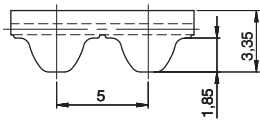


STD 5M



Belt characteristics

- Polyurethane timing belt with involute tooth, high tensile load steel cords and high torque capacity
- Tooth profile according to ISO 13050
- Metric pitch 5 mm
- Low noise generation in high speed drives
- Offers excellent operational reliability in linear positioning and light power transmission applications
- The special profile allows smooth running properties

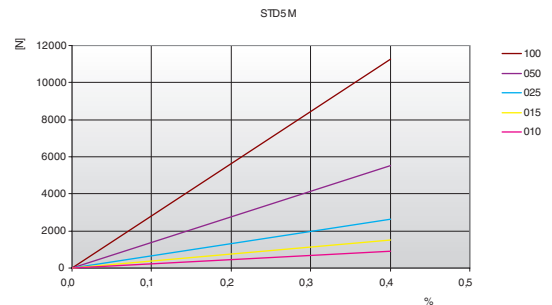
- Width tolerance: $\pm 0,5$ [mm]
- Length tolerance: $\pm 0,5$ [mm/m]
- Thickness tolerance: $\pm 0,2$ [mm]

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	920	460	3360	230000	0,05
15	1500	750	5460	375000	0,07
25	2650	1325	9660	662500	0,12
50	5520	2760	20160	1380000	0,23
100	11270	5635	41160	2817500	0,46

Other widths are available on request.

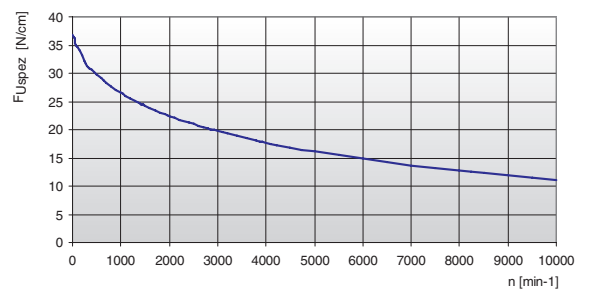
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	36,90	800	27,71	1900	22,74	4500	16,90
20	36,35	900	27,11	2000	22,41	5000	16,14
40	35,85	1000	26,55	2200	21,80	5500	15,45
60	35,40	1100	26,02	2400	21,22	6000	14,82
80	34,99	1200	25,53	2600	20,69	6500	14,24
100	34,62	1300	25,06	2800	20,19	7000	13,69
200	33,23	1400	24,63	3000	19,73	7500	13,18
300	31,37	1440	24,46	3200	19,28	8000	12,70
400	30,60	1500	24,21	3400	18,87	8500	12,25
500	29,81	1600	23,82	3600	18,47	9000	11,83
600	29,06	1700	23,44	3800	18,09	9500	11,42
700	28,36	1800	23,08	4000	17,73	10000	11,03

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:

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

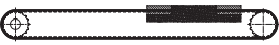
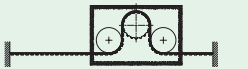
- F_u [N] = peripheral force
- F_{Uspez} [N/cm] = specific load
- Z_e = number of teeth in mesh in the small pulley
- Z_{emax} = max. no of teeth in mesh to be considered for the calculation of the drive
- Z_{emax} = 12 for ELATECH® M
- Z_{emax} = 6 for ELATECH® V
- b [cm] = belt width in cm

STD 5M

Specialties

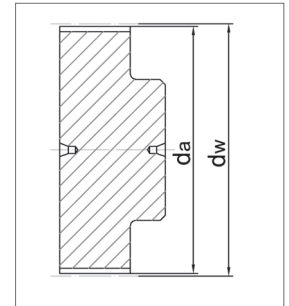
Belt width b [mm]	ARAMID CORD		STAINLESS STEEL		HFE High Flexibility	
	F _{Tzul} [N] M type	F _{Br} [N]	F _{Tzul} [N] M type	F _{Br} [N]	F _{Tzul} [N] M type	F _{Br} [N]
10	880	3600	600	2400	960	3440
15	1430	5850	980	3900	1560	5590
25	2530	10350	1730	6900	2760	9890
50	5280	21600	3600	14400	5760	20640
100	10780	44100	-	-	-	-

