 | 112,05 |
| **45** | 113,22 | 114,59 |
| **46** | 115,77 | 117,14 |
| **47** | 118,31 | 119,68 |

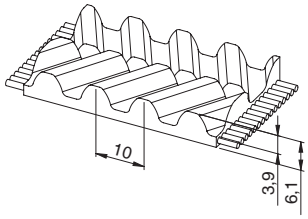
| z | da | dw |
|---|---|---|
| **48** | 120,86 | 122,23 |
| **49** | 123,40 | 124,77 |
| **50** | 125,95 | 127,32 |
| **51** | 128,50 | 129,87 |
| **52** | 131,05 | 132,41 |
| **53** | 133,59 | 134,96 |
| **54** | 136,14 | 137,51 |
| **55** | 138,68 | 140,05 |
| **56** | 141,23 | 142,60 |
| **57** | 143,78 | 145,15 |
| **58** | 146,32 | 147,69 |
| **59** | 148,87 | 150,24 |
| **60** | 151,42 | 152,79 |
| **61** | 153,96 | 155,33 |
| **62** | 156,52 | 157,89 |
| **63** | 159,06 | 160,43 |
| **64** | 161,6 | 162,97 |
| **65** | 164,15 | 165,52 |
| **66** | 166,69 | 168,06 |
| **67** | 169,24 | 170,61 |
| **68** | 171,79 | 173,16 |
| **69** | 174,33 | 175,70 |
| **70** | 176,88 | 178,25 |
| **71** | 179,43 | 180,80 |
| **72** | 181,98 | 183,35 |
| **73** | 184,52 | 185,89 |
| **74** | 187,07 | 188,44 |
| **75** | 189,61 | 190,98 |
| **76** | 192,16 | 193,53 |
| **77** | 194,71 | 196,08 |

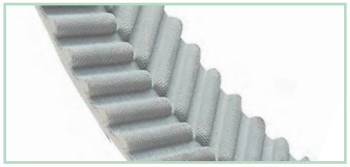
| z | da | dw |
|---|---|---|
| **78** | 197,25 | 198,62 |
| **79** | 199,80 | 201,17 |
| **80** | 202,35 | 203,72 |
| **81** | 204,89 | 206,26 |
| **82** | 207,44 | 208,81 |
| **83** | 209,98 | 211,35 |
| **84** | 212,53 | 213,90 |
| **85** | 215,08 | 216,45 |
| **86** | 217,63 | 219,00 |
| **87** | 220,17 | 221,54 |
| **88** | 222,72 | 224,09 |
| **89** | 225,26 | 226,63 |
| **90** | 227,81 | 229,18 |
| **91** | 230,35 | 231,72 |
| **92** | 232,90 | 234,27 |
| **93** | 235,45 | 236,82 |
| **94** | 238,00 | 239,37 |
| **95** | 240,54 | 241,91 |
| **96** | 243,09 | 244,46 |
| **97** | 245,63 | 247,00 |
| **98** | 248,18 | 249,55 |
| **99** | 250,73 | 252,10 |
| **100** | 253,28 | 254,67 |
| **101** | 255,82 | 257,19 |
| **102** | 258,37 | 259,74 |
| **103** | 260,91 | 262,28 |
| **104** | 263,46 | 264,83 |
| **105** | 266,01 | 267,38 |
| **106** | 268,55 | 269,92 |
| **107** | 271,1 | 272,47 |

| z | da | dw |
|---|---|---|
| **108** | 273,64 | 275,01 |
| **109** | 276,19 | 277,56 |
| **110** | 278,74 | 280,11 |
| **111** | 281,29 | 282,66 |
| **112** | 283,84 | 285,21 |
| **113** | 286,38 | 287,75 |
| **114** | 288,93 | 290,30 |
| **115** | 291,47 | 292,84 |
| **116** | 294,02 | 295,39 |
| **117** | 296,57 | 297,94 |
| **118** | 299,11 | 300,48 |
| **119** | 301,66 | 303,03 |
| **120** | 304,2 | 305,57 |



# EAGLE 10M



**Belt characteristics**

- Polyurethane timing belt with helical offset tooth, high tensile load steel cords and high torque capacity
- **Self tracking no need of pulley flanges**
- Metric pitch 10 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- The special profile allows most compact drive
- White colour and grey fabric on tooth side (PAZ) as standard

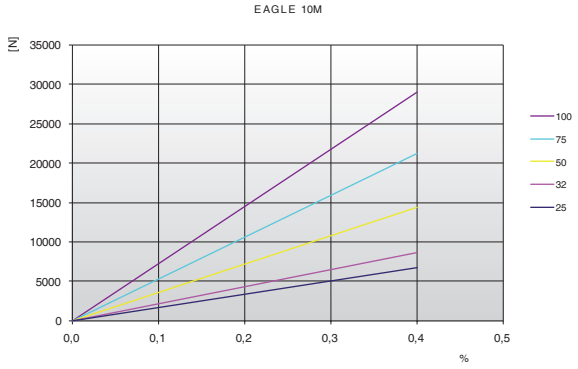
- Width tolerance: ±0,8 [mm]
- Length tolerance: ±0,8 [mm/m]
- Thickness tolerance: ±0,3 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **25** | 6720 | 24500 | 1680000 | 0,18 |
| **32** | 8640 | 31500 | 2160000 | 0,23 |
| **50** | 14400 | 52500 | 3600000 | 0,37 |
| **75** | 21120 | 77000 | 5280000 | 0,54 |
| **100** | 28800 | 105000 | 7200000 | 0,74 |

Other widths are available on request.

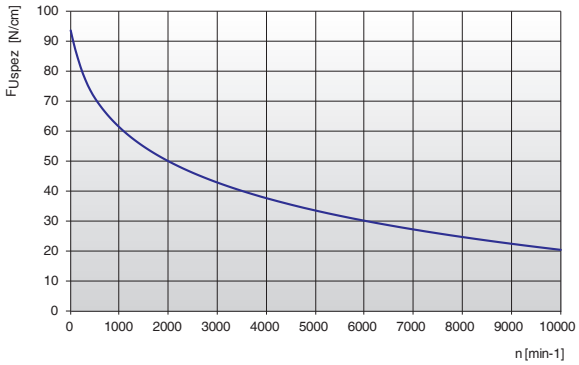
**Load / Elongation [ % ]**




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 93,50 | **800** | 64,43 | **1900** | 50,70 | **4500** | 35,37 |
| **20** | 92,03 | **900** | 62,70 | **2000** | 49,83 | **5000** | 33,42 |
| **40** | 90,63 | **1000** | 61,11 | **2200** | 48,19 | **5500** | 31,65 |
| **60** | 89,28 | **1100** | 59,63 | **2400** | 46,67 | **6000** | 30,02 |
| **80** | 88,00 | **1200** | 58,27 | **2600** | 45,27 | **6500** | 28,51 |
| **100** | 86,77 | **1300** | 56,99 | **2800** | 43,96 | **7000** | 27,12 |
| **200** | 81,36 | **1400** | 55,79 | **3000** | 42,73 | **7500** | 25,81 |
| **300** | 77,02 | **1440** | 55,33 | **3200** | 41,57 | **8000** | 24,59 |
| **400** | 73,54 | **1500** | 54,66 | **3400** | 40,48 | **8500** | 23,43 |
| **500** | 70,76 | **1600** | 53,59 | **3600** | 39,45 | **9000** | 22,34 |
| **600** | 68,43 | **1700** | 52,58 | **3800** | 38,46 | **9500** | 21,31 |
| **700** | 66,33 | **1800** | 51,62 | **4000** | 37,53 | **10000** | 20,33 |

**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:

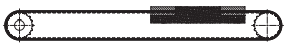
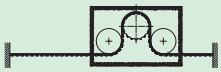
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# EAGLE 10M



## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending  | Timing pulley $z_{min}$ | 25 |
| | Flat idler running on belt teeth $d_{min}$ | 80 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 |
| | Flat idler running on belt back $d_{min}$ | 150 mm |

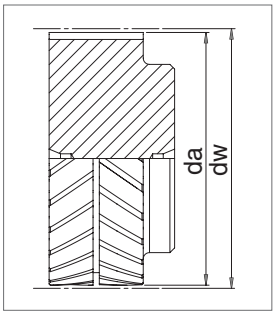
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 55,29 | 57,29 |
| **19** | 58,48 | 60,48 |
| **20** | 61,66 | 63,66 |
| **21** | 64,84 | 66,84 |
| **22** | 68,03 | 70,03 |
| **23** | 71,20 | 73,20 |
| **24** | 74,39 | 76,39 |
| **25** | 77,58 | 79,58 |
| **26** | 80,76 | 82,76 |
| **27** | 83,95 | 85,95 |
| **28** | 87,12 | 89,12 |
| **29** | 90,21 | 92,21 |
| **30** | 93,49 | 95,49 |
| **31** | 96,67 | 98,67 |
| **32** | 99,86 | 101,86 |
| **33** | 103,04 | 105,04 |
| **34** | 106,19 | 108,19 |
| **35** | 109,41 | 111,41 |
| **36** | 112,59 | 114,59 |
| **37** | 115,77 | 117,77 |
| **38** | 118,95 | 120,95 |
| **39** | 122,14 | 124,14 |
| **40** | 125,32 | 127,32 |
| **41** | 128,50 | 130,50 |
| **42** | 131,69 | 133,69 |
| **43** | 134,87 | 136,87 |
| **44** | 138,05 | 140,05 |
| **45** | 141,24 | 143,24 |
| **46** | 144,42 | 146,42 |
| **47** | 147,60 | 149,60 |

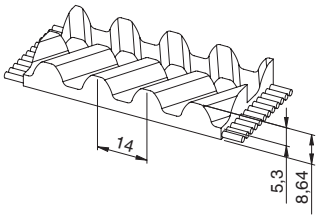
| z | da | dw |
|---|---|---|
| **48** | 150,78 | 152,78 |
| **49** | 153,97 | 155,97 |
| **50** | 157,15 | 159,15 |
| **51** | 160,33 | 162,33 |
| **52** | 163,52 | 165,52 |
| **53** | 166,70 | 168,70 |
| **54** | 169,88 | 171,88 |
| **55** | 173,06 | 175,06 |
| **56** | 176,25 | 178,25 |
| **57** | 179,43 | 181,43 |
| **58** | 182,61 | 184,61 |
| **59** | 185,80 | 187,80 |
| **60** | 188,98 | 190,98 |
| **61** | 192,16 | 194,16 |
| **62** | 195,35 | 197,35 |
| **63** | 198,53 | 200,53 |
| **64** | 201,71 | 203,71 |
| **65** | 204,90 | 206,90 |
| **66** | 208,08 | 210,08 |
| **67** | 211,26 | 213,26 |
| **68** | 214,44 | 216,44 |
| **69** | 217,63 | 219,63 |
| **70** | 220,81 | 222,81 |
| **71** | 223,99 | 225,99 |
| **72** | 227,18 | 229,18 |
| **73** | 230,33 | 232,33 |
| **74** | 233,54 | 235,54 |
| **75** | 236,72 | 238,72 |
| **76** | 239,94 | 241,94 |
| **77** | 243,09 | 245,09 |

