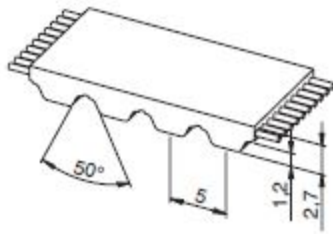


ATL 5



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

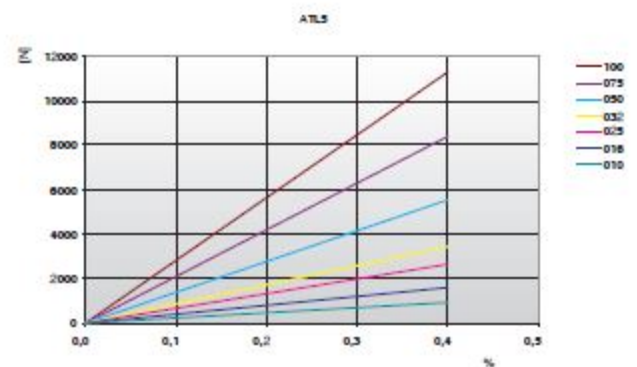
- Width tolerance: $\pm 0,5$ [mm]
- Thickness tolerance: $\pm 0,2$ [mm]

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.

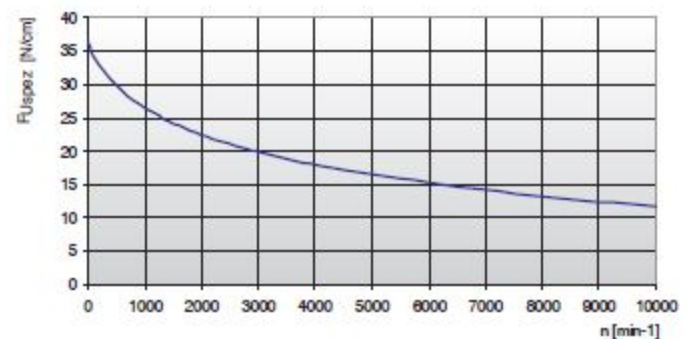
Load / Elongation [%]



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

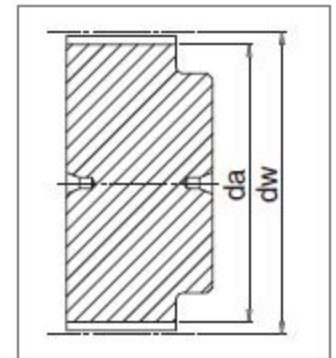
ATL 5

Flexibility

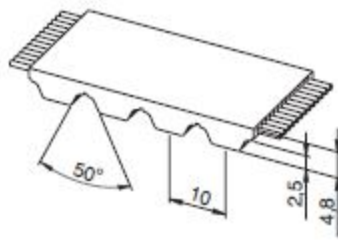
Minimum pulley number of teeth and minimum idler diameter		Type of cord
		STANDARD
 Drive without reverse bending	Timing pulley z_{min}	25
	Flat idler running on belt teeth d_{min}	40 mm
 Drive with reverse bending	Timing pulley z_{min}	25
	Flat idler running on belt back d_{min}	60 mm

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			



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: $\pm 0,5$ [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]
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.

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

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

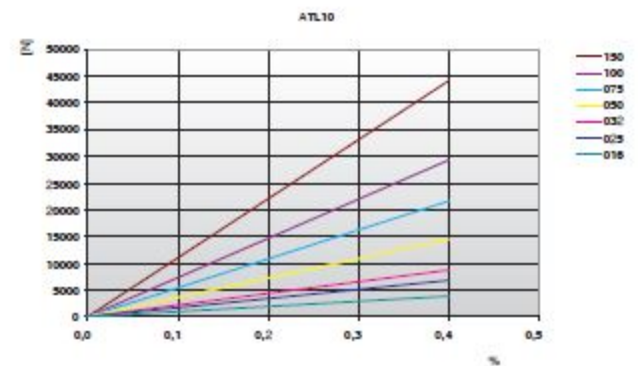
This force is related to the drive rpm.