Flexibility

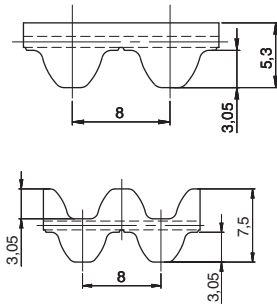
Minimum pulley number of teeth and minimum idler diameter		Type of cord			
		STANDARD	ARAMID	STAINLESS	HFE
Drive without reverse bending 	Timing pulley z _{min}	16	16	18	15
	Flat idler running on belt teeth d _{min}	30 mm	30 mm	40 mm	40 mm
Drive with reverse bending 	Timing pulley z _{min}	25	25	25	20
	Flat idler running on belt back d _{min}	60 mm	60 mm	65 mm	40 mm

Timing pulleys

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



STD 8M



Belt characteristics

- Polyurethane timing belt with involute tooth, high tensile load steel cords and high torque capacity
- Tooth profile according to ISO 13050
- Metric pitch 8 mm
- Low noise generation in high speed drives
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- Widely used in automatic doors
- The special profile allows smooth running properties

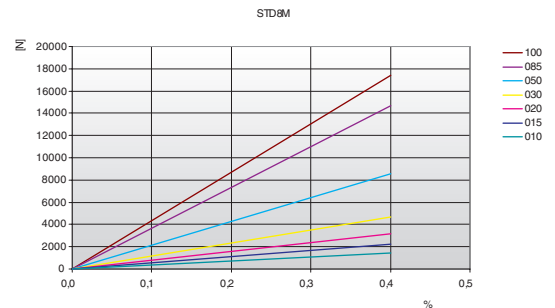
- Width tolerance: $\pm 0,5$ [mm]
- Length tolerance: $\pm 0,5$ [mm/m]
- Thickness tolerance: $\pm 0,2$ [mm]

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	1470	735	5700	367500	0,07
15	2210	1105	8550	552500	0,10
20	3190	1595	12350	797500	0,13
30	4660	2330	18050	1165000	0,20
50	8580	4290	33250	2145000	0,33
85	14700	7350	57000	3675000	0,56
100	17400	8700	67450	4350000	0,66

Other widths are available on request.

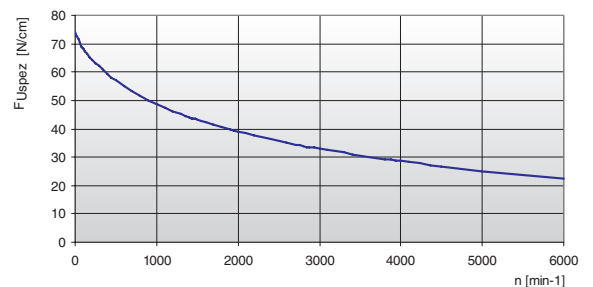
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	74,10	800	51,53	1900	39,76	4500	26,79
20	73,05	900	50,03	2000	39,02	5000	25,14
40	72,06	1000	48,66	2200	37,62	5500	23,65
60	71,13	1100	47,39	2400	36,34	6000	22,28
80	70,26	1200	46,22	2600	35,15	-	-
100	69,43	1300	45,12	2800	34,04	-	-
200	65,98	1400	44,10	3000	33,00	-	-
300	62,11	1440	43,70	3200	32,02	-	-
400	59,43	1500	43,13	3400	31,10	-	-
500	57,08	1600	42,22	3600	30,23	-	-
600	55,02	1700	41,36	3800	29,40	-	-
700	53,18	1800	40,54	4000	28,61	-	-

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:

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

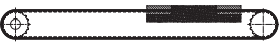
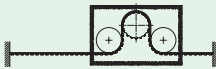
- F_u [N] = peripheral force
- F_{Uspez} [N/cm] = specific load
- Z_e = number of teeth in mesh in the small pulley
- Z_{emax} = max. no of teeth in mesh to be considered for the calculation of the drive
- Z_{emax} = 12 for ELATECH® M
- Z_{emax} = 6 for ELATECH® V
- b [cm] = belt width in cm

STD 8M

Specialties

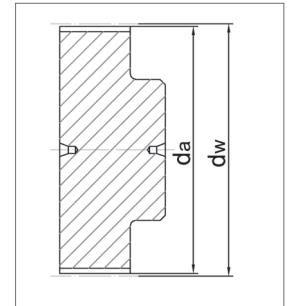
Belt width b [mm]	ARAMID CORD		STAINLESS STEEL		HPL High Performance	
	F _{Tzul} [N] M type	F _{Br} [N]	F _{Tzul} [N] M type	F _{Br} [N]	F _{Tzul} [N] M type	F _{Br} [N]
10	1140	4740	1080	4500	-	-
15	1710	7110	1620	6750	-	-
20	2470	10270	2340	9750	5280	19250
30	3800	15800	3600	15000	8160	29750
50	6650	27650	6300	26250	14400	52500
85	11400	47400	10800	45000	24480	89250
100	13500	56000	12780	53250	29280	106750