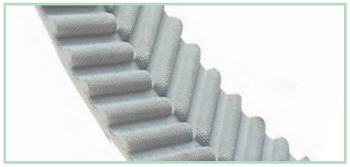
| z | da | dw |
|---|---|---|
| **78** | 246,24 | 248,24 |
| **79** | 249,46 | 251,46 |
| **80** | 252,64 | 254,64 |
| **81** | 255,82 | 257,82 |
| **82** | 259,00 | 261,00 |
| **83** | 262,19 | 264,19 |
| **84** | 265,37 | 267,37 |
| **85** | 268,52 | 270,52 |
| **86** | 271,74 | 273,74 |
| **87** | 274,92 | 276,92 |
| **88** | 278,10 | 280,10 |
| **89** | 281,28 | 283,28 |
| **90** | 284,47 | 286,47 |
| **91** | 287,65 | 289,65 |
| **92** | 290,84 | 292,84 |
| **93** | 294,02 | 296,02 |
| **94** | 297,20 | 299,20 |
| **95** | 300,39 | 302,39 |
| **96** | 303,57 | 305,57 |
| **97** | 306,75 | 308,75 |
| **98** | 309,93 | 311,93 |
| **99** | 313,12 | 315,12 |
| **100** | 316,30 | 318,30 |
| **101** | 319,48 | 321,48 |
| **102** | 322,66 | 324,66 |
| **103** | 325,85 | 327,85 |
| **104** | 329,03 | 331,03 |
| **105** | 332,21 | 334,21 |
| **106** | 335,40 | 337,40 |
| **107** | 338,58 | 340,58 |

| z | da | dw |
|---|---|---|
| **108** | 341,76 | 343,76 |
| **109** | 344,95 | 346,95 |
| **110** | 348,13 | 350,13 |
| **111** | 351,31 | 353,31 |
| **112** | 354,50 | 356,50 |
| **113** | 357,68 | 359,68 |
| **114** | 360,86 | 362,86 |
| **115** | 364,04 | 366,04 |
| **116** | 367,23 | 369,23 |
| **117** | 370,41 | 372,41 |
| **118** | 373,59 | 375,59 |
| **119** | 376,78 | 378,78 |
| **120** | 379,96 | 381,96 |



# EAGLE 14M



**Belt characteristics**

- Polyurethane timing belt with helical offset tooth, high tensile load steel cords and high torque capacity
- **Self tracking no need of pulley flanges**
- Metric pitch 14 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning, heavy power transmission and lifting applications
- The special profile allows most compact drive
- White colour and grey fabric on tooth side (PAZ) as standard

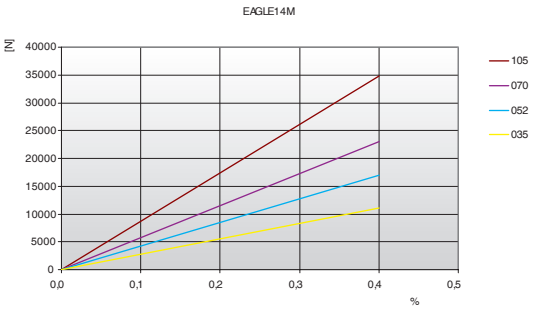
| | |
|---|---|
| • Width tolerance: | ±1,2 [mm] |
| • Length tolerance: | ±0,8 [mm/m] |
| • Thickness tolerance: | ±0,4 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **35** | 11050 | 5525 | 41600 | 2762500 | 0,40 |
| **52,5** | 17000 | 8500 | 64000 | 4250000 | 0,60 |
| **70** | 22950 | 11475 | 86400 | 5737500 | 0,80 |
| **105** | 34850 | 17425 | 131200 | 8712500 | 1,20 |

Other widths are available on request.

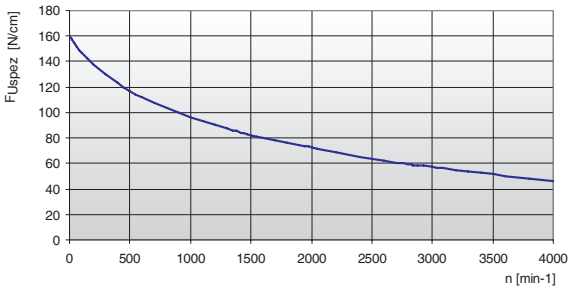
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 160,00 | **800** | 103,35 | **1900** | 73,99 | **4000** | 46,21 |
| **20** | 157,00 | **900** | 99,60 | **2000** | 72,13 | - | - |
| **40** | 154,22 | **1000** | 96,17 | **2200** | 68,66 | - | - |
| **60** | 151,64 | **1100** | 93,01 | **2400** | 65,46 | - | - |
| **80** | 149,24 | **1200** | 90,08 | **2600** | 62,50 | - | - |
| **100** | 147,01 | **1300** | 87,35 | **2800** | 59,73 | - | - |
| **200** | 138,04 | **1400** | 84,80 | **2880** | 58,68 | - | - |
| **300** | 129,87 | **1440** | 83,82 | **3000** | 57,15 | - | - |
| **400** | 123,12 | **1500** | 82,39 | **3200** | 54,71 | - | - |
| **500** | 117,24 | **1600** | 80,12 | **3400** | 52,42 | - | - |
| **600** | 112,07 | **1700** | 77,97 | **3600** | 50,24 | - | - |
| **700** | 107,48 | **1800** | 75,93 | **3800** | 48,18 | - | - |

### 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:

**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

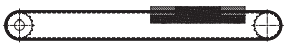
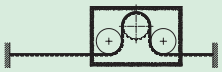
# EAGLE 14M



## Specialties

| Belt width b [mm] | HPL High Performance | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **35** | 12100 | 49500 |
| **52,5** | 17600 | 72000 |
| **70** | 24200 | 99000 |
| **105** | 37400 | 153000 |

## Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | |
|---|---|---|---|
| | | STANDARD | HPL |
| Drive without reverse bending  | Timing pulley $z_{min}$ | 32 | 32 |
| | Flat idler running on belt teeth $d_{min}$ | 140 mm | 140 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 32 | 32 |
| | Flat idler running on belt back $d_{min}$ | 200 mm | 200 mm |

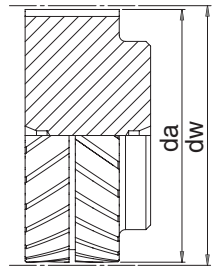
## Timing pulleys

| z | da | dw |
|---|---|---|
| **28** | 122,12 | 124,77 |
| **29** | 126,58 | 129,22 |
| **30** | 130,99 | 133,69 |
| **31** | 135,45 | 138,14 |
| **32** | 139,88 | 142,59 |
| **33** | 144,35 | 147,06 |
| **34** | 148,79 | 151,51 |
| **35** | 153,25 | 155,96 |
| **36** | 157,68 | 160,41 |
| **37** | 162,14 | 164,88 |
| **38** | 166,60 | 169,34 |
| **39** | 171,02 | 173,79 |
| **40** | 175,48 | 178,24 |
| **41** | 179,92 | 182,71 |
| **42** | 184,37 | 187,16 |
| **43** | 188,83 | 191,61 |
| **44** | 193,29 | 196,08 |
| **45** | 197,75 | 200,53 |
| **46** | 202,21 | 204,98 |
| **47** | 206,65 | 209,43 |
| **48** | 211,11 | 213,90 |
| **49** | 215,57 | 218,35 |
| **50** | 220,03 | 222,80 |
| **51** | 224,49 | 227,27 |
| **52** | 228,95 | 231,72 |
| **53** | 233,39 | 236,18 |
| **54** | 237,85 | 240,64 |
| **55** | 242,30 | 245,09 |
| **56** | 246,76 | 249,55 |
| **57** | 251,22 | 254,01 |

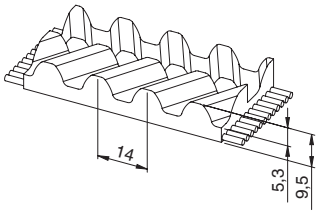
| z | da | dw |
|---|---|---|
| **58** | 255,68 | 258,46 |
| **59** | 260,14 | 262,91 |
| **60** | 264,60 | 267,38 |
| **61** | 269,04 | 271,83 |
| **62** | 273,50 | 276,28 |
| **63** | 277,96 | 280,75 |
| **64** | 282,42 | 285,20 |
| **65** | 286,88 | 289,65 |
| **66** | 291,32 | 294,11 |
| **67** | 295,78 | 298,56 |
| **68** | 300,24 | 303,03 |
| **69** | 304,70 | 307,48 |
| **70** | 309,16 | 311,93 |
| **71** | 313,61 | 316,40 |
| **72** | 318,07 | 320,85 |
| **73** | 322,53 | 325,30 |
| **74** | 326,98 | 329,77 |
| **75** | 331,44 | 334,22 |
| **76** | 335,90 | 338,67 |
| **77** | 340,34 | 343,12 |
| **78** | 344,80 | 347,59 |
| **79** | 349,26 | 352,04 |
| **80** | 353,72 | 356,49 |
| **81** | 358,17 | 360,96 |
| **82** | 362,63 | 365,41 |
| **83** | 367,09 | 369,86 |
| **84** | 371,54 | 374,33 |
| **85** | 376,00 | 378,78 |
| **86** | 380,46 | 383,23 |
| **87** | 384,91 | 387,70 |

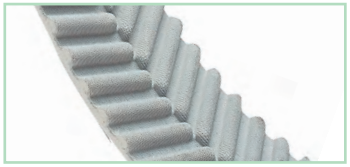
| z | da | dw |
|---|---|---|
| **88** | 389,37 | 392,15 |
| **89** | 393,83 | 396,60 |
| **90** | 398,29 | 401,07 |
| **91** | 402,73 | 405,52 |
| **92** | 407,19 | 409,97 |
| **93** | 411,65 | 414,44 |
| **94** | 416,10 | 418,89 |
| **95** | 420,56 | 423,35 |
| **96** | 425,02 | 427,80 |
| **97** | 429,48 | 432,25 |
| **98** | 433,94 | 436,72 |
| **99** | 438,38 | 441,17 |
| **100** | 442,84 | 445,62 |
| **101** | 447,30 | 450,09 |
| **102** | 451,76 | 454,54 |
| **103** | 456,21 | 459,00 |
| **104** | 460,67 | 463,45 |
| **105** | 465,13 | 467,90 |
| **106** | 469,58 | 472,37 |
| **107** | 474,03 | 476,82 |
| **108** | 478,49 | 481,28 |
| **109** | 482,95 | 485,74 |
| **110** | 487,41 | 490,19 |
| **111** | 491,87 | 494,64 |
| **112** | 496,32 | 499,10 |
| **113** | 500,78 | 503,55 |
| **114** | 505,23 | 508,02 |
| **116** | 514,14 | 516,93 |
| **117** | 518,60 | 521,38 |
| **118** | 523,06 | 525,83 |

| z | da | dw |
|---|---|---|
| **119** | 527,51 | 530,30 |
| **120** | 531,97 | 534,75 |



