DYSTRYBUTOR

TECHNICAL

GRZEGORZ TĘGOS

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Pasy zębate PU z metra EAGLE

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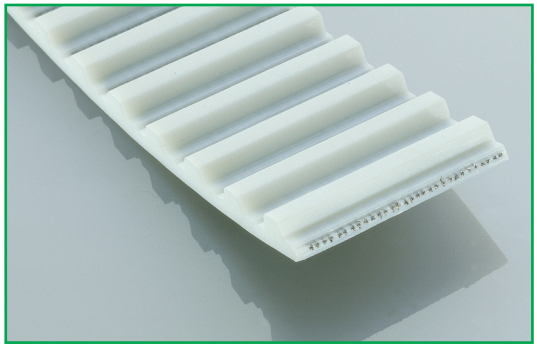
Antriebselemente

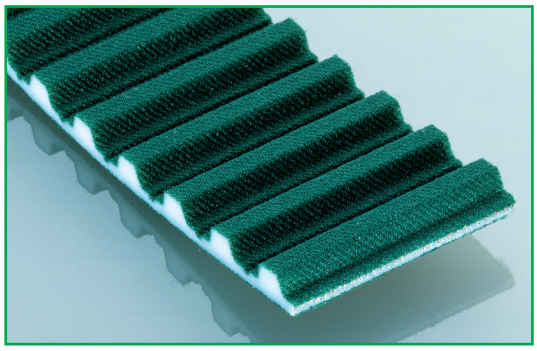
ELATECH® M and V

The timing belts manufactured by ELATECH® have been designed to comply with every need of the design engineer in linear motion, power transmission and in conveying applications where precise synchronisation is needed. ELATECH® timing belts are manufactured with the body in thermoplastic polyurethane with excellent wear resistance and with high tensile strength steel cords. A special polyamide fabric on the tooth (on request) reduces the coefficient of friction, improves the tooth engagement and reduces noise.

Standard belt



Belt with Polyamide fabric on teeth PAZ



Product declaration

- ELATECH® belts are certified to be according RoHS 2011/65/UE
- On request, it is possible to deliver belts:
  - with antistatic properties according to ISO9563
  - other special certifications available on request

Colour

The standard colour ELATECH® timing belt is white.
On demand it is possible to deliver belts in different colours.

Tension Cords

In order to maximize the application of ELATECH® timing belts, construction with special cords is available on request:

Standard Cord | HFE Cord | HPL Cord

- **HPL** high performance cords: the cord cross section is increased compared with standard. This results in a lower belt elongation and more precise positioning accuracy.

- **HFE** high Flexibility cords: the cord cross section is spread on a higher number of single filaments. This results in a lower bending stress and therefore in a higher resistance at reverse bending of the cords.
  They allow using pulleys and idlers up to 30% smaller in diameter compared to standard.

- **INOX** stainless steel cords are suitable for application in aggressive environments. They have lower tensile strength than standard cords.

- **ARAMID**: increases belt flexibility and decreases belt weight.

It is to be noted that steel cords offer the best technical performances and dimensional stability of the belts.
Belt length tolerances are valid for steel cord reinforcement. In case of other material (aramid, fibreglass) length tolerance may change.
For application with special cords ask our engineering department.

Mechanical properties:

- Excellent dimensional stability
- High abrasion resistance
- Low pretension and shaft load
- Maintenance free
- High linear and angular positioning precision
- High efficiency

Chemical properties:

High resistance to:

- Hydrolysis
- Ozone
- UVA
- Ageing
- Oils, greases and fats
- Gasoline
- Good resistance to acids
- Working temperatures range for standard material -10°C +80°C
  (peaks up to 110°C).
  For very low temperature special compound material is available on request (see dedicated table)
- Silicon free production

Executions

ELATECH® M

They are manufactured in rolls with standard length of 100 m. On request longer or shorter lengths are available. Main applications are linear drives.

Ordering example roll 100 m profile T :

ELATECH® "R" - Roll 100 m **R 025 T 10 A / Z**

- ELATECH® timing belt type "R"
- Width 25 mm (3 digits)
- Profile "T"
- Pitch 10 mm
- A= steel cords
  S= inox cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

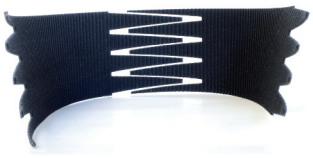
Ordering example profile H cut to length:

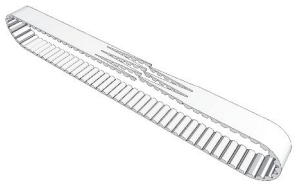
ELATECH® "M" cut to length **M 100 H A 01000 / Z**

- ELATECH® timing belt type "M"
- Width (x 0,254 = mm) - 3 digits
- Profile "H"
- A= stainless steel cords
  S= inox cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Length 1000 mm (5 digits)
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

ELATECH® V

They are jointed belts manufactured from open-end ELATECH® belts.Thanks to the specific manufacturing process, any length may be obtained tooth by tooth. Free combinations with special backing materials and welded profiles, make ELATECH® V belts ideal in synchronized conveying and highly specialised applications.





Ordering example profile AT :

ELATECH® "V" jointed **V 020 AT5 A 03410 / Z**

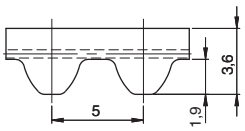
- ELATECH timing belt type "V" jointed
- Width 20 mm (3 digits)
- Profile "AT" - Pitch 5 mm
- A= stainless steel cords
  S= inox cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Length 3410 mm (5 digits)
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

Ordering example profile XL :

ELATECH® "V" jointed **V 150 XL A 00750 / Z**

- ELATECH timing belt type "V" jointed
- Width (x 0,254 = mm) - 3 digits
- Profile "XL"
- A= stainless steel cords
  S= inox cords
  K= Kevlar® cords
  F= high flexiblity cords
  P= high power cords
- Length 750 mm (5 digits)
- Z= fabric on teeth (PAZ)
  R= fabric on back (PAR)
  D= fabric on PAZ + PAR

EAGLE 5M



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 5 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- The special profile allows most compact drive