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

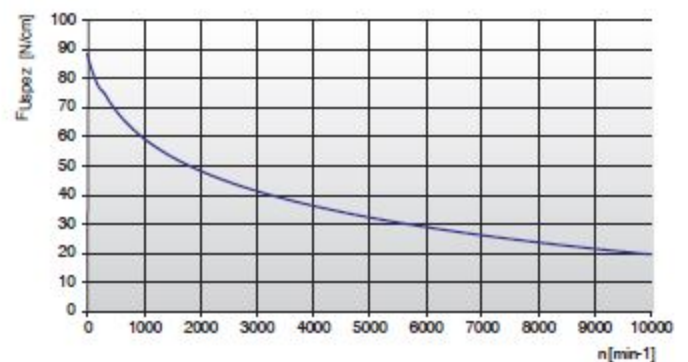
$$F_u [N] = F_{Uspez} \cdot Z_e \cdot b$$

- 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



ATL 10

Specialties

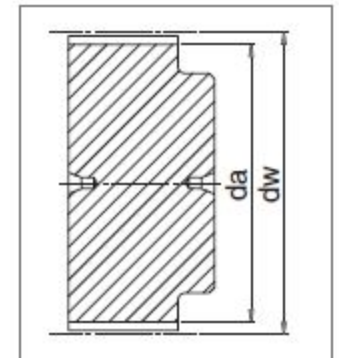
Belt width b [mm]	HFE High Flexibility		STAINLESS STEEL	
	F_{Tzul} [N] M type	F_{Br} [N]	F_{Tzul} [N] M type	F_{Br} [N]
16	3680	15400	2400	11200
25	6440	26950	4200	19600
32	8280	34650	5400	25200
50	13800	57750	9000	42000
75	20700	86625	13500	63000
100	28060	117425	18300	85400
150	42320	177100	27600	128800

Flexibility

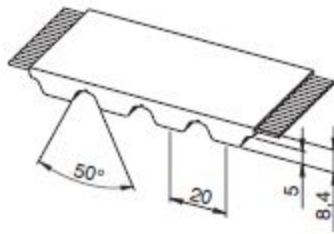
Minimum pulley number of teeth and minimum idler diameter		Type of cord		
		STANDARD	HFE	STAINLESS
 Drive without reverse bending	Timing pulley z_{min}	25	20	32
	Flat idler running on belt teeth d_{min}	80 mm	60 mm	100 mm
 Drive with reverse bending	Timing pulley z_{min}	25	20	40
	Flat idler running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

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
18	55,45	57,29	48	150,95	152,78	78	246,40	248,24	108	341,90	343,76
19	58,60	60,48	49	154,10	155,97	79	249,60	251,46	109	345,10	346,95
20	61,80	63,66	50	157,30	159,15	80	252,80	254,64	110	348,30	350,13
21	65,00	66,84	51	160,50	162,33	81	255,95	257,82	111	351,45	353,31
22	68,15	70,03	52	163,65	165,52	82	259,15	261,00	112	354,65	356,50
23	71,35	73,20	53	166,85	168,70	83	262,30	264,19	113	357,80	359,68
24	74,55	76,39	54	170,05	171,88	84	265,50	267,37	114	361,00	362,86
25	77,70	79,58	55	173,20	175,06	85	268,70	270,52	115	364,19	366,04
26	80,90	82,76	56	176,40	178,25	86	271,90	273,74	116	367,39	369,23
27	84,10	85,95	57	179,60	181,43	87	275,05	276,92	117	370,56	372,41
28	87,25	89,12	58	182,75	184,61	88	278,25	280,10	118	373,74	375,59
29	90,45	92,21	59	185,95	187,80	89	281,45	283,28	119	376,93	378,78
30	93,65	95,49	60	189,10	190,98	90	284,60	286,47	120	380,11	381,96
31	96,80	98,67	61	192,30	194,16	91	287,80	289,65			
32	100,00	101,86	62	195,50	197,35	92	291,00	292,84			
33	103,20	105,04	63	198,65	200,53	93	294,20	296,02			
34	106,40	108,19	64	201,85	203,71	94	297,35	299,20			
35	109,55	111,41	65	205,05	206,90	95	300,55	302,39			
36	112,75	114,59	66	208,20	210,08	96	303,70	305,57			
37	115,90	117,77	67	211,40	213,26	97	306,90	308,75			
38	119,10	120,95	68	214,60	216,44	98	310,10	311,93			
39	122,30	124,14	69	217,75	219,63	99	313,25	315,12			
40	125,45	127,32	70	220,95	222,81	100	316,45	318,30			
41	128,65	130,50	71	224,15	225,99	101	319,65	321,48			
42	131,85	133,69	72	227,30	229,18	102	322,80	324,66			
43	135,00	136,87	73	230,50	232,33	103	326,00	327,85			
44	138,20	140,05	74	233,70	235,54	104	329,20	331,03			
45	141,40	143,24	75	236,90	238,72	105	332,35	334,21			
46	144,55	146,42	76	240,05	241,94	106	335,55	337,40			
47	147,75	149,60	77	243,25	245,09	107	338,75	340,58			



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

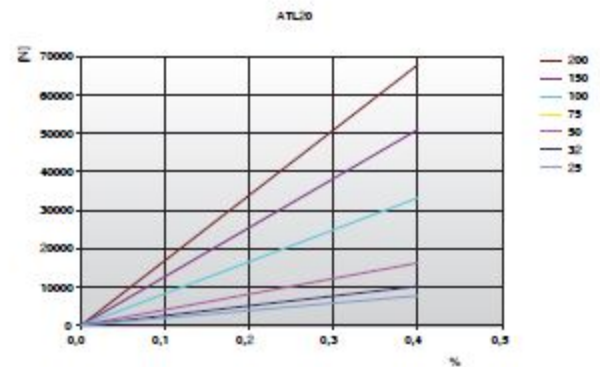
- Width tolerance: $\pm 1,0$ [mm]
- Thickness tolerance: $\pm 0,4$ [mm]

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.

