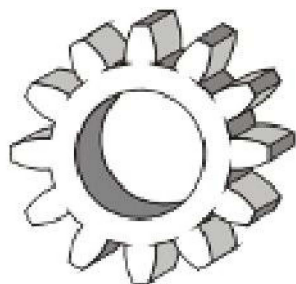


DYSTRYBUTOR



TECHNICAL

GRZEGORZ TĘGOS

TECHNIKA NAPĘDU I TRANSMISJI MOCY

62-600 Koło, ul. Toruńska 212
tel. 0-63/ 27 25 478 / fax. 0-63/ 26 16 258

www.technical.pl
biuro@technical.pl

Sklep internetowy
www.sklep.technical.pl

Pasy zębate PU z metra

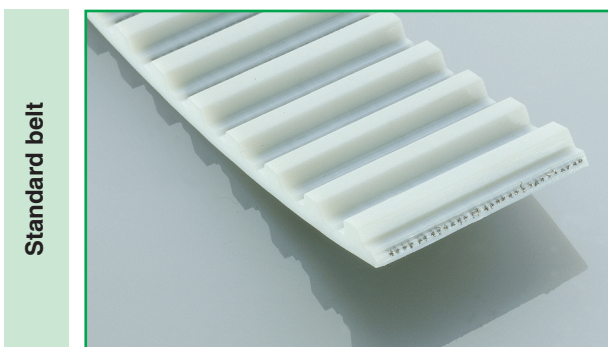
podziałka MXL, XL, L, H, XH



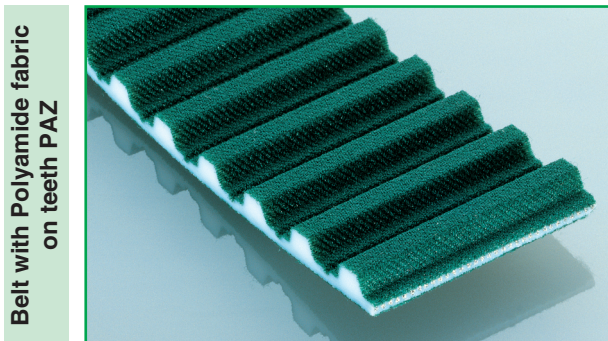
Antriebsselemente

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

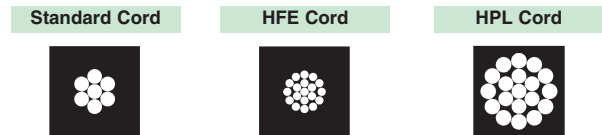
- ELATECH® belts are certified to be according RoHS 2011/65/UE
- On request, it is possible to deliver belts:
 - with antistatic properties according to ISO9563
 - other special certifications available on request

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

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 :

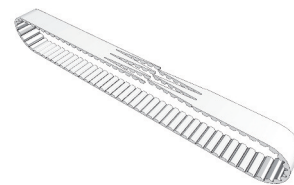
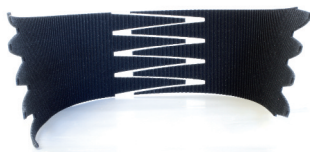
ELATECH® "R" - Roll 100 m	R	025	T	10	A / Z
ELATECH® timing belt type "R"					
Width 25 mm (3 digits)					
Profile "T"					
Pitch 10 mm					
A= steel cords S= inox cords K= Kevlar® cords F= high flexibility cords P= high power cords					
Z= fabric on teeth (PAZ) R= fabric on back (PAR) D= fabric on PAZ + PAR					

Ordering example profile H cut to length:

ELATECH® "M" cut to length	M	100	H	A	01000 / Z
ELATECH® timing belt type "M"					
Width (x 0,254 = mm) - 3 digits					
Profile "H"					
A= stainless steel cords S= inox cords K= Kevlar® cords F= high flexibility cords P= high power cords					
Length 1000 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.