# EAGLE 14M XHPL



**Belt characteristics**

- Polyurethane timing belt with helical offset tooth, high tensile load steel cords and high torque capacity.
- **Self tracking no need of pulley flanges**
- Metric pitch 14 mm
- **Extremely reduced noise generation**
- **E14M - XHPL is the ideal belt for heavy duty synchronous lifting applications.**
- The special profile allows most compact drive
- White colour and grey fabric on tooth side (PAZ) as standard

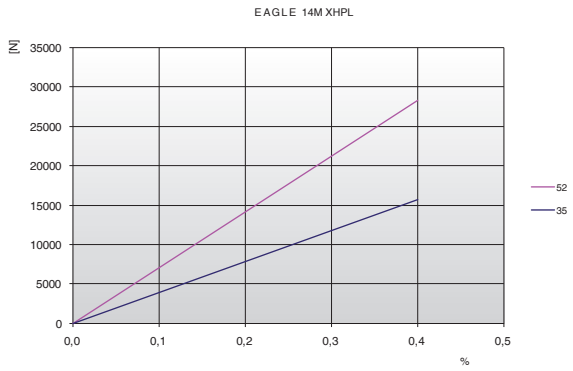
| | |
|---|---|
| • Width tolerance: | ±1,2 [mm] |
| • Length tolerance: | ±1,0 [mm/m] |
| • Thickness tolerance: | ±0,5 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **35** | 16000 | 56000 | 4000000 | 0,50 |
| **52,5** | 28000 | 98000 | 7000000 | 0,70 |

Other widths are available on request.

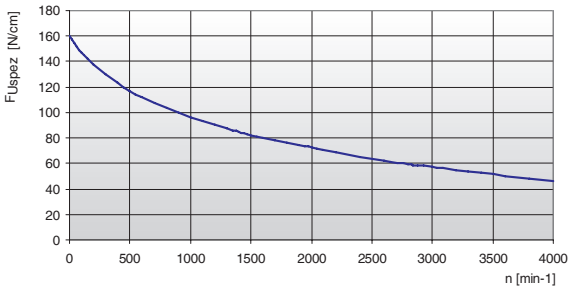
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 160,00 | **800** | 103,35 | **1900** | 73,99 | **4000** | 46,21 |
| **20** | 157,00 | **900** | 99,60 | **2000** | 72,13 | - | - |
| **40** | 154,22 | **1000** | 96,17 | **2200** | 68,66 | - | - |
| **60** | 151,64 | **1100** | 93,01 | **2400** | 65,46 | - | - |
| **80** | 149,24 | **1200** | 90,08 | **2600** | 62,50 | - | - |
| **100** | 147,01 | **1300** | 87,35 | **2800** | 59,73 | - | - |
| **200** | 138,04 | **1400** | 84,80 | **2880** | 58,68 | - | - |
| **300** | 129,87 | **1440** | 83,82 | **3000** | 57,15 | - | - |
| **400** | 123,12 | **1500** | 82,39 | **3200** | 54,71 | - | - |
| **500** | 117,24 | **1600** | 80,12 | **3400** | 52,42 | - | - |
| **600** | 112,07 | **1700** | 77,97 | **3600** | 50,24 | - | - |
| **700** | 107,48 | **1800** | 75,93 | **3800** | 48,18 | - | - |

### 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:

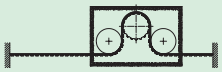
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# EAGLE 14M XHPL



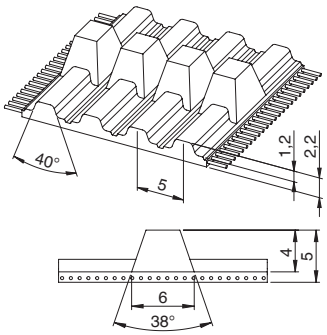
### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord |
|---|---|---|
| | | STANDARD |
| Drive without reverse bending | Timing pulley $z_{min}$ | 34 |
|  | Flat idler running on belt teeth $d_{min}$ | 140 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 34 |
|  | Flat idler running on belt back $d_{min}$ | 200 mm |

## Timing pulleys

**Nota**
Pulleys with special EAGLE 14M - XHPL profile on request.
Contact our technical department.

# TK 5
# K6




**Belt characteristics**

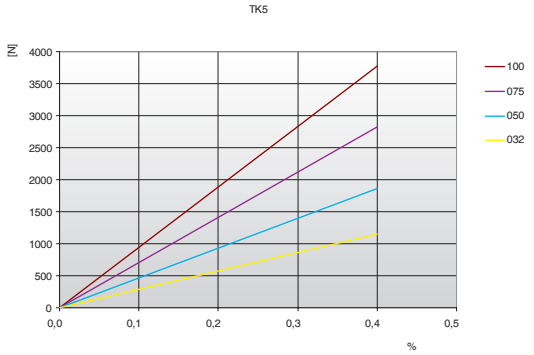
- Polyurethane self tracking timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Profile T5 with central guide - K6 x 4 mm
- Allow to use pulleys without flanges
- The central guide is notched in order to maximize belt flexibility
- Ideal for conveying applications where a side load is generated by loading/unloading transferring a product

- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **32** | 1150 | 575 | 4500 | 287500 | 0,080 |
| **50** | 1860 | 930 | 7250 | 465000 | 0,130 |
| **75** | 2820 | 1410 | 11000 | 705000 | 0,200 |
| **100** | 3780 | 1890 | 14750 | 945000 | 0,260 |

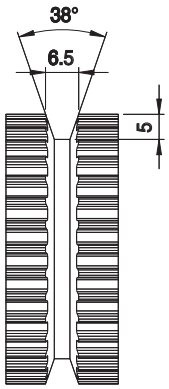
### Load / Elongation [ % ]



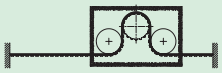

### Specialties

| Belt width b [mm] | ARAMID CORD | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **32** | 2520 | 10080 |
| **50** | 4060 | 16240 |
| **75** | 6160 | 24640 |
| **100** | 8260 | 33040 |

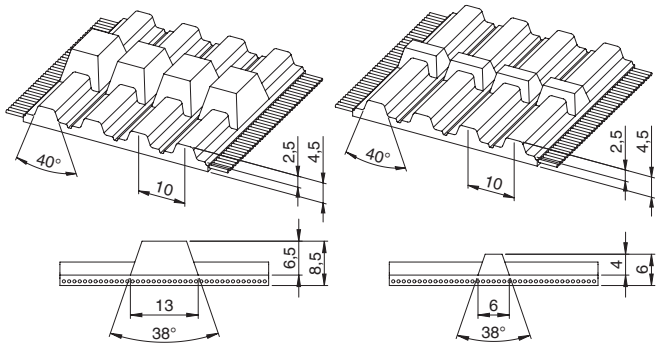
### Pulley profile




### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 14 |
|  | Flat idler running on belt teeth $d_{min}$ | 40 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 15 |
|  | Flat idler running on belt back $d_{min}$ | 40 mm |

# TK 10
# K13 - K6




**K13** **K6**

**Belt characteristics**

- Polyurethane self tracking timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Profile T10 with central guide - K13 x 6,5 mm
- Profile T10 with central guide - K6 x 4,0 mm
- Allow to use pulleys without flanges
- The central guide is notched in order to maximize belt flexibility
- Ideal for conveying applications where a side load is generated by loading/unloading transferring a product

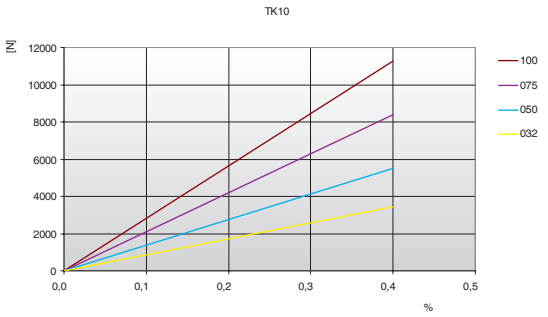
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **32** | 3450 | 1725 | 12600 | 862500 | 0,220 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,300 |
| **75** | 8400 | 4200 | 30660 | 2100000 | 0,410 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,530 |
| **150** | 17020 | 8510 | 62160 | 4255000 | 0,850 |

150 mm width available only in K6 execution.

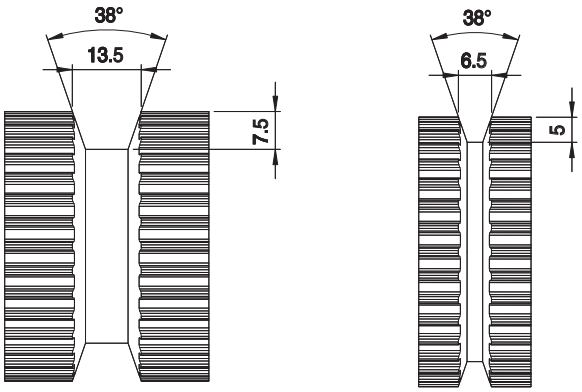
**Load / Elongation [ % ]**




### Specialties

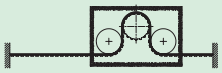
| Belt width b [mm] | ARAMID CORD | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **32** | 3300 | 13500 |
| **50** | 5280 | 21600 |
| **75** | 8030 | 32850 |
| **100** | 10780 | 44100 |
| **150** | 16280 | 66600 |

**Pulley profile**

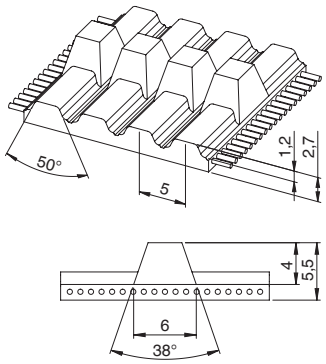



**K13** **K6**

### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Guide K6 | Guide K13 |
|---|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 14 | 16 |
|  | Flat idler running on belt teeth $d_{min}$ | 60 mm | 80 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 20 | 20 |
|  | Flat idler running on belt back $d_{min}$ | 60 mm | 60 mm |