Flexibility

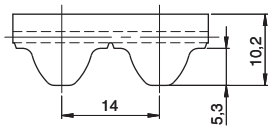
Minimum pulley number of teeth and minimum idler diameter		Type of cord			
		STANDARD	ARAMID	STAINLESS	HPL
Drive without reverse bending 	Timing pulley z _{min}	18	18	24	30
	Flat idler running on belt teeth d _{min}	50 mm	50 mm	70 mm	80 mm
Drive with reverse bending 	Timing pulley z _{min}	30	30	40	30
	Flat idler running on belt back d _{min}	120 mm	120 mm	120 mm	150 mm

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
18	44,46	45,83	48	120,86	122,23	78	197,25	198,62	108	273,64	275,01
19	47,01	48,38	49	123,40	124,77	79	199,80	201,17	109	276,19	277,56
20	49,56	50,93	50	125,95	127,32	80	202,35	203,72	110	278,74	280,11
21	52,10	53,47	51	128,50	129,87	81	204,89	206,26	111	281,29	282,66
22	54,65	56,02	52	131,05	132,41	82	207,44	208,81	112	283,84	285,21
23	57,20	58,57	53	133,59	134,96	83	209,98	211,35	113	286,38	287,75
24	59,75	61,12	54	136,14	137,51	84	212,53	213,90	114	288,93	290,30
25	62,29	63,66	55	138,68	140,05	85	215,08	216,45	115	291,47	292,84
26	64,84	66,21	56	141,23	142,60	86	217,63	219,00	116	294,02	295,39
27	67,38	68,75	57	143,78	145,15	87	220,17	221,54	117	296,57	297,94
28	70,08	71,30	58	146,32	147,69	88	222,72	224,09	118	299,11	300,48
29	72,59	73,84	59	148,87	150,24	89	225,26	226,63	119	301,66	303,03
30	75,13	76,39	60	151,42	152,79	90	227,81	229,18	120	304,20	305,57
31	77,65	78,94	61	153,96	155,33	91	230,35	231,72			
32	80,16	81,49	62	156,52	157,89	92	232,90	234,27			
33	82,68	84,03	63	159,06	160,43	93	235,45	236,82			
34	85,21	86,58	64	161,60	162,97	94	238,00	239,37			
35	87,76	89,12	65	164,15	165,52	95	240,54	241,91			
36	90,30	91,67	66	166,69	168,06	96	243,09	244,46			
37	92,85	94,22	67	169,24	170,61	97	245,63	247,00			
38	95,40	96,77	68	171,79	173,16	98	248,18	249,55			
39	97,94	99,31	69	174,33	175,70	99	250,73	252,10			
40	100,49	101,86	70	176,88	178,25	100	253,28	254,67			
41	103,04	104,40	71	179,43	180,8	101	255,82	257,19			
42	105,58	106,95	72	181,98	183,35	102	258,37	259,74			
43	108,13	109,50	73	184,52	185,89	103	260,91	262,28			
44	110,68	112,05	74	187,07	188,44	104	263,46	264,83			
45	113,22	114,59	75	189,61	190,98	105	266,01	267,38			
46	115,77	117,14	76	192,16	193,53	106	268,55	269,92			
47	118,31	119,68	77	194,71	196,08	107	271,10	272,47			



STD 14M



Belt characteristics

- Polyurethane timing belt with involute tooth, high tensile load steel cords and high torque capacity
- Tooth profile according to ISO 13050
- Metric pitch 14 mm
- Low noise generation in high speed drives
- Tension cords with increased tensile load for lower elongation
- Superior performance in lifting applications
- The special profile allows smooth running properties

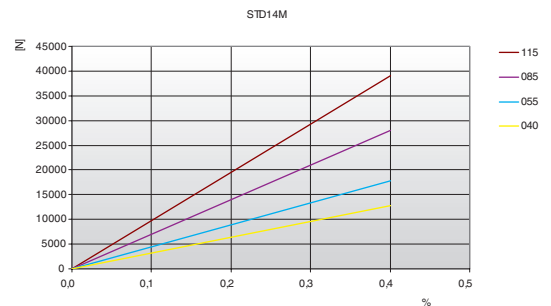
- Width tolerance: $\pm 1,0$ [mm]
- Length tolerance: $\pm 0,5$ [mm/m]
- Thickness tolerance: $\pm 0,4$ [mm]

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]
40	12750	6375	48000	3187500	0,50
55	17850	8925	67200	4462500	0,70
85	28050	14025	105600	7012500	1,08
115	39100	19550	147200	9775000	1,48

Other widths are available on request.