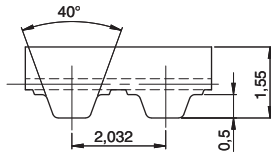
Ordering example profile AT :

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= stainless steel cords S= inox cords K= Kevlar® cords F= high flexibility 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	00750 / Z
ELATECH timing belt type "V" jointed					
Width (x 0,254 = mm) - 3 digits					
Profile "XL"					
A= stainless steel cords S= inox cords K= Kevlar® cords F= high flexibility cords P= high power cords					
Length 750 mm (5 digits)					
Z= fabric on teeth (PAZ) R= fabric on back (PAR) D= fabric on PAZ + PAR					

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

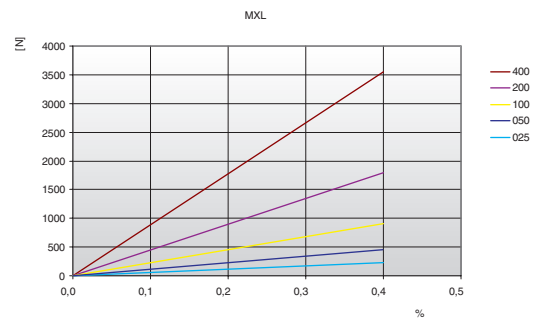
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,8 [mm/m]
- Thickness tolerance: ±0,1 [mm]

Technical Data

Belt width 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	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.

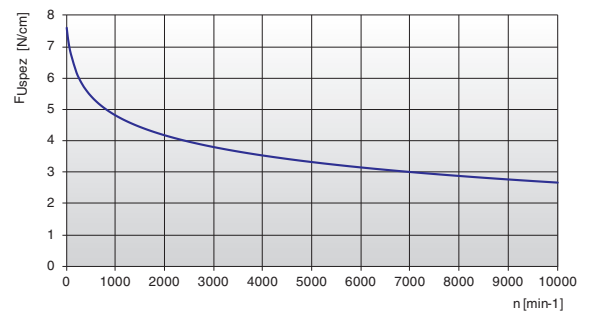
Load / Elongation [%]



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.


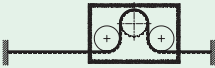
The total load F_u transmissible by the belt in the drive is calculated by:

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

- 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

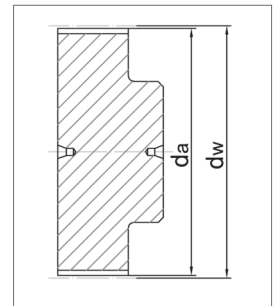
MXL

Flexibility

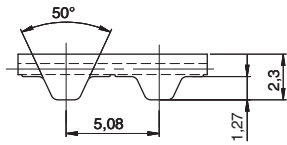
Minimum pulley number of teeth and minimum idler diameter		Type of cord
		STANDARD
	Timing pulley z_{min}	12
	Flat idler running on belt teeth d_{min}	20 mm
	Timing pulley z_{min}	15
	Flat idler running on belt back d_{min}	25 mm

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
10	5,96	6,47	44	27,95	28,46	78	49,94	50,45	112	71,93	72,44
11	6,61	7,12	45	28,60	29,11	79	50,59	51,10	113	72,58	73,09
12	7,25	7,76	46	29,24	29,75	80	51,23	51,74	114	73,23	73,74
13	7,90	8,41	47	29,89	30,40	81	51,88	52,39	115	73,87	74,38
14	8,55	9,06	48	30,54	31,05	82	52,53	53,04	116	74,52	75,03
15	9,19	9,70	49	31,18	31,69	83	53,17	53,68	117	75,17	75,68
16	9,84	10,35	50	31,83	32,34	84	53,82	54,33	118	75,81	76,32
17	10,49	11,00	51	32,48	32,99	85	54,47	54,98	119	76,46	76,97
18	11,13	11,64	52	33,12	33,63	86	55,12	55,63	120	77,11	77,62
19	11,78	12,29	53	33,77	34,28	87	55,76	56,27	121	77,75	78,26
20	12,43	12,94	54	34,42	34,93	88	56,41	56,92	122	78,40	78,91
21	13,07	13,58	55	35,06	35,57	89	57,06	57,57	123	79,05	79,56
22	13,72	14,23	56	35,71	36,22	90	57,70	58,21	124	79,69	80,20
23	14,37	14,88	57	36,36	36,87	91	58,36	58,86	125	80,34	80,85
24	15,01	15,52	58	37,00	37,51	92	59,00	59,51	126	80,99	81,50
25	15,66	16,17	59	37,65	38,16	93	59,64	60,15	127	81,63	82,14
26	16,31	16,82	60	38,30	38,81	94	60,29	60,80	128	82,28	82,79
27	16,95	17,46	61	38,95	39,46	95	60,94	61,45	129	82,93	83,44
28	17,60	18,11	62	39,59	40,10	96	61,58	62,09	130	83,57	84,08
29	18,25	18,76	63	40,24	40,75	97	62,23	62,74	131	84,22	84,73
30	18,89	19,40	64	40,89	41,40	98	62,88	63,39	132	84,87	85,38
31	19,54	20,05	65	41,53	42,04	99	63,52	64,03	133	85,51	86,02
32	20,19	20,70	66	42,18	42,69	100	64,17	64,68	134	86,16	86,67
33	20,83	21,34	67	42,83	43,34	101	64,82	65,33	135	86,81	87,32
34	21,48	21,99	68	43,47	43,98	102	65,46	65,97	136	87,46	87,97
35	22,13	22,64	69	44,12	44,63	103	66,11	66,62	137	88,10	88,61
36	22,78	23,29	70	44,77	45,28	104	66,76	67,27	138	88,75	89,26
37	23,42	23,93	71	45,41	45,92	105	67,40	67,91	139	89,40	89,91
38	24,07	24,58	72	46,06	46,57	106	68,05	68,56	140	90,04	90,55
39	24,72	25,23	73	46,71	47,22	107	68,70	69,21			
40	25,36	25,87	74	47,35	47,86	108	69,34	69,85			
41	26,01	26,52	75	48,00	48,51	109	69,99	70,50			
42	26,66	27,17	76	48,65	49,16	110	70,64	71,15			
43	27,30	27,81	77	49,29	49,80	111	71,29	71,80			