# ATK 5
# K6




**Belt characteristics**

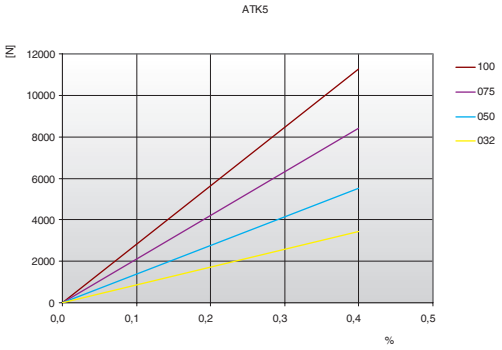
- Polyurethane self tracking timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Profile AT5 with central guide - K6 x 4 mm
- Allow to use pulleys without flanges
- The central guide is notched in order to maximize belt flexibility
- Ideal for conveying applications where a side load is generated by loading/unloading transferring a product

- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **32** | 3450 | 1725 | 12600 | 862500 | 0,11 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,19 |
| **75** | 8400 | 4200 | 30660 | 2100000 | 0,29 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,38 |

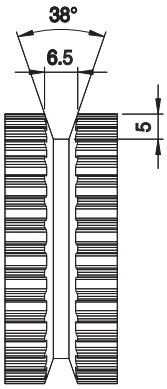
### Load / Elongation [ % ]



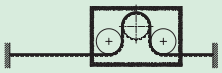

### Specialties

| Belt width b [mm] | ARAMID CORD | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **32** | 3300 | 13500 |
| **50** | 5280 | 21600 |
| **75** | 8030 | 32850 |
| **100** | 10780 | 44100 |

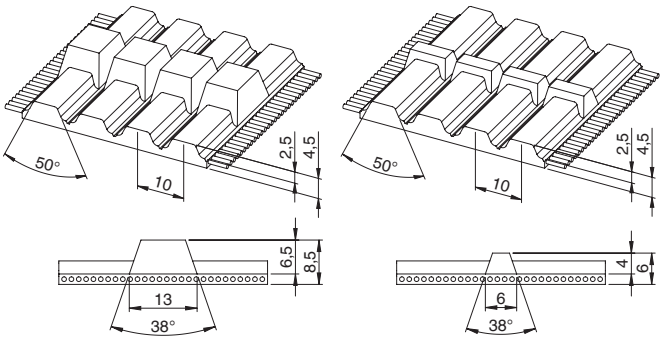
### Pulley profile




### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 25 |
|  | Flat idler running on belt teeth $d_{min}$ | 60 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 25 |
|  | Flat idler running on belt back $d_{min}$ | 80 mm |

# ATK 10
# K13 - K6




**K13** **K6**

**Belt characteristics**

- Polyurethane self tracking timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Profile AT10 with central guide - K13 x 6,5 mm
- Profile AT10 with central guide - K6 x 4 mm
- Allow to use pulleys without flanges
- The central guide is notched in order to maximize belt flexibility
- Ideal for conveying applications where a side load is generated by loading/unloading transferring a product

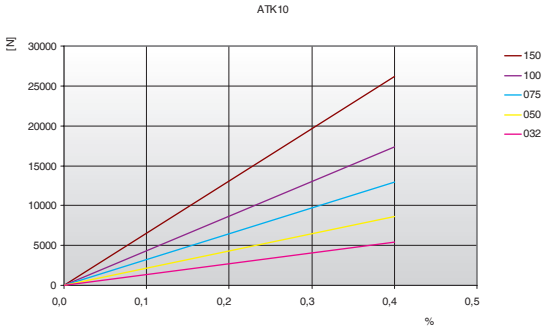
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **32** | 5390 | 2695 | 20900 | 1347500 | 0,27 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,36 |
| **75** | 12990 | 6495 | 50350 | 3247500 | 0,50 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,72 |
| **150** | 26220 | 13110 | 101650 | 6555000 | 1,08 |

150 mm width available only in K13 execution.

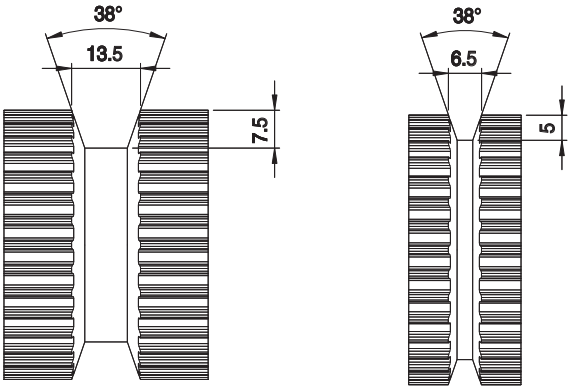
**Load / Elongation [ % ]**




### Specialties

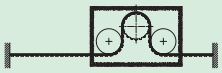
| Belt width b [mm] | ARAMID CORD | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **32** | 4840 | 22000 |
| **50** | 7700 | 35000 |
| **75** | 11660 | 53000 |
| **100** | 15620 | 71000 |
| **150** | 23540 | 107000 |

**Pulley profile**

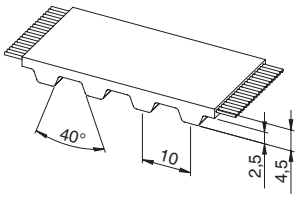



**K13** **K6**

### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Guide K6 | Guide K13 |
|---|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 15 | 17 |
|  | Flat idler running on belt teeth $d_{min}$ | 50 mm | 50 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 25 | 25 |
|  | Flat idler running on belt back $d_{min}$ | 120 mm | 120 mm |

# T 10
## TOTAL PROTECTION




**Belt characteristics**
- Polyurethane timing belt with steel tension cords
- Tooth profile according to ISO 17396
- Metric pitch 10 mm
- **TP (Total Protection) belt. The absence of tooth gap makes the belt cords protected against corrosion**
- **Widely used in applications with corrosive enviroment, high humidity**
- Light blue color available on request

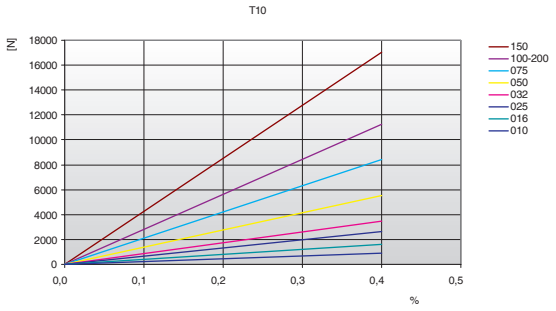
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 920 | 460 | 3360 | 230000 | 0,05 |
| **16** | 1610 | 805 | 5880 | 402500 | 0,07 |
| **25** | 2650 | 1325 | 9660 | 662500 | 0,11 |
| **32** | 3450 | 1725 | 12600 | 862500 | 0,15 |
| **50** | 5520 | 2760 | 20160 | 1380000 | 0,23 |
| **75** | 8400 | 4200 | 30660 | 2100000 | 0,34 |
| **100** | 11270 | 5635 | 41160 | 2817500 | 0,45 |

Other widths are available on request.

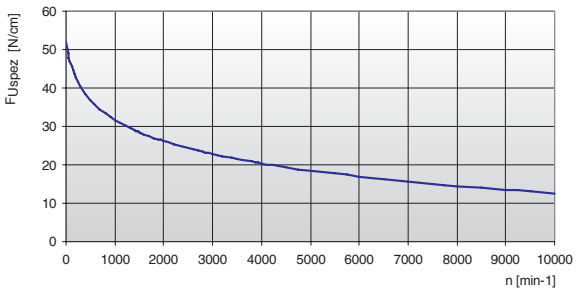
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [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:

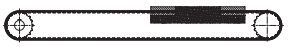
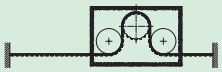
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# T 10
## TOTAL PROTECTION



### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending  | Timing pulley $z_{min}$ | 12 |
| | Flat idler running on belt teeth $d_{min}$ | 60 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 20 |
| | Flat idler running on belt back $d_{min}$ | 60 mm |

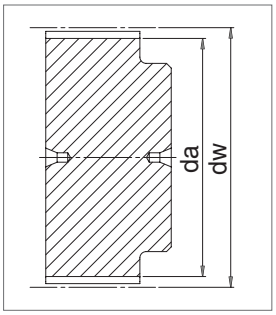
## Timing pulleys

| z | da | dw |
|---|---|---|
| 10 | 30,05 | 31,84 |
| 11 | 33,25 | 35,02 |
| 12 | 36,35 | 38,20 |
| 13 | 39,50 | 41,38 |
| 14 | 42,70 | 44,56 |
| 15 | 45,90 | 47,75 |
| 16 | 49,05 | 50,93 |
| 17 | 52,25 | 54,11 |
| 18 | 55,45 | 57,29 |
| 19 | 58,65 | 60,48 |
| 20 | 61,80 | 63,66 |
| 21 | 65,00 | 66,84 |
| 22 | 68,15 | 70,03 |
| 23 | 71,35 | 73,20 |
| 24 | 74,55 | 76,39 |
| 25 | 77,70 | 79,58 |
| 26 | 80,90 | 82,76 |
| 27 | 84,10 | 85,95 |
| 28 | 87,25 | 89,12 |
| 29 | 90,45 | 92,21 |
| 30 | 93,65 | 95,49 |
| 31 | 96,85 | 98,67 |
| 32 | 100,00 | 101,86 |
| 33 | 103,20 | 105,04 |
| 34 | 106,40 | 108,22 |
| 35 | 109,55 | 111,41 |
| 36 | 112,75 | 114,59 |
| 37 | 115,90 | 117,77 |
| 38 | 119,10 | 120,95 |
| 39 | 122,30 | 124,14 |