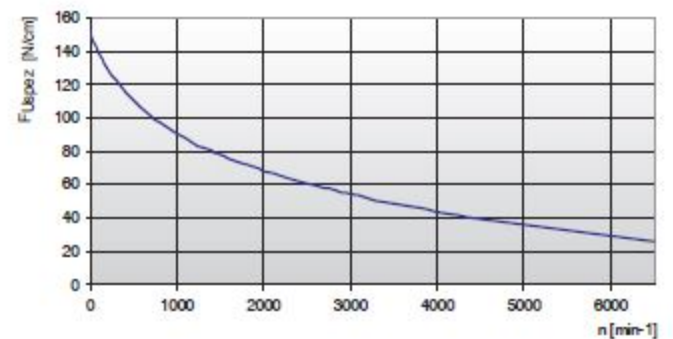
Load / Elongation [%]



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:

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


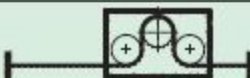
- F_u [N] = peripheral force
- F_{Uspez} [N/cm] = specific load
- Z_e = number of teeth in mesh in the small pulley
- Z_{emax} = max. no of teeth in mesh to be considered for the calculation of the drive
- Z_{emax} = 12 for ELATECH® M
- Z_{emax} = 6 for ELATECH® V
- b [cm] = belt width in cm

ATL 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	z	da	dw	z	da	dw	z	da	dw
18	111,75	114,59	48	302,70	305,58	78	493,70	496,56	108	684,70	687,54
19	118,10	120,95	49	309,10	311,93	79	500,05	502,91	109	691,05	693,89
20	124,50	127,32	50	315,45	318,30	80	506,45	509,28	110	697,40	700,26
21	130,75	133,69	51	321,80	324,67	81	512,80	515,65	111	703,80	706,63
22	137,20	140,05	52	328,20	331,03	82	519,15	522,02	112	710,15	712,99
23	143,55	146,42	53	334,55	337,40	83	525,55	528,39	113	716,50	719,36
24	149,95	152,78	54	340,90	343,76	84	531,90	534,74	114	722,90	725,72
25	156,30	159,15	55	347,30	350,13	85	538,25	541,11	115	729,24	732,09
26	162,65	165,52	56	353,65	356,50	86	544,60	547,48	116	735,61	738,46
27	169,05	171,88	57	360,00	362,86	87	551,00	553,85	117	741,96	744,83
28	175,40	178,25	58	366,40	369,23	88	557,35	560,22	118	748,34	751,19
29	181,75	184,62	59	372,75	375,59	89	563,70	566,57	119	754,70	757,56
30	188,15	190,99	60	379,10	381,96	90	570,10	572,94	120	761,07	763,93
31	194,50	197,35	61	385,45	388,33	91	576,45	579,31			
32	200,85	203,72	62	391,85	394,69	92	582,85	585,67			
33	207,20	210,09	63	398,20	401,06	93	589,20	592,04			
34	213,60	216,44	64	404,55	407,43	94	595,55	598,40			
35	219,95	222,81	65	410,95	413,79	95	601,90	604,77			
36	226,35	229,18	66	417,30	420,16	96	608,30	611,14			
37	232,70	235,54	67	423,65	426,52	97	614,65	617,50			
38	239,05	241,91	68	430,05	432,89	98	621,00	623,87			
39	245,45	248,27	69	436,40	439,26	99	627,35	630,24			
40	251,80	254,64	70	442,80	445,63	100	633,75	636,60			
41	258,15	261,01	71	449,15	451,99	101	640,10	642,97			
42	264,50	267,37	72	455,50	458,36	102	646,50	649,34			
43	270,90	273,74	73	461,85	464,73	103	652,85	655,71			
44	277,25	280,10	74	468,25	471,08	104	659,20	662,06			
45	283,60	286,47	75	474,60	477,45	105	665,60	668,43			
46	290,00	292,84	76	480,95	483,82	106	671,95	674,80			
47	296,35	299,21	77	487,35	490,19	107	678,30	681,17			