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 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	260	130	1000	65000	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.

Tooth shear strength

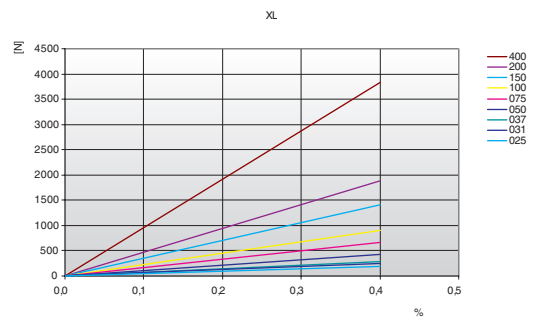
rpm	F _{Uspez} [N/cm]	rpm	F _{Uspez} [N/cm]	rpm	F _{Uspez} [N/cm]	rpm	F _{Uspez} [N/cm]
0	25,10	800	17,32	1900	14,46	4500	11,45
20	24,46	900	16,94	2000	14,28	5000	11,08
40	23,90	1000	16,60	2200	13,96	5500	10,74
60	23,42	1100	16,29	2400	13,66	6000	10,43
80	23,00	1200	16,01	2600	13,38	6500	10,14
100	22,63	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

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:

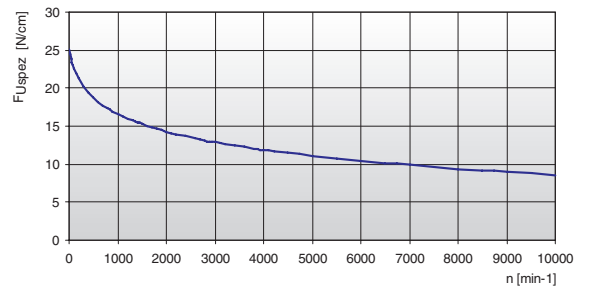
$$F_u [N] = F_{Uspez} \cdot z_e \cdot b$$

- 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

Load / Elongation [%]



Tooth shear strength / rpm





XL

Specialties

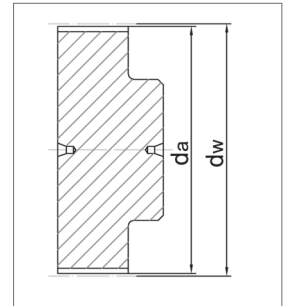
Belt width b	ARAMID CORD	
	F _{Tzul} [N] M type	F _{Br} [N]
025 / 6,35	420	1680
031 / 7,94	560	1230
037 / 9,53	630	2520
050 / 12,7	910	3640
075 / 19,1	1470	5880
100 / 25,4	1960	7840
150 / 38,1	3080	12320
200 / 50,8	4130	16520
400 / 101,6	8400	33600

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

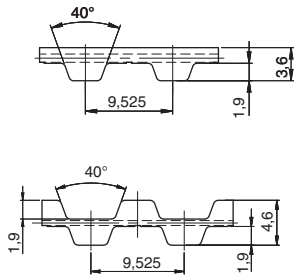
Timing pulleys

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





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)

