

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

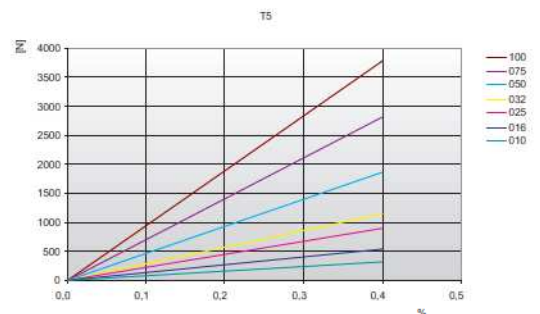
- Width tolerance: $\pm 0,5$ [mm]
- Length tolerance: $\pm 0,5$ [mm/m]
- Thickness tolerance: $\pm 0,15$ [mm]

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.

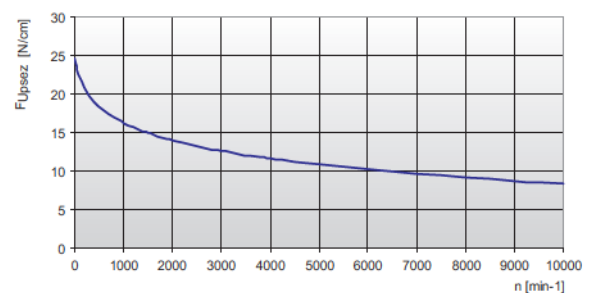
Load / Elongation [%]



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:

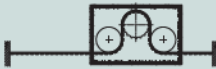
$$F_u [N] = F_{Uspez} \cdot z_e \cdot b$$

- 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 [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	z	da	dw	z	da	dw	z	da	dw
10	15,05	15,92	40	62,85	63,66	70	110,60	111,44	100	158,35	159,20
11	16,65	17,51	41	64,4	65,27	71	112,20	113,03	101	159,95	160,79
12	18,25	19,10	42	66	66,86	72	113,75	114,62	102	161,55	162,38
13	19,85	20,70	43	67,7	68,46	73	115,35	116,22	103	163,10	163,97
14	21,45	22,29	44	69,2	70,05	74	116,95	117,81	104	164,70	165,57
15	23,05	23,88	45	70,8	71,64	75	118,55	119,40	105	166,30	167,16
16	24,60	25,47	46	72,4	73,23	76	120,15	120,99	106	167,90	168,75
17	26,20	27,06	47	73,95	74,82	77	121,75	122,58	107	169,50	170,34
18	27,80	28,65	48	75,55	76,42	78	123,30	124,18	108	171,10	171,94
19	29,40	30,25	49	77,15	78,01	79	124,90	125,77	109	172,65	173,53
20	31,00	31,83	50	78,75	79,60	80	126,50	127,36	110	174,25	175,12
21	32,70	33,43	51	80,35	81,19	81	128,10	128,95	111	175,85	176,71
22	34,25	35,02	52	81,95	82,78	82	129,70	130,54	112	177,45	178,30
23	35,85	36,62	53	83,5	84,38	83	131,30	132,14	113	179,05	179,84
24	37,40	38,21	54	85,1	85,97	84	132,85	133,73	114	180,65	181,49
25	39,00	39,80	55	86,7	87,54	85	134,45	135,32	115	182,23	183,08
26	40,60	41,39	56	88,3	89,15	86	136,05	136,91	116	183,82	184,67
27	42,20	42,98	57	89,9	90,74	87	137,65	138,50	117	185,42	186,26
28	43,75	44,58	58	91,5	92,34	88	139,25	140,10	118	187,01	187,86
29	45,35	46,17	59	93,05	93,93	89	140,85	141,69	119	188,61	189,45
30	46,95	47,76	60	94,65	95,52	90	142,45	143,28	120	190,21	191,04
31	48,55	49,35	61	96,25	97,11	91	144,00	144,87			
32	50,10	50,94	62	97,85	98,70	92	145,60	146,46			
33	51,70	52,54	63	99,45	100,30	93	147,20	148,06			
34	53,25	54,13	64	101,05	101,89	94	148,80	149,65			
35	54,85	55,72	65	102,65	103,48	95	150,40	151,24			
36	56,45	57,31	66	104,2	105,07	96	152,00	152,83			
37	58,05	58,90	67	105,8	106,66	97	153,55	154,42			
38	59,65	60,50	68	107,40	108,26	98	155,15	156,02			
39	61,25	62,09	69	109,00	109,85	99	156,75	157,61			

