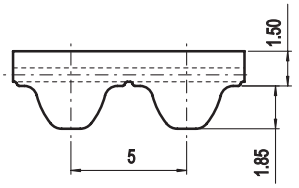
STD5M



Belt characteristics

- Polyurethane timing belt with evolvent tooth, high tensile load steel cords and high torque capacity. Produced 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

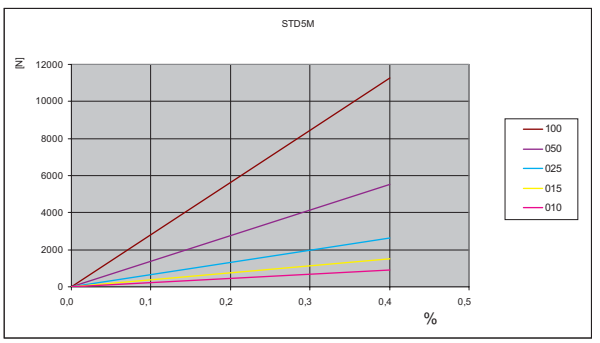
- Width tolerance: ±0,5 [mm]
- Length tolerance: ±0,5 [mm/m]
- Thickness tolerance: ±0,2 [mm]

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 Cspez [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.

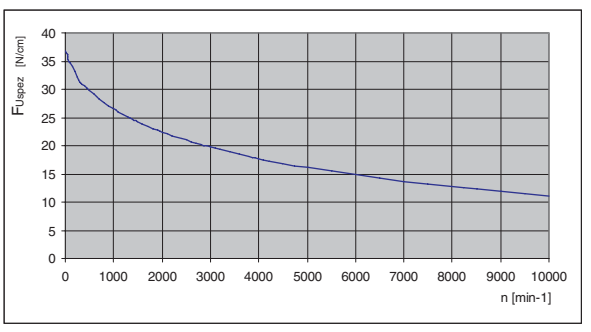
Load / Elongation [%]



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 strenght / 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:

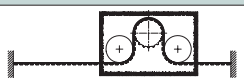
F_U [N] = F_{Uspez} • z_e • b

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

PROFILE	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]
STD5M	010	880	3600	600	2400	960	3440
	015	1430	5850	980	3900	1560	5590
	025	2530	10350	1730	6900	2760	9890
	050	5280	21600	3600	14400	5760	20640
	100	10780	44100			11760	42140

Flexibility

Minimum pulley number of teeth and minimum idler diameter					
STD5M		TYPE OF CORD			
		STANDARD	ARAMID	STAINLESS	HFE
Drive without reverse bending 	Timing pulley z_{min}	16	16	18	16
	Idler running on belt teeth d_{min}	50 mm	50 mm	60 mm	40 mm
Drive with reverse bending 	Timing pulley z_{min}	20	20	20	20
	Idler running on belt back d_{min}	50 mm	50 mm	60 mm	40 mm

Timing pulleys

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