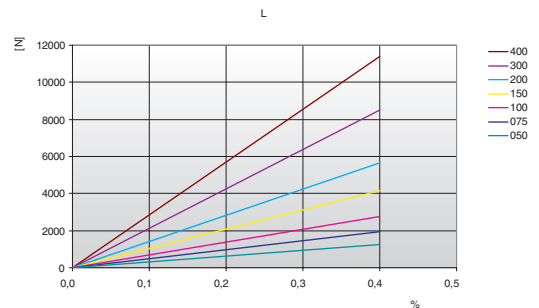
- Width tolerance: $\pm 0,5$ [mm]
- Length tolerance: $\pm 0,5$ [mm/m]
- Thickness tolerance: $\pm 0,2$ [mm]

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.

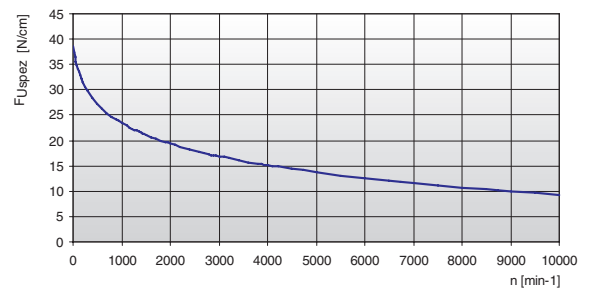
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	38,6	800	24,7	1900	19,66	4500	14,36
20	37,42	900	24,04	2000	19,35	5000	13,7
40	36,4	1000	23,44	2200	18,77	5500	13,1
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	17,3	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	16,1	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



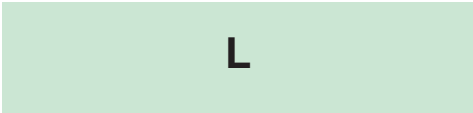
The specific load F_{Uspez} is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.

This force is related to the drive rpm.

The total load F_u transmissible by the belt in the drive is calculated by:

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


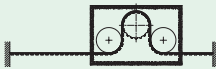
- F_u [N] = peripheral force
- F_{Uspez} [N/cm] = specific load
- Z_e = number of teeth in mesh in the small pulley
- Z_{emax} = max. no of teeth in mesh to be considered for the calculation of the drive
- Z_{emax} = 12 for ELATECH® M
- Z_{emax} = 6 for ELATECH® V
- b [cm] = belt width in cm



Specialties

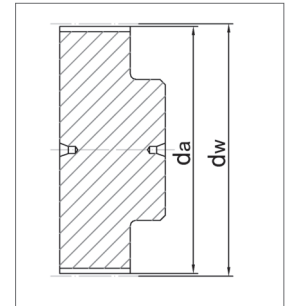
Belt width b Code / mm	ARAMID CORD		STAINLESS STEEL	
	F _{Tzul} [N] M type	F _{Br} [N]	F _{Tzul} [N] M type	F _{Br} [N]
050 / 12,7	1210	4950	830	3300
075 / 19,1	1870	7650	1280	5100
100 / 25,4	2640	10800	1800	7200
150 / 38,1	4080	16700	2700	10800
200 / 50,8	5390	22050	3680	14700
300 / 76,2	8140	33300	-	-
400 / 101,6	10890	44550	-	-

Flexibility

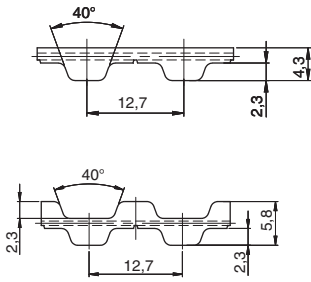
Minimum pulley number of teeth and minimum idler diameter		Type of cord		
		STANDARD	ARAMID	STAINLESS
Drive without reverse bending 	Timing pulley z _{min}	15	15	18
	Flat idler running on belt teeth d _{min}	60 mm	60 mm	65 mm
Drive with reverse bending 	Timing pulley z _{min}	20	20	20
	Flat idler running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