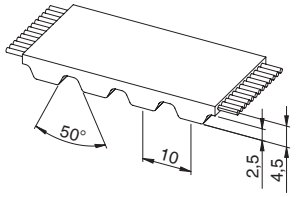
| z | da | dw |
|---|---|---|
| 40 | 125,45 | 127,32 |
| 41 | 128,65 | 130,50 |
| 42 | 131,85 | 133,69 |
| 44 | 138,20 | 140,05 |
| 45 | 141,40 | 143,24 |
| 46 | 144,60 | 146,42 |
| 47 | 147,75 | 149,60 |
| 48 | 150,95 | 152,78 |
| 49 | 154,10 | 155,97 |
| 50 | 157,30 | 159,15 |
| 51 | 160,50 | 162,33 |
| 52 | 163,65 | 165,52 |
| 53 | 166,85 | 168,70 |
| 54 | 170,05 | 171,88 |
| 55 | 173,20 | 175,06 |
| 56 | 176,40 | 178,25 |
| 57 | 179,60 | 181,43 |
| 58 | 182,75 | 184,61 |
| 59 | 185,95 | 187,80 |
| 60 | 189,10 | 190,98 |
| 61 | 192,30 | 194,16 |
| 62 | 195,50 | 197,35 |
| 63 | 198,65 | 200,53 |
| 64 | 201,85 | 203,71 |
| 65 | 205,05 | 206,90 |
| 66 | 208,20 | 210,08 |
| 67 | 211,40 | 213,26 |
| 68 | 214,60 | 216,44 |
| 69 | 217,75 | 219,63 |
| 70 | 220,95 | 222,81 |

| z | da | dw |
|---|---|---|
| 71 | 224,15 | 225,99 |
| 72 | 227,30 | 229,18 |
| 73 | 230,50 | 232,36 |
| 74 | 233,70 | 235,54 |
| 75 | 236,90 | 238,72 |
| 76 | 240,05 | 241,94 |
| 77 | 243,25 | 245,09 |
| 78 | 246,40 | 248,27 |
| 79 | 249,60 | 251,46 |
| 80 | 252,80 | 254,64 |
| 81 | 256,00 | 257,82 |
| 82 | 259,15 | 261,00 |
| 83 | 262,30 | 264,19 |
| 84 | 265,50 | 267,37 |
| 85 | 268,70 | 270,55 |
| 86 | 271,90 | 273,74 |
| 87 | 275,05 | 276,92 |
| 88 | 278,25 | 280,10 |
| 89 | 281,45 | 283,28 |
| 90 | 284,60 | 286,47 |
| 91 | 287,80 | 289,65 |
| 92 | 291,00 | 292,84 |
| 93 | 294,20 | 296,02 |
| 94 | 297,35 | 299,20 |
| 95 | 300,55 | 302,39 |
| 96 | 303,75 | 305,57 |
| 97 | 306,90 | 308,75 |
| 98 | 310,10 | 311,93 |
| 99 | 313,25 | 315,12 |
| 100 | 316,45 | 318,30 |

| z | da | dw |
|---|---|---|
| 101 | 319,65 | 321,48 |
| 102 | 322,80 | 324,66 |
| 103 | 326,00 | 327,85 |
| 104 | 329,20 | 331,03 |
| 105 | 332,35 | 334,21 |
| 106 | 335,55 | 337,40 |
| 107 | 338,75 | 340,58 |
| 108 | 341,95 | 343,76 |
| 109 | 345,15 | 346,95 |
| 110 | 348,30 | 350,13 |
| 111 | 351,45 | 353,31 |
| 112 | 354,65 | 356,50 |
| 113 | 357,80 | 359,68 |
| 114 | 361,00 | 362,86 |
| 115 | 364,19 | 366,04 |
| 116 | 367,39 | 369,23 |
| 117 | 370,56 | 372,41 |
| 118 | 373,76 | 375,59 |
| 119 | 376,93 | 378,78 |
| 120 | 380,11 | 381,96 |



# AT 10
## TOTAL PROTECTION




**Belt characteristics**

- Polyurethane timing belt with steel tension cords
- Metric pitch 10 mm
- Tooth profile according to ISO 17396
- Tooth profile and dimension are optimised to guarantee uni form load distribution and minimum deformation under load
- High resistance and low stretch steel cords to guarantee high stability and low elongation
- Reduced polygonal effect with reduced drive vibration
- **TP (Total Protection) belt. The absence of tooth gap makes the belt cords protected against corrosion**
- **Widely used in applications with corrosive enviroment, high humidity**
- Light blue color available on request

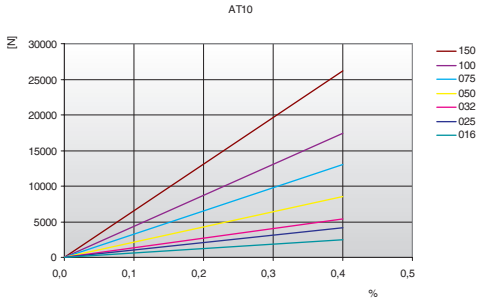
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,8 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width<br>b<br>[mm] | Allowable tensile load **Type M**<br>$F_{Tzul}$<br>[N] | Allowable tensile load **Type V**<br>$F_{Tzul}$<br>[N] | Breaking load **Type M**<br>$F_{Br}$<br>[N] | Specific spring rate<br>$C_{spez}$<br>[N] | Weight<br>[kg/m] |
|---|---|---|---|---|---|
| **16** | 2450 | 1225 | 9500 | 612500 | 0,09 |
| **25** | 4170 | 2085 | 16150 | 1042500 | 0,15 |
| **32** | 5390 | 2695 | 20900 | 1347500 | 0,19 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,30 |
| **75** | 12990 | 6495 | 50350 | 3247500 | 0,44 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,59 |

Other widths are available on request.

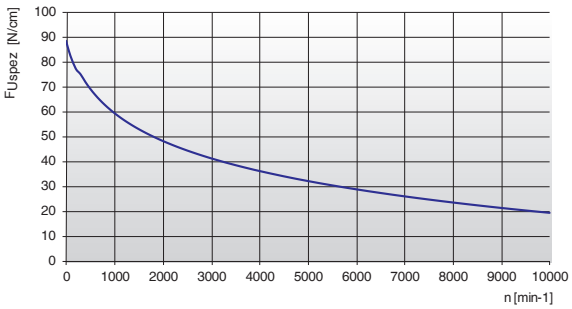
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 88,57 | **800** | 62,83 | **1900** | 49,16 | **4500** | 34,08 |
| **20** | 87,06 | **900** | 61,09 | **2000** | 48,29 | **5000** | 32,17 |
| **40** | 85,66 | **1000** | 59,49 | **2200** | 46,67 | **5500** | 30,43 |
| **60** | 84,35 | **1100** | 58,02 | **2400** | 45,18 | **6000** | 28,84 |
| **80** | 83,13 | **1200** | 56,66 | **2600** | 43,80 | **6500** | 27,37 |
| **100** | 81,99 | **1300** | 55,39 | **2800** | 42,51 | **7000** | 26,01 |
| **200** | 77,36 | **1400** | 54,20 | **3000** | 41,30 | **7500** | 24,73 |
| **300** | 75,09 | **1440** | 53,74 | **3200** | 40,17 | **8000** | 23,53 |
| **400** | 71,99 | **1500** | 53,08 | **3400** | 39,09 | **8500** | 22,41 |
| **500** | 69,27 | **1600** | 52,02 | **3600** | 38,08 | **9000** | 21,34 |
| **600** | 66,88 | **1700** | 51,02 | **3800** | 37,11 | **9500** | 20,33 |
| **700** | 64,75 | **1800** | 50,06 | **4000** | 36,20 | **10000** | 19,37 |

### 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:

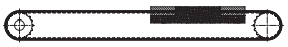
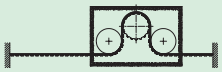
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# AT 10
## TOTAL PROTECTION



### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending  | Timing pulley $z_{min}$ | 15 |
| | Flat idler running on belt teeth $d_{min}$ | 50 mm |
| Drive with reverse bending  | Timing pulley $z_{min}$ | 25 |
| | Flat idler running on belt back $d_{min}$ | 120 mm |

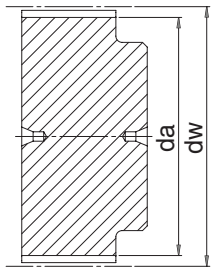
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 55,45 | 57,29 |
| **19** | 58,60 | 60,48 |
| **20** | 61,80 | 63,66 |
| **21** | 65,00 | 66,84 |
| **22** | 68,15 | 70,03 |
| **23** | 71,35 | 73,20 |
| **24** | 74,55 | 76,39 |
| **25** | 77,70 | 79,58 |
| **26** | 80,90 | 82,76 |
| **27** | 84,10 | 85,95 |
| **28** | 87,25 | 89,12 |
| **29** | 90,45 | 92,21 |
| **30** | 93,65 | 95,49 |
| **31** | 96,80 | 98,67 |
| **32** | 100,00 | 101,86 |
| **33** | 103,20 | 105,04 |
| **34** | 106,40 | 108,19 |
| **35** | 109,55 | 111,41 |
| **36** | 112,75 | 114,59 |
| **37** | 115,90 | 117,77 |
| **38** | 119,10 | 120,95 |
| **39** | 122,30 | 124,14 |
| **40** | 125,45 | 127,32 |
| **41** | 128,65 | 130,50 |
| **42** | 131,85 | 133,69 |
| **43** | 135,00 | 136,87 |
| **44** | 138,20 | 140,05 |
| **45** | 141,40 | 143,24 |
| **46** | 144,55 | 146,42 |
| **47** | 147,75 | 149,60 |

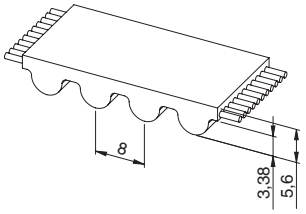
| z | da | dw |
|---|---|---|
| **48** | 150,95 | 152,78 |
| **49** | 154,10 | 155,97 |
| **50** | 157,30 | 159,15 |
| **51** | 160,50 | 162,33 |
| **52** | 163,65 | 165,52 |
| **53** | 166,85 | 168,70 |
| **54** | 170,05 | 171,88 |
| **55** | 173,20 | 175,06 |
| **56** | 176,40 | 178,25 |
| **57** | 179,60 | 181,43 |
| **58** | 182,75 | 184,61 |
| **59** | 185,95 | 187,80 |
| **60** | 189,10 | 190,98 |
| **61** | 192,30 | 194,16 |
| **62** | 195,50 | 197,35 |
| **63** | 198,65 | 200,53 |
| **64** | 201,85 | 203,71 |
| **65** | 205,05 | 206,90 |
| **66** | 208,20 | 210,08 |
| **67** | 211,40 | 213,26 |
| **68** | 214,60 | 216,44 |
| **69** | 217,75 | 219,63 |
| **70** | 220,95 | 222,81 |
| **71** | 224,15 | 225,99 |
| **72** | 227,30 | 229,18 |
| **73** | 230,50 | 232,33 |
| **74** | 233,70 | 235,54 |
| **75** | 236,90 | 238,72 |
| **76** | 240,05 | 241,94 |
| **77** | 243,25 | 245,09 |

| z | da | dw |
|---|---|---|
| **78** | 246,40 | 248,24 |
| **79** | 249,60 | 251,46 |
| **80** | 252,80 | 254,64 |
| **81** | 255,95 | 257,82 |
| **82** | 259,15 | 261,00 |
| **83** | 262,30 | 264,19 |
| **84** | 265,50 | 267,37 |
| **85** | 268,70 | 270,52 |
| **86** | 271,90 | 273,74 |
| **87** | 275,05 | 276,92 |
| **88** | 278,25 | 280,10 |
| **89** | 281,45 | 283,28 |
| **90** | 284,60 | 286,47 |
| **91** | 287,80 | 289,65 |
| **92** | 291,00 | 292,84 |
| **93** | 294,20 | 296,02 |
| **94** | 297,35 | 299,20 |
| **95** | 300,55 | 302,39 |
| **96** | 303,70 | 305,57 |
| **97** | 306,90 | 308,75 |
| **98** | 310,10 | 311,93 |
| **99** | 313,25 | 315,12 |
| **100** | 316,45 | 318,30 |
| **101** | 319,65 | 321,48 |
| **102** | 322,80 | 324,66 |
| **103** | 326,00 | 327,85 |
| **104** | 329,20 | 331,03 |
| **105** | 332,35 | 334,21 |
| **106** | 335,55 | 337,40 |
| **107** | 338,75 | 340,58 |

| z | da | dw |
|---|---|---|
| **108** | 341,90 | 343,76 |
| **109** | 345,10 | 346,95 |
| **110** | 348,30 | 350,13 |
| **111** | 351,45 | 353,31 |
| **112** | 354,65 | 356,50 |
| **113** | 357,80 | 359,68 |
| **114** | 361,00 | 362,86 |
| **115** | 364,19 | 366,04 |
| **116** | 367,39 | 369,23 |
| **117** | 370,56 | 372,41 |
| **118** | 373,74 | 375,59 |
| **119** | 376,93 | 378,78 |
| **120** | 380,11 | 381,96 |