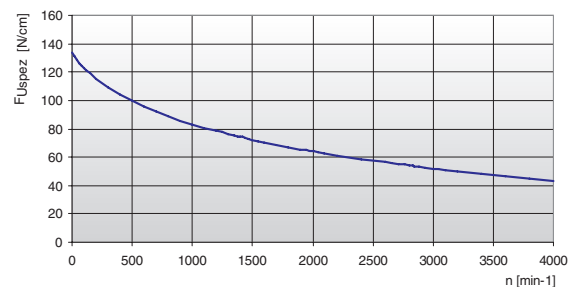
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	134,00	800	88,80	1900	65,49	4000	43,24
20	131,31	900	85,85	2000	64,01	-	-
40	128,83	1000	83,14	2200	61,23	-	-
60	126,53	1100	80,63	2400	58,68	-	-
80	124,42	1200	78,31	2600	56,30	-	-
100	122,46	1300	76,14	2800	54,09	-	-
200	114,77	1400	74,11	2880	53,24	-	-
300	109,29	1440	73,33	3000	52,01	-	-
400	104,19	1500	72,19	3200	50,06	-	-
500	99,65	1600	70,38	3400	48,22	-	-
600	95,64	1700	68,67	3600	46,48	-	-
700	92,04	1800	67,04	3800	44,82	-	-

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.

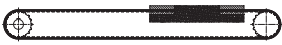

The total load F_u transmissible by the belt in the drive is calculated by:

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

- 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

STD 14M

Flexibility

Minimum pulley number of teeth and minimum idler diameter		Type of cord
		STANDARD
Drive without reverse bending 	Timing pulley z_{min}	32
	Flat idler running on belt teeth d_{min}	140 mm
Drive with reverse bending 	Timing pulley z_{min}	32
	Flat idler running on belt back d_{min}	250 mm

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
28	122,12	124,77	58	255,68	258,46	88	389,37	392,15	119	527,51	530,30
29	126,58	129,22	59	260,14	262,91	89	393,83	396,60	120	531,97	534,75
30	130,99	133,69	60	264,60	267,38	90	398,29	401,07			
31	135,45	138,14	61	269,04	271,83	91	402,73	405,52			
32	139,88	142,59	62	273,50	276,28	92	407,19	409,97			
33	144,35	147,06	63	277,96	280,75	93	411,65	414,44			
34	148,79	151,51	64	282,42	285,20	94	416,10	418,89			
35	153,25	155,96	65	286,88	289,65	95	420,56	423,35			
36	157,68	160,41	66	291,32	294,11	96	425,02	427,80			
37	162,14	164,88	67	295,78	298,56	97	429,48	432,25			
38	166,60	169,34	68	300,24	303,03	98	433,94	436,72			
39	171,02	173,79	69	304,70	307,48	99	438,38	441,17			
40	175,48	178,24	70	309,16	311,93	100	442,84	445,62			
41	179,92	182,71	71	313,61	316,40	101	447,30	450,09			
42	184,37	187,16	72	318,07	320,85	102	451,76	454,54			
43	188,83	191,61	73	322,53	325,30	103	456,21	459,00			
44	193,29	196,08	74	326,98	329,77	104	460,67	463,45			
45	197,75	200,53	75	331,44	334,22	105	465,13	467,90			
46	202,21	204,98	76	335,90	338,67	106	469,58	472,37			
47	206,65	209,43	77	340,34	343,12	107	474,03	476,82			
48	211,11	213,90	78	344,80	347,59	108	478,49	481,28			
49	215,57	218,35	79	349,26	352,04	109	482,95	485,74			
50	220,03	222,80	80	353,72	356,49	110	487,41	490,19			
51	224,49	227,27	81	358,17	360,96	111	491,87	494,64			
52	228,95	231,72	82	362,63	365,41	112	496,32	499,10			
53	233,39	236,18	83	367,09	369,86	113	500,78	503,55			
54	237,85	240,64	84	371,54	374,33	114	505,23	508,02			
55	242,30	245,09	85	376,00	378,78	116	514,14	516,93			
56	246,76	249,55	86	380,46	383,23	117	518,60	521,38			
57	251,22	254,01	87	384,91	387,70	118	523,06	525,83			