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
10	29,56	30,32	40	120,52	121,27	70	211,47	212,23	100	302,43	303,18
11	32,59	33,35	41	123,55	124,30	71	214,50	215,26	101	305,46	306,21
12	35,62	36,38	42	126,58	127,33	72	217,53	218,29	102	308,49	309,24
13	38,65	39,41	43	129,61	130,36	73	220,56	221,32	103	311,52	312,29
14	41,68	42,44	44	132,64	133,39	74	223,59	224,35	104	314,55	315,32
15	44,71	45,47	45	135,67	136,44	75	226,62	227,38	105	317,58	318,35
16	47,74	48,50	46	138,70	139,47	76	229,65	230,41	106	320,61	321,38
17	50,77	51,53	47	141,73	142,50	77	232,70	233,46	107	323,64	324,41
18	53,80	54,56	48	144,76	145,53	78	235,73	236,49	108	326,69	327,44
19	56,83	57,61	49	147,80	148,56	79	238,76	239,52	109	329,72	330,47
20	59,88	60,64	50	150,83	151,59	80	241,79	242,55	110	332,75	333,50
21	62,91	63,67	51	153,86	154,62	81	244,82	245,58	111	335,78	336,53
22	65,94	66,70	52	156,89	157,65	82	247,85	248,61	112	338,81	339,56
23	68,97	69,73	53	159,92	160,68	83	250,88	251,64	113	341,84	342,61
24	72,00	72,76	54	162,95	163,71	84	253,91	254,67	114	344,87	345,64
25	75,03	75,80	55	166,00	166,76	85	256,94	257,70	115	347,90	348,67
26	78,06	78,83	56	169,03	169,79	86	259,97	260,73	116	350,93	351,70
27	81,09	81,86	57	172,06	172,82	87	263,02	263,78	117	353,96	354,73
28	84,12	84,89	58	175,09	175,85	88	266,05	266,81	118	357,00	357,76
29	87,15	87,92	59	178,12	178,88	89	269,08	269,84	119	360,03	360,79
30	90,20	90,95	60	181,15	181,91	90	272,11	272,87	120	363,07	363,82
31	93,23	93,98	61	184,18	184,94	91	275,14	275,90			
32	96,26	97,01	62	187,21	187,97	92	278,17	278,93			
33	99,29	100,04	63	190,24	191,00	93	281,20	281,96			
34	102,32	103,07	64	193,27	194,03	94	284,23	285,00			
35	105,35	106,12	65	196,30	197,06	95	287,26	288,03			
36	108,38	109,15	66	199,33	200,11	96	290,30	291,06			
37	111,41	112,18	67	202,38	203,14	97	293,33	294,09			
38	114,44	115,21	68	205,41	206,17	98	296,36	297,12			
39	117,47	118,24	69	208,44	209,20	99	299,40	300,15			



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	17370	8685	63420	4342500	0,56
800 / 203,2*	11390	5695	41580	2847500	0,65

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

Tooth shear strength

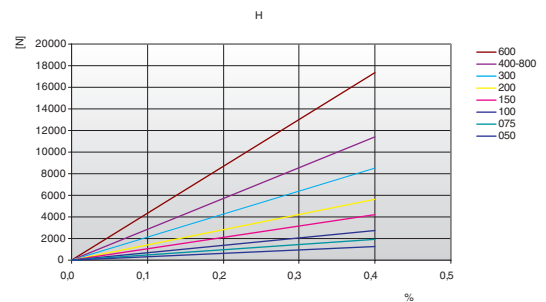
rpm	F _{Uspez} [N/cm]	rpm	F _{Uspez} [N/cm]	rpm	F _{Uspez} [N/cm]	rpm	F _{Uspez} [N/cm]
0	45,30	800	29,04	1900	23,11	4500	16,88
20	43,95	900	28,26	2000	22,74	5000	16,11
40	42,78	1000	27,55	2200	22,07	5500	15,41
60	41,77	1100	26,90	2400	21,44	6000	14,76
80	40,88	1200	26,31	2600	20,87	6500	14,17
100	40,11	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

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:

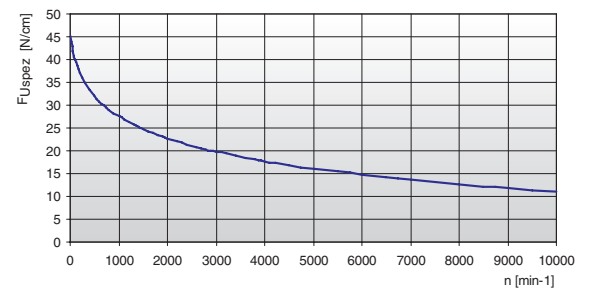
$$F_u [N] = F_{Uspez} \cdot Z_e \cdot b$$

- 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

Load / Elongation [%]



Tooth shear strength / rpm




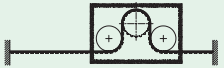
H

Specialties

Belt width b 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	4100	16700	2700	10800
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*	11000	45000	-	-

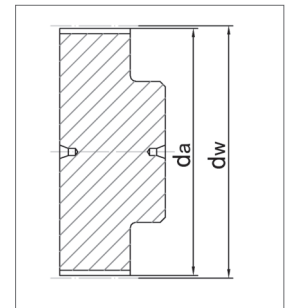
*= double cords spacing

Flexibility

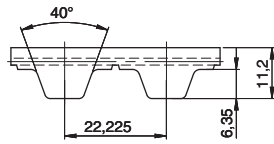
Minimum pulley number of teeth and minimum idler diameter		Type of cord		
		STANDARD	ARAMID	STAINLESS
 Drive without reverse bending	Timing pulley z _{min}	14	14	20
	Flat idler running on belt teeth d _{min}	60 mm	60 mm	80 mm
 Drive with reverse bending	Timing pulley z _{min}	20	20	40
	Flat idler running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

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
14	55,23	56,60	44	176,50	177,86	74	297,78	299,14	104	419,04	420,42
15	59,27	60,64	45	180,54	181,90	75	301,82	303,18	105	423,08	424,46
16	63,31	64,68	46	184,58	185,96	76	305,86	307,22	106	427,14	428,50
17	67,35	68,72	47	188,62	190,00	77	309,90	311,26	107	431,18	432,54
18	71,40	72,76	48	192,67	194,04	78	313,94	315,32	108	435,22	436,58
19	75,44	76,80	49	196,71	198,08	79	317,98	319,36	109	439,26	440,62
20	79,48	80,84	50	200,75	202,13	80	322,02	323,40	110	443,30	444,68
21	83,52	84,88	51	204,80	206,17	81	326,06	327,44	111	447,34	448,72
22	87,57	88,94	52	208,84	210,21	82	330,12	331,48	112	451,38	452,76
23	91,61	92,98	53	212,88	214,25	83	334,16	335,52	113	455,42	456,80
24	95,65	97,02	54	216,92	218,29	84	338,20	339,56	114	459,48	460,84
25	99,69	101,06	55	220,96	222,33	85	342,24	343,60	115	463,52	464,88
26	103,73	105,10	56	225,00	226,37	86	346,28	347,66	116	467,56	468,92
27	107,77	109,14	57	229,04	230,41	87	350,33	351,70	117	471,60	472,96
28	111,81	113,18	58	233,10	234,47	88	354,37	355,74	118	475,64	477,02
29	115,85	117,22	59	237,14	238,51	89	358,41	359,78	119	479,68	481,06
30	119,91	121,28	60	241,18	242,55	90	362,45	363,82	120	483,72	485,10
31	123,95	125,32	61	245,22	246,59	91	366,50	367,86			
32	127,99	129,36	62	249,26	250,63	92	370,54	371,90			
33	132,03	133,40	63	253,30	254,67	93	374,58	375,94			
34	136,07	137,44	64	257,34	258,71	94	378,62	380,00			
35	140,11	141,48	65	261,38	262,75	95	382,66	384,04			
36	144,15	145,52	66	265,44	266,81	96	386,70	388,08			
37	148,20	149,56	67	269,48	270,85	97	390,74	392,12			
38	152,24	153,62	68	273,52	274,89	98	394,80	396,16			
39	156,28	157,66	69	277,56	278,93	99	398,84	400,20			
40	160,32	161,70	70	281,60	282,97	100	402,88	404,24			
41	164,36	165,74	71	285,64	287,01	101	406,92	408,28			
42	168,42	169,78	72	289,68	291,05	102	410,96	412,34			
43	172,46	173,82	73	293,72	295,10	103	415,00	416,38			



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)

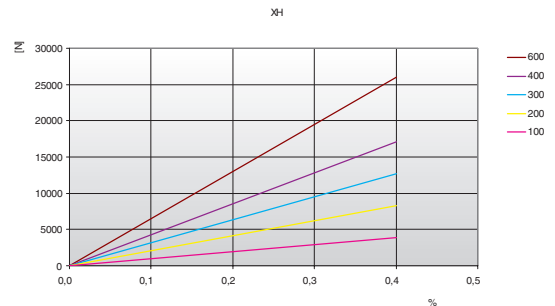
- Width tolerance: $\pm 1,0$ [mm]
- Length tolerance: $\pm 0,5$ [mm/m]
- Thickness tolerance: $\pm 0,4$ [mm]

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]
100 / 25,4	3920	1960	15200	980000	0,370
200 / 50,8	8330	4165	32300	2082500	0,660
300 / 76,2	12740	6370	49400	3185000	0,990
400 / 101,6	17150	8575	66500	4287500	1,330
600 / 152,4	25970	12985	100700	6492500	1,990

Other widths are available on request.