# HTD 8M
## TOTAL PROTECTION




**Belt characteristics**

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 8 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- **TP (Total Protection) belt. The absence of tooth gap makes the belt protected against corrosion**
- **Widely used in applications with corrosive enviroment**
- Light blue color available on request

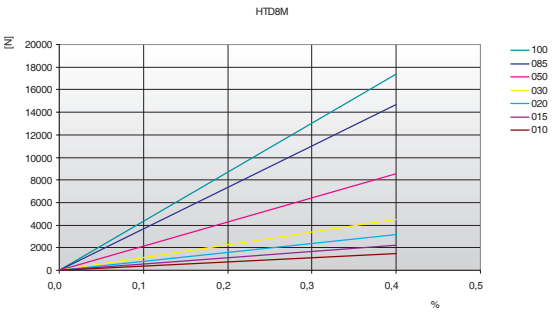
| | |
|---|---|
| • Width tolerance: | ±0,5 [mm] |
| • Length tolerance: | ±0,5 [mm/m] |
| • Thickness tolerance: | ±0,2 [mm] |

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 1470 | 735 | 5700 | 367500 | 0,07 |
| **15** | 2210 | 1105 | 8550 | 552500 | 0,11 |
| **20** | 3190 | 1595 | 12350 | 797500 | 0,14 |
| **30** | 4660 | 2330 | 18050 | 1165000 | 0,21 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,35 |
| **85** | 14700 | 7350 | 57000 | 3675000 | 0,60 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,70 |

Other widths are available on request.

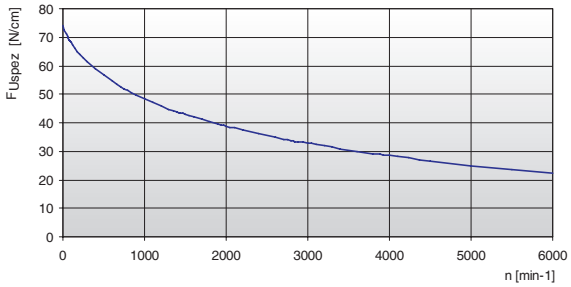
### Load / Elongation [ % ]




### Tooth shear strength

| rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] | rpm | $F_{Uspez}$ [N/cm] |
|---|---|---|---|---|---|---|---|
| **0** | 74,00 | **800** | 51,20 | **1900** | 39,52 | **4500** | 26,63 |
| **20** | 72,62 | **900** | 49,71 | **2000** | 38,78 | **5000** | 25,00 |
| **40** | 71,34 | **1000** | 48,35 | **2200** | 37,39 | **5500** | 23,51 |
| **60** | 70,16 | **1100** | 47,09 | **2400** | 36,12 | **6000** | 22,15 |
| **80** | 69,07 | **1200** | 45,93 | **2600** | 34,94 | - | - |
| **100** | 68,07 | **1300** | 44,84 | **2800** | 33,83 | - | - |
| **200** | 64,09 | **1400** | 43,82 | **3000** | 32,80 | - | - |
| **300** | 61,68 | **1440** | 43,43 | **3200** | 31,83 | - | - |
| **400** | 59,03 | **1500** | 42,86 | **3400** | 30,91 | - | - |
| **500** | 56,71 | **1600** | 41,96 | **3600** | 30,05 | - | - |
| **600** | 54,66 | **1700** | 41,10 | **3800** | 29,22 | - | - |
| **700** | 52,84 | **1800** | 40,29 | **4000** | 28,44 | - | - |

### 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:

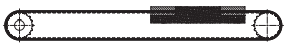
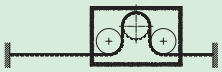
**$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b**

| | |
|---|---|
| $F_U$ [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 |
| $z_{emax}$ | = 12 for ELATECH® M |
| $z_{emax}$ | = 6 for ELATECH® V |
| b [cm] | = belt width in cm |

# HTD 8M
## TOTAL PROTECTION



### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord STANDARD |
|---|---|---|
| Drive without reverse bending | Timing pulley $z_{min}$ | 18 |
|  | Flat idler running on belt teeth $d_{min}$ | 50 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 18 |
|  | Flat idler running on belt back $d_{min}$ | 120 mm |

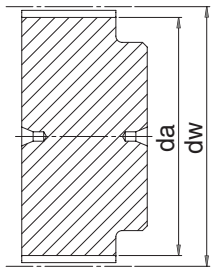
## Timing pulleys

| z | da | dw |
|---|---|---|
| **18** | 44,46 | 45,83 |
| **19** | 47,01 | 48,38 |
| **20** | 49,56 | 50,93 |
| **21** | 52,10 | 53,47 |
| **22** | 54,65 | 56,02 |
| **23** | 57,20 | 58,57 |
| **24** | 59,75 | 61,12 |
| **25** | 62,29 | 63,66 |
| **26** | 64,84 | 66,21 |
| **27** | 67,38 | 68,75 |
| **28** | 70,08 | 71,30 |
| **29** | 72,59 | 73,84 |
| **30** | 75,13 | 76,39 |
| **31** | 77,65 | 78,94 |
| **32** | 80,16 | 81,49 |
| **33** | 82,68 | 84,03 |
| **34** | 85,21 | 86,58 |
| **35** | 87,76 | 89,12 |
| **36** | 90,30 | 91,67 |
| **37** | 92,85 | 94,22 |
| **38** | 95,40 | 96,77 |
| **39** | 97,94 | 99,31 |
| **40** | 100,49 | 101,86 |
| **41** | 103,04 | 104,40 |
| **42** | 105,58 | 106,95 |
| **43** | 108,13 | 109,50 |
| **44** | 110,68 | 112,05 |
| **45** | 113,22 | 114,59 |
| **46** | 115,77 | 117,14 |
| **47** | 118,31 | 119,68 |

| z | da | dw |
|---|---|---|
| **48** | 120,86 | 122,23 |
| **49** | 123,40 | 124,77 |
| **50** | 125,95 | 127,32 |
| **51** | 128,50 | 129,87 |
| **52** | 131,05 | 132,41 |
| **53** | 133,59 | 134,96 |
| **54** | 136,14 | 137,51 |
| **55** | 138,68 | 140,05 |
| **56** | 141,23 | 142,60 |
| **57** | 143,78 | 145,15 |
| **58** | 146,32 | 147,69 |
| **59** | 148,87 | 150,24 |
| **60** | 151,42 | 152,79 |
| **61** | 153,96 | 155,33 |
| **62** | 156,52 | 157,89 |
| **63** | 159,06 | 160,43 |
| **64** | 161,60 | 162,97 |
| **65** | 164,15 | 165,52 |
| **66** | 166,69 | 168,06 |
| **67** | 169,24 | 170,61 |
| **68** | 171,79 | 173,16 |
| **69** | 174,33 | 175,70 |
| **70** | 176,88 | 178,25 |
| **71** | 179,43 | 180,80 |
| **72** | 181,98 | 183,35 |
| **73** | 184,52 | 185,89 |
| **74** | 187,07 | 188,44 |
| **75** | 189,61 | 190,98 |
| **76** | 192,16 | 193,53 |
| **77** | 194,71 | 196,08 |

| z | da | dw |
|---|---|---|
| **78** | 197,25 | 198,62 |
| **79** | 199,80 | 201,17 |
| **80** | 202,35 | 203,72 |
| **81** | 204,89 | 206,26 |
| **82** | 207,44 | 208,81 |
| **83** | 209,98 | 211,35 |
| **84** | 212,53 | 213,90 |
| **85** | 215,08 | 216,45 |
| **86** | 217,63 | 219,00 |
| **87** | 220,17 | 221,54 |
| **88** | 222,72 | 224,09 |
| **89** | 225,26 | 226,63 |
| **90** | 227,81 | 229,18 |
| **91** | 230,35 | 231,72 |
| **92** | 232,90 | 234,27 |
| **93** | 235,45 | 236,82 |
| **94** | 238,00 | 239,37 |
| **95** | 240,54 | 241,91 |
| **96** | 243,09 | 244,46 |
| **97** | 245,63 | 247,00 |
| **98** | 248,18 | 249,55 |
| **99** | 250,73 | 252,10 |
| **100** | 253,28 | 254,67 |
| **101** | 255,82 | 257,19 |
| **102** | 258,37 | 259,74 |
| **103** | 260,91 | 262,28 |
| **104** | 263,46 | 264,83 |
| **105** | 266,01 | 267,38 |
| **106** | 268,55 | 269,92 |
| **107** | 271,10 | 272,47 |

| z | da | dw |
|---|---|---|
| **108** | 273,64 | 275,01 |
| **109** | 276,19 | 277,56 |
| **110** | 278,74 | 280,11 |
| **111** | 281,29 | 282,66 |
| **112** | 283,84 | 285,21 |
| **113** | 286,38 | 287,75 |
| **114** | 288,93 | 290,30 |
| **115** | 291,47 | 292,84 |
| **116** | 294,02 | 295,39 |
| **117** | 296,57 | 297,94 |
| **118** | 299,11 | 300,48 |
| **119** | 301,66 | 303,03 |
| **120** | 304,20 | 305,57 |



# ELATECH® flat belts

ELATECH® flat belt's superior construction makes them the best solution in a wide range of lifting applications. Compared to steel cable they offer proven reliability, highly compact drives, maintenance-free operation and excellent dynamic properties.

