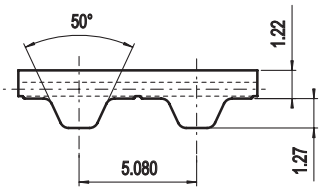
## XL




**Belt characteristics**

- Polyurethane timing belt with trapezoidal tooth profile according to DIN/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)

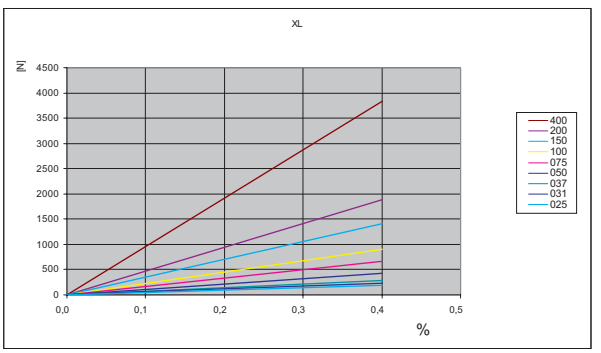
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]
- Thickness tolerance: ±0,2 [mm]

## Technical data

| Belt width 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] |
|---|---|---|---|---|---|
| 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.

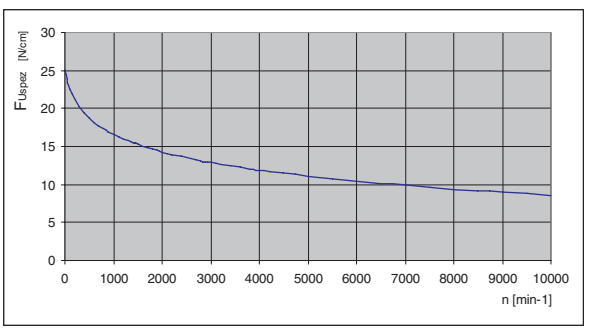
**Load / Elongation [ % ]**




**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 strenght / 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:

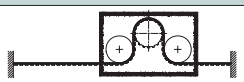
$F_U$ [N] = $F_{Uspez}$ • $z_e$ • b

$F_U$ [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

| PROFILE | Belt width b<br>Code /mm | ARAMID CORD | |
|---|---|---|---|
| | | $F_{Tzul}$ [N]<br>M type | $F_{Br}$ [N] |
| XL | 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 | | | |
|---|---|---|---|
| XL | | TYPE OF CORD | |
| | | STANDARD | ARAMID |
| Drive without reverse bending | Timing pulley $z_{min}$ | 10 | 10 |
|  | Idler running on belt teeth $d_{min}$ | 30 mm | 30 mm |
| Drive with reverse bending | Timing pulley $z_{min}$ | 15 | 15 |
|  | Idler running on belt back $d_{min}$ | 30 mm | 30 mm |

## Timing pulleys

| z | da | dw | z | da | dw | z | da | dw | z | da | dw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 15,66 | 16,17 | **39** | 62,55 | 63,06 | **68** | 109,45 | 109,96 | **97** | 156,34 | 156,85 |
| **11** | 17,28 | 17,79 | **40** | 64,17 | 64,68 | **69** | 111,06 | 111,57 | **98** | 157,96 | 158,47 |
| **12** | 18,89 | 19,40 | **41** | 65,79 | 66,30 | **70** | 112,68 | 113,19 | **99** | 159,57 | 160,08 |
| **13** | 20,51 | 21,02 | **42** | 67,40 | 67,91 | **71** | 114,30 | 114,81 | **100** | 161,19 | 161,70 |
| **14** | 22,13 | 22,64 | **43** | 69,02 | 69,53 | **72** | 115,92 | 116,43 | **101** | 162,81 | 163,32 |
| **15** | 23,74 | 24,25 | **44** | 70,64 | 71,15 | **73** | 117,53 | 118,04 | **102** | 164,42 | 164,93 |
| **16** | 25,36 | 25,87 | **45** | 72,26 | 72,77 | **74** | 119,15 | 119,66 | **103** | 166,04 | 166,55 |
| **17** | 26,98 | 27,49 | **46** | 73,87 | 74,38 | **75** | 120,77 | 121,28 | **104** | 167,66 | 168,17 |
| **18** | 28,60 | 29,11 | **47** | 75,49 | 76,00 | **76** | 122,38 | 122,89 | **105** | 169,28 | 169,79 |
| **19** | 30,21 | 30,72 | **48** | 77,11 | 77,62 | **77** | 124,00 | 124,51 | **106** | 170,89 | 171,40 |
| **20** | 31,83 | 32,34 | **49** | 78,72 | 79,23 | **78** | 125,62 | 126,13 | **107** | 172,51 | 173,02 |
| **21** | 33,45 | 33,96 | **50** | 80,34 | 80,85 | **79** | 127,23 | 127,74 | **108** | 174,13 | 174,64 |
| **22** | 35,06 | 35,57 | **51** | 81,96 | 82,47 | **80** | 128,85 | 129,36 | **109** | 175,74 | 176,25 |
| **23** | 36,68 | 37,19 | **52** | 83,57 | 84,08 | **81** | 130,47 | 130,98 | **110** | 177,36 | 177,87 |
| **24** | 38,30 | 38,81 | **53** | 85,19 | 85,70 | **82** | 132,08 | 132,59 | **111** | 178,98 | 179,49 |
| **25** | 39,92 | 40,43 | **54** | 86,81 | 87,32 | **83** | 133,70 | 134,21 | **112** | 180,59 | 181,10 |
| **26** | 41,53 | 42,04 | **55** | 88,42 | 88,93 | **84** | 135,32 | 135,83 | **113** | 182,21 | 182,72 |
| **27** | 43,15 | 43,66 | **56** | 90,04 | 90,55 | **85** | 136,93 | 137,44 | **114** | 183,83 | 184,34 |
| **28** | 44,77 | 45,28 | **57** | 91,66 | 92,17 | **86** | 138,55 | 139,06 | **115** | 185,44 | 185,95 |
| **29** | 46,38 | 46,89 | **58** | 93,28 | 93,79 | **87** | 140,17 | 140,68 | **116** | 187,06 | 187,57 |
| **30** | 48,00 | 48,51 | **59** | 94,89 | 95,40 | **88** | 141,75 | 142,30 | **117** | 188,68 | 189,19 |
| **31** | 49,62 | 50,13 | **60** | 96,51 | 97,02 | **89** | 143,36 | 143,91 | **118** | 190,30 | 190,81 |
| **32** | 51,23 | 51,74 | **61** | 98,13 | 98,64 | **90** | 145,02 | 145,53 | **119** | 191,91 | 192,42 |
| **33** | 52,85 | 53,36 | **62** | 99,74 | 100,25 | **91** | 146,64 | 147,15 | **120** | 193,53 | 194,04 |
| **34** | 54,47 | 54,98 | **63** | 101,36 | 101,87 | **92** | 148,25 | 148,76 | | | |
| **35** | 56,09 | 56,60 | **64** | 102,98 | 103,49 | **93** | 149,87 | 150,38 | | | |
| **36** | 57,70 | 58,21 | **65** | 104,60 | 105,11 | **94** | 151,49 | 152,00 | | | |
| **37** | 59,32 | 59,83 | **66** | 106,21 | 106,72 | **95** | 153,11 | 153,62 | | | |
| **38** | 60,94 | 61,45 | **67** | 107,83 | 108,34 | **96** | 154,72 | 155,23 | | | |