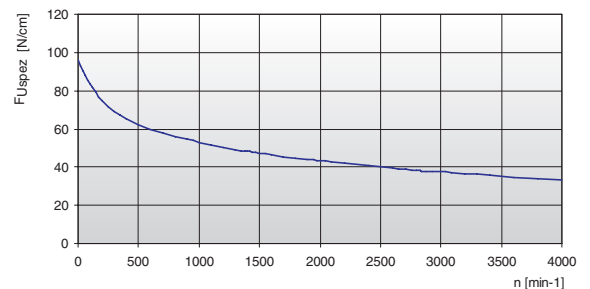
Load / Elongation [%]



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:

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


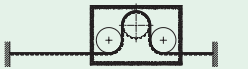
- $F_u [N]$ = peripheral force
- $F_{Uspez} [N/cm]$ = specific load
- Z_e = number of teeth in mesh in the small pulley
- Z_{emax} = max. no of teeth in mesh to be considered for the calculation of the drive
- Z_{emax} = 12 for ELATECH® M
- Z_{emax} = 6 for ELATECH® V
- $b [cm]$ = belt width in cm

XH

Specialties

Belt width b 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	z	da	dw	z	da	dw	z	da	dw
18	127,34	124,55	48	339,57	336,77	78	551,79	549,00	108	764,03	761,22
19	134,41	131,62	49	346,66	343,87	79	558,88	556,07	109	771,10	768,30
20	141,48	138,68	50	353,73	350,93	80	565,95	563,15	110	778,17	775,37
21	148,55	145,76	51	360,80	358,00	81	573,02	570,22	111	785,26	782,44
22	155,64	152,84	52	367,87	365,07	82	580,09	577,29	112	792,33	789,51
23	162,71	159,91	53	374,94	372,14	83	587,18	584,36	113	799,40	796,60
24	169,78	167,00	54	382,01	379,21	84	594,25	591,43	114	806,47	803,67
25	176,85	174,07	55	389,08	386,30	85	601,32	598,60	115	813,54	810,74
26	183,94	181,13	56	396,17	393,37	86	608,39	605,61	116	820,63	817,81
27	191,01	188,20	57	403,24	400,44	87	615,46	612,68	117	827,70	824,88
28	198,08	195,27	58	410,31	407,51	88	622,55	619,75	118	834,77	831,95
29	205,15	202,37	59	417,38	414,58	89	629,62	626,82	119	841,84	839,03
30	212,22	209,44	60	424,47	421,68	90	636,69	633,89	120	848,93	846,12
31	219,31	216,51	61	431,54	428,75	91	643,76	640,96			
32	226,38	223,58	62	438,61	435,90	92	650,85	648,04			
33	233,45	230,66	63	445,68	442,90	93	657,92	655,11			
34	240,52	237,73	64	452,75	449,97	94	664,99	662,18			
35	247,59	244,80	65	459,84	457,05	95	672,06	669,25			
36	254,68	251,87	66	466,91	464,10	96	679,13	676,33			
37	261,75	258,94	67	473,98	471,20	97	686,22	683,40			
38	268,82	266,02	68	481,05	478,25	98	693,29	690,47			
39	275,89	273,11	69	488,12	485,32	99	700,36	697,55			
40	282,98	280,18	70	495,21	492,39	100	707,43	704,62			
41	290,05	287,25	71	502,28	499,48	101	714,50	711,70			
42	297,12	294,33	72	509,35	506,57	102	721,59	718,77			
43	304,19	301,40	73	516,42	513,63	103	728,66	725,85			
44	311,26	308,47	74	523,51	520,70	104	735,73	732,92			
45	318,35	315,54	75	530,58	527,77	105	742,80	740,01			
46	325,42	322,61	76	537,65	534,84	106	749,87	747,08			
47	332,49	329,70	77	544,72	541,93	107	756,96	754,15			