Compact size and maintenance-free operation allow:

- low inertia, space savings and therefore lower manufacturing cost solutions
- lower power consumption in operation and therefore reduced running costs

In order to optimize the application in load and flexibility, ELATECH® flat belts are produced in a range of different thicknesses and steel cord diameters.

**Pulleys**
In some cases it is also possible to use guiding pulleys with a convex barrel shape. In this case we recommend following the specifications of the ISO R22 - DIN 111 norms. The use of the convex barrel pulleys, will result in an uneven force distribution in the belt. Therefore the allowable forces in the belt need to be revised.

**Belt storage**
Belts must be stored in a dry environment (max 60% relative humidity) with a temperature from 5 to 35 °C.

**Belt installation**
For a correct belt installation it is important that the belt's ends are securely and firmly fastened by the use of the correct belt end attachments. It is also recommended to use a very rigid and accurate assembly with perfectly parallel and rigid shafts. Belts and pulleys must be free from oil and grease and any dust or residual material which may affect the belt integrity during operation.

Pulley diameter depends on the type of belt and on the design load required by the application. Our catalogue suggests minimum diameters for use with the maximum allowable load. For an accurate pulley diameter calculation under different load conditions please contact our technical department.
The recommended pulley geometry is cylindrical with side flanges.
Proper design of belt ends is recommended to ensure application safety. Some possible design solutions for belt end clamping are shown here as examples.
ELATECH® flat belts are produced with a polyurethane body ensuring very high wear resistance. Steel tension cords of opposite construction (Z and S) are laid out in pairs to maximize dynamic properties. They provide excellent operational performance with low noise and vibrations and long lifetime.

In applications with more belts acting in parallel it is suggested to use belts from the same manufacturing batch with minimum belt thickness tolerance. The belt drive must be started up only when the entire machine or assembly has the necessary protective systems which meetsthe machine's safety guidelines. Belts are maintenance free, however, an accurate visual inspection of the belts and end attachments must be taken at least once per year.

**TP (Total Protection) Belts**
TP flat belts (without tooth gap) are available on demand.
Ask our technical Department for product specifications.

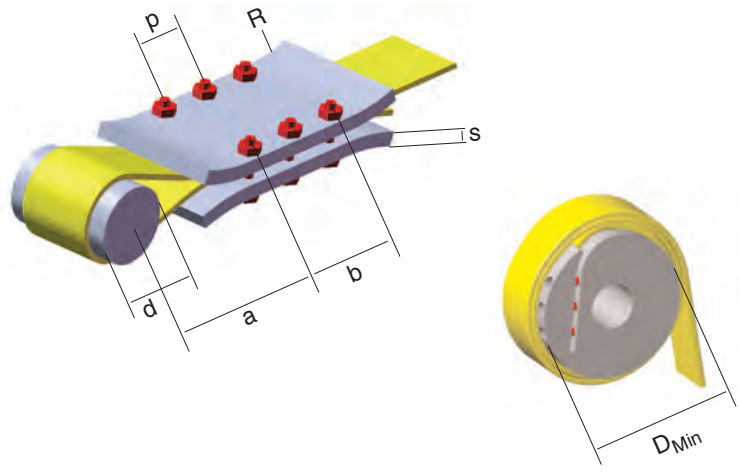
**Belt life**
Due to the wide application range and considering the fact that belts are one component of complex equipment, the loads in the belt itself are very seldom precisely predictable. This fact makes it impossible to confirm a precise belt service life. In order to optimize the belt life, it is important to follow the catalogue technical specifications related to pulley geometry and belt storage and installation. When all the catalogues of specifications are followed, a belt life of 3 million reverse bending cycles occurring over 10 years can be expected. This value was measured in tests under laboratory conditions.

**Belt fastening guidelines**

| Belt type [mm] | F1 | F2 | F2,5 | F3 |
|---|---|---|---|---|
| **a** | 25 | 45 | 50 | 75 |
| **b** | 40 | 60 | 80 | 125 |
| **p** | 20 | 20 | 20 | 25 |
| **s** | 3 | 5 | 5 | 5 |
| **d** | 15 | 30 | 30 | 50 |
| **Bolt** | M5 | M6 | M8 | M8 |
| **R (Radius)** | 12 | 12 | 12 | 20 |

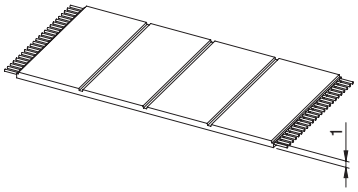
| Pulley [mm] | F1 | F2 | F2,5 | F3 |
|---|---|---|---|---|
| **D** | 50 | 60 | 80 | 120 |

It's recommended to have at least 2 turns on pulley.




Picture is not representative of real number of minimum required bolts

# F1




**Belt characteristics**

- Polyurethane flat belt with steel tension cords
- It is mainly used in lifting applications where there is no need for synchronization
- Allows the use of small diameter pulleys and compact drive design
- Black colour as standard
- Maintenance free
- Reduced thickness tolerance available on request

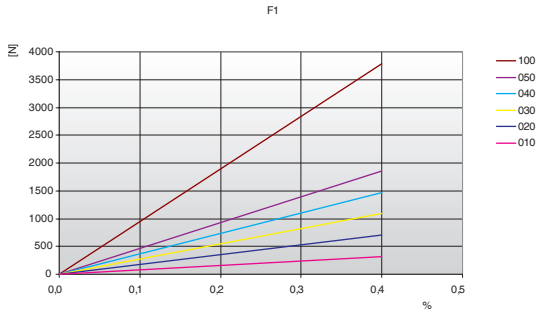
- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 320 | 160 | 1250 | 80000 | 0,02 |
| **20** | 700 | 350 | 2750 | 175000 | 0,04 |
| **30** | 1090 | 545 | 4250 | 272500 | 0,05 |
| **40** | 1470 | 735 | 5750 | 367500 | 0,08 |
| **50** | 1860 | 930 | 7250 | 465000 | 0,09 |
| **100** | 3780 | 1890 | 14750 | 945000 | 0,21 |

Other widths are available on request.

**Load / Elongation [ % ]**

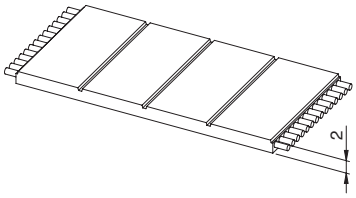



| Minimum pulley diameter | Drive without reverse bending [mm] | Drive with reverse bending [mm] |
|---|---|---|
| | 16 | 30 |

### Specialties

| Belt width b [mm] | ARAMID CORD | |
|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 700 | 2800 |
| **20** | 1540 | 6160 |
| **30** | 2380 | 9520 |
| **40** | 3220 | 12880 |
| **50** | 4060 | 16240 |
| **100** | 8260 | 33040 |

# F2




**Belt characteristics**

- Polyurethane flat belt with steel tension cords
- It is mainly used in lifting application where there is no need for synchronization
- Allows the use of small diameter pulleys
- Black colour as standard
- Maintenance free
- Reduced thickness tolerance available on request

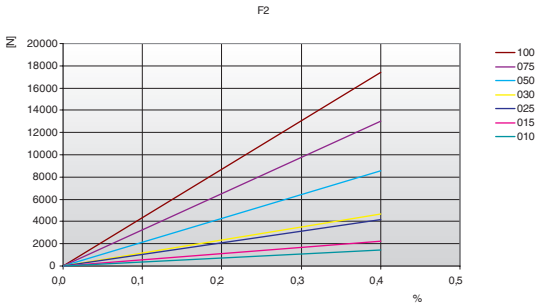
- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **10** | 1470 | 735 | 5700 | 367500 | 0,03 |
| **15** | 2210 | 1105 | 8550 | 552500 | 0,05 |
| **25** | 4170 | 2085 | 16150 | 1042500 | 0,08 |
| **30** | 4660 | 2330 | 18050 | 1165000 | 0,10 |
| **50** | 8580 | 4290 | 33250 | 2145000 | 0,17 |
| **75** | 12990 | 6495 | 50350 | 3247500 | 0,25 |
| **100** | 17400 | 8700 | 67450 | 4350000 | 0,34 |

Other widths are available on request.

**Load / Elongation [ % ]**

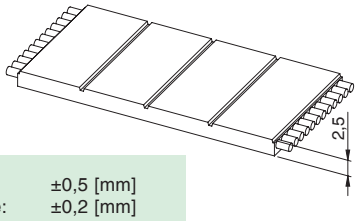



| Minimum pulley diameter | Drive without reverse bending [mm] | Drive with reverse bending [mm] |
|---|---|---|
| | 50 | 100 |

### Specialties

| Belt width b [mm] | ARAMID CORD | | STAINLESS STEEL | |
|---|---|---|---|---|
| | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] | $F_{Tzul}$ [N] **M type** | $F_{Br}$ [N] |
| **10** | 1320 | 6000 | 1080 | 4500 |
| **15** | 1980 | 9000 | 1620 | 6750 |
| **25** | 3740 | 17000 | 3060 | 12750 |
| **30** | 4180 | 19000 | 3420 | 14250 |
| **50** | 7700 | 35000 | 6300 | 26250 |
| **75** | 11660 | 53000 | 9540 | 39750 |
| **100** | 15620 | 71000 | 12780 | 53250 |

# F2,5




- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

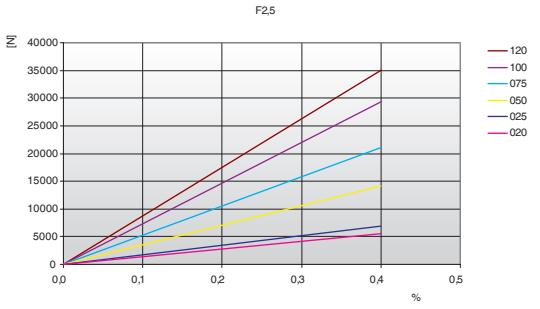
**Belt characteristics**
- Polyurethane flat belt with steel tension cords
- It is mainly used in lifting application where there is no need for synchronization
- Allows the use of small diameter pulleys
- Black colour as standard
- Maintenance free
- Reduced thickness tolerance available on request

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **20** | 5280 | 2640 | 19250 | 1320000 | 0,08 |
| **25** | 6720 | 3360 | 24500 | 1680000 | 0,09 |
| **50** | 14400 | 7200 | 52500 | 3600000 | 0,18 |
| **75** | 21600 | 10800 | 78750 | 5400000 | 0,27 |
| **100** | 29280 | 14640 | 106750 | 7320000 | 0,36 |
| **120** | 35040 | 17520 | 127750 | 8760000 | 0,42 |

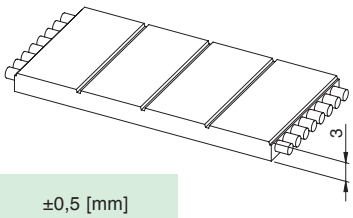
Other widths are available on request.

