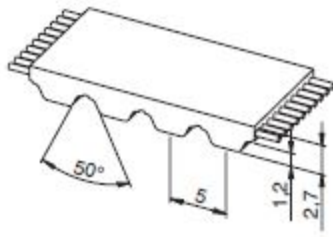


ATL 5



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

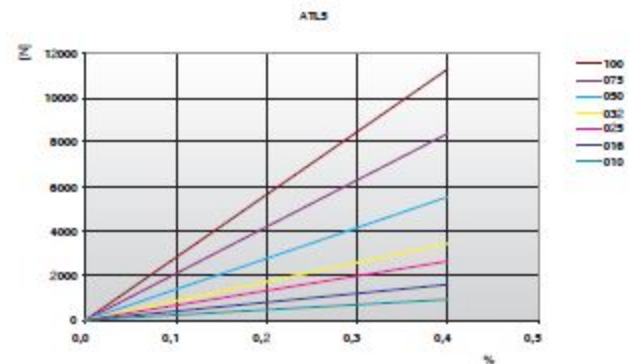
- Width tolerance: $\pm 0,5$ [mm]
- Thickness tolerance: $\pm 0,2$ [mm]

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.

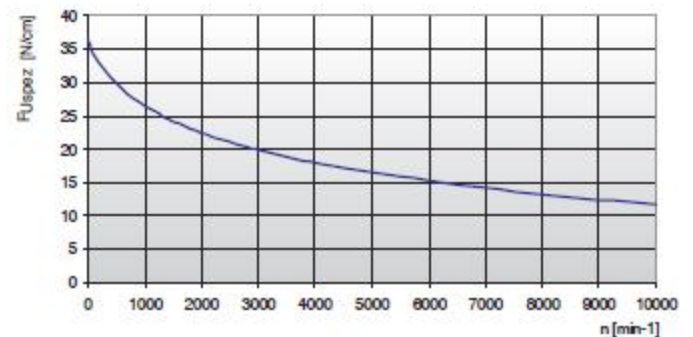
Load / Elongation [%]



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:

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

- 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

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

