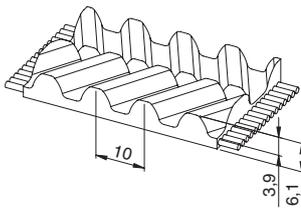# EAGLE 10M

Belt characteristics
- Polyurethane timing belt with helical offset tooth, high tensile load steel cords and high torque capacity
- **Self tracking no need of pulley flanges**
- Metric pitch 10 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- The special profile allows most compact drive
- White colour and grey fabric on tooth side (PAZ) as standard

• Width tolerance:	±0,8 [mm]
• Length tolerance:	±0,8 [mm/m]
• Thickness tolerance:	±0,3 [mm]

Technical Data

Belt width	Allowable tensile load Type M	Breaking load Type M	Specific spring rate	Weight
b [mm]	F_{Tzul} [N]	F_{Br} [N]	C_{spez} [N]	[kg/m]
25	6720	24500	1680000	0,18
32	8640	31500	2160000	0,23
50	14400	52500	3600000	0,37
75	21120	77000	5280000	0,54
100	28800	105000	7200000	0,74

Other widths are available on request.

Load / Elongation [%]

EAGLE 10M
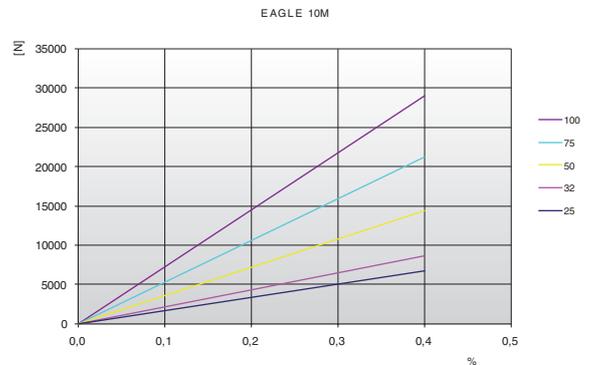
Tooth shear strength

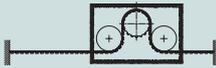| rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	93,50	800	64,43	1900	50,70	4500	35,37
20	92,03	900	62,70	2000	49,83	5000	33,42
40	90,63	1000	61,11	2200	48,19	5500	31,65
60	89,28	1100	59,63	2400	46,67	6000	30,02
80	88,00	1200	58,27	2600	45,27	6500	28,51
100	86,77	1300	56,99	2800	43,96	7000	27,12
200	81,36	1400	55,79	3000	42,73	7500	25,81
300	77,02	1440	55,33	3200	41,57	8000	24,59
400	73,54	1500	54,66	3400	40,48	8500	23,43
500	70,76	1600	53,59	3600	39,45	9000	22,34
600	68,43	1700	52,58	3800	38,46	9500	21,31
700	66,33	1800	51,62	4000	37,53	10000	20,33

Tooth shear strength / rpm
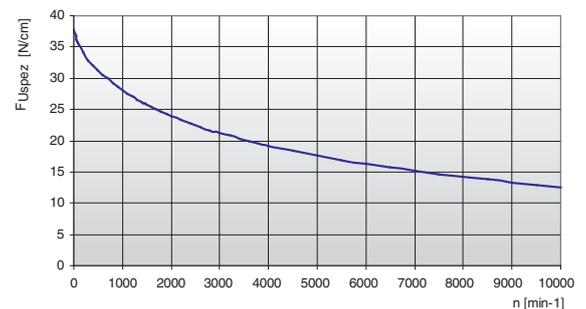
The specific load F_{Uspez} is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.
This force is related to the drive rpm.
The total load F_U transmissible by the belt in the drive is calculated by:

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

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

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}	80 mm
Drive with reverse bending	Timing pulley z_{min}	25
	Flat idler running on belt back d_{min}	150 mm

Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
18	55,29	57,29	48	150,78	152,78	78	246,24	248,24	108	341,76	343,76
19	58,48	60,48	49	153,97	155,97	79	249,46	251,46	109	344,95	346,95
20	61,66	63,66	50	157,15	159,15	80	252,64	254,64	110	348,13	350,13
21	64,84	66,84	51	160,33	162,33	81	255,82	257,82	111	351,31	353,31
22	68,03	70,03	52	163,52	165,52	82	259,00	261,00	112	354,50	356,50
23	71,20	73,20	53	166,70	168,70	83	262,19	264,19	113	357,68	359,68
24	74,39	76,39	54	169,88	171,88	84	265,37	267,37	114	360,86	362,86
25	77,58	79,58	55	173,06	175,06	85	268,52	270,52	115	364,04	366,04
26	80,76	82,76	56	176,25	178,25	86	271,74	273,74	116	367,23	369,23
27	83,95	85,95	57	179,43	181,43	87	274,92	276,92	117	370,41	372,41
28	87,12	89,12	58	182,61	184,61	88	278,10	280,10	118	373,59	375,59
29	90,21	92,21	59	185,80	187,80	89	281,28	283,28	119	376,78	378,78
30	93,49	95,49	60	188,98	190,98	90	284,47	286,47	120	379,96	381,96
31	96,67	98,67	61	192,16	194,16	91	287,65	289,65			
32	99,86	101,86	62	195,35	197,35	92	290,84	292,84			
33	103,04	105,04	63	198,53	200,53	93	294,02	296,02			
34	106,19	108,19	64	201,71	203,71	94	297,20	299,20			
35	109,41	111,41	65	204,90	206,90	95	300,39	302,39			
36	112,59	114,59	66	208,08	210,08	96	303,57	305,57			
37	115,77	117,77	67	211,26	213,26	97	306,75	308,75			
38	118,95	120,95	68	214,44	216,44	98	309,93	311,93			
39	122,14	124,14	69	217,63	219,63	99	313,12	315,12			
40	125,32	127,32	70	220,81	222,81	100	316,30	318,30			
41	128,50	130,50	71	223,99	225,99	101	319,48	321,48			
42	131,69	133,69	72	227,18	229,18	102	322,66	324,66			
43	134,87	136,87	73	230,33	232,33	103	325,85	327,85			
44	138,05	140,05	74	233,54	235,54	104	329,03	331,03			
45	141,24	143,24	75	236,72	238,72	105	332,21	334,21			
46	144,42	146,42	76	239,94	241,94	106	335,40	337,40			
47	147,60	149,60	77	243,09	245,09	107	338,58	340,58			