**Load / Elongation [ % ]**




| Minimum pulley diameter | Drive without reverse bending [mm] | Drive with reverse bending [mm] |
|---|---|---|
| | 80 | 150 |

# F3




- Width tolerance: ±0,5 [mm]
- Thickness tolerance: ±0,2 [mm]

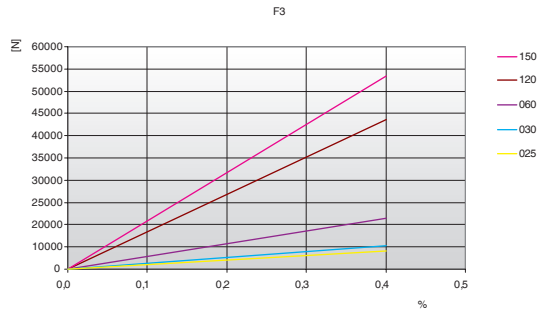
**Belt characteristics**
- Polyurethane flat belt with steel tension cords
- It is mainly used in lifting application where there is no need for synchronization
- Allows the use of small diameter pulleys
- Black colour as standard
- Maintenance free
- Reduced thickness tolerance available on request

## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|---|
| **25** | 8500 | 4250 | 32000 | 2125000 | 0,11 |
| **30** | 10200 | 5100 | 38400 | 2550000 | 0,12 |
| **60** | 21250 | 10625 | 80000 | 5312500 | 0,24 |
| **120** | 43350 | 21675 | 163200 | 10837500 | 0,48 |
| **150** | 53550 | 26775 | 201600 | 13387500 | 0,60 |

Other widths are available on request.

**Load / Elongation [ % ]**

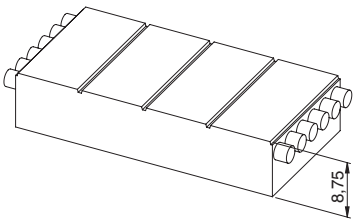



| Minimum pulley diameter | Drive without reverse bending [mm] | Drive with reverse bending [mm] |
|---|---|---|
| | 120 | 180 |

# FLAT
# Heavy Series

ELATECH® FLAT belt heavy series has been developed for the need in the automotive industry. They are used to lift car bodies in production lines or to convey car bodies or finished cars (skid supporting belt). They are made with 85 Sh A polyurethane body to ensure high grip on the motor pulley and with high performance steel tension member.

## F9




**Belt characteristics**
- Polyurethane flat belt with steel tension cords
- Long service life
- Black colour as standard
- Maintenance free
- Minimum elastic elongation
- No cords exposed

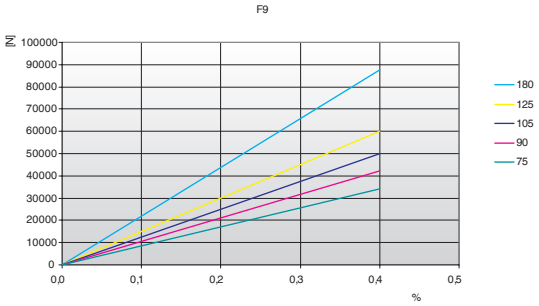
## F9 - Technical Data

- Width tolerance: ±1,0 [mm]
- Thickness tolerance: ±0,5 [mm]

| Belt width<br>b<br>[mm] | Allowable tensile load<br>**Type M**<br>$F_{Tzul}$<br>[N] | Breaking load<br>**Type M**<br>$F_{Br}$<br>[N] | Specific spring rate<br>$C_{spez}$<br>[N] | Weight<br>[kg/m] |
|---|---|---|---|---|
| **75** | 34000 | 119000 | 8500000 | 1,1 |
| **90** | 42000 | 147000 | 10500000 | 1,6 |
| **105** | 50000 | 175000 | 12500000 | 1,6 |
| **125** | 60000 | 210000 | 15000000 | 1,9 |
| **180** | 88000 | 308000 | 22000000 | 2,8 |

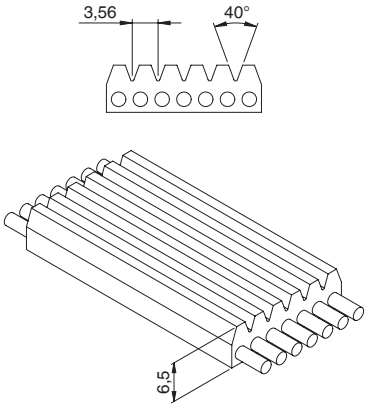
Other widths are available on request.

**Load / Elongation [ % ]**




| Minimum pulley diameter | Drive without reverse bending [mm] | Drive with reverse bending [mm] |
|---|---|---|
| | 200 | 300 |

# POLY-V K




**Belt characteristics**

- Polyurethane Poly-V belt with K profile and high tensile load steel cords for high performance and increased flexibility
- The Poly-V profile allows torque high transmission, small pulley diameter
- Low noise generation
- Widely used in lifting applications
- Special cords available on request

- Width tolerance: ±1,0 [mm]
- Thickness tolerance: ±0,4 [mm]

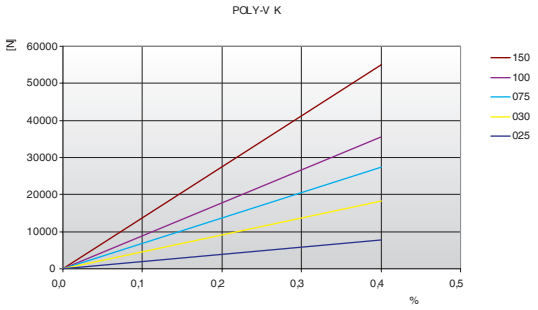


## Technical Data

| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Specific spring rate $C_{spez}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| **25** | 7700 | 31500 | 1925000 | 0,28 |
| **30** | 9900 | 40500 | 2475000 | 0,34 |
| **75** | 27500 | 112500 | 6875000 | 0,89 |
| **100** | 35200 | 144000 | 8800000 | 1,11 |
| **150** | 55000 | 225000 | 13750000 | 1,67 |

Other widths are available on request.

**Load / Elongation [ % ]**

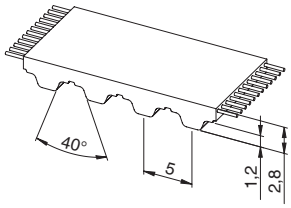



| Minimum pulley diameter | Drive without reverse bending [mm] | Drive with reverse bending [mm] |
|---|---|---|
| | 150 | 250 |

TT5

# TT5 Polyurethane timing belts

ELATECH® manufactures special TT5 belts which have been expressly designed for application in circular knitting machines drives.




**Belt characteristics**
- Trapezoidal tooth profile according to ISO 17396
- Metric pitch 5 mm
- Standard colour: blue with kevlar® cords, white with steel cords, other colours available on request
- Polyurethane 88 Sh A

- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]
- Thickness tolerance: ±0,2 [mm]

## Technical Data

ELATECH® belts TT5 are available in the following executions:

**ELATECH® - V**
- A special splicing and welding process offers superior traction load resistance
- They are available both with steel and aramid cords
- Special colours available on demand
- Available in any length tooth by tooth

**ELA-flex SD® truly endless**
- ELA-flex SD® TT5 have no splice and welding and therefore offer best traction resistance load
- They are available both with steel and aramid cords
- Special colours available on demand
- Available in all lengths tooth by tooth up to a length of 17900 mm

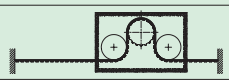
| Belt width b [mm] | Allowable tensile load **Type M** $F_{Tzul}$ [N] | Allowable tensile load **Type V** $F_{Tzul}$ [N] | Breaking load **Type M** $F_{Br}$ [N] | Weight [kg/m] |
|---|---|---|---|---|
| ARAMID (Kevlar) cords | | | | |
| 10 | 840 | 420 | 3360 | 0,019 |
| STEEL cords | | | | |
| 10 | 320 | 190 | 1250 | 0,021 |

| Type | Belt length [mm] |
|---|---|
| 10TT5/4800K | 4800 |
| 10TT5/5000K | 5000 |
| 10TT5/5200K | 5200 |
| 10TT5/5600K | 5600 |
| 10TT5/5800K | 5800 |
| 10TT5/6000K | 6000 |
| 10TT5/6200K | 6200 |
| 10TT5/6400K | 6400 |
| 10TT5/6600K | 6600 |
| 10TT5/6800K | 6800 |
| 10TT5/7000K | 7000 |
| 10TT5/7200K | 7200 |
| 10TT5/7400K | 7400 |
| 10TT5/7500K | 7500 |
| 10TT5/7600K | 7600 |
| 10TT5/7800K | 7800 |
| 10TT5/8000K | 8000 |
| 10TT5/8200K | 8200 |
| 10TT5/8300K | 8300 |
| 10TT5/8400K | 8400 |
| 10TT5/8600K | 8600 |
| 10TT5/8800K | 8800 |
| 10TT5/8900K | 8900 |
| 10TT5/9000K | 9000 |

| Type | Belt length [mm] |
|---|---|
| 10TT5/9200K | 9200 |
| 10TT5/9400K | 9400 |
| 10TT5/9600K | 9600 |
| 10TT5/9800K | 9800 |
| 10TT5/10000K | 10000 |
| 10TT5/10200K | 10200 |
| 10TT5/10300K | 10300 |
| 10TT5/10400K | 10400 |
| 10TT5/10600K | 10600 |
| 10TT5/10800K | 10800 |
| 10TT5/11200K | 11200 |
| 10TT5/11300K | 11300 |
| 10TT5/11800K | 11800 |
| 10TT5/12000K | 12000 |
| 10TT5/12300K | 12300 |
| 10TT5/12700K | 12700 |
| 10TT5/12800K | 12800 |
| 10TT5/13000K | 13000 |
| 10TT5/13200K | 13200 |
| 10TT5/13400K | 13400 |
| 10TT5/13600K | 13600 |
| 10TT5/15400K | 15400 |
| 10TT5/17900K | 17900 |

Note: Steel tensile cord member available upon request

### Flexibility

| Minimum pulley number of teeth and minimum idler diameter | | Type of cord | |
|---|---|---|---|
| | | STANDARD | ARAMID |
| Drive without reverse bending | Timing pulley $z_{min}$ | 12 | 12 |
|  | Flat idler running on belt teeth $d_{min}$ | 30 mm | 30 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 15 | 15 |
|  | Flat idler running on belt back $d_{min}$ | 30 mm | 30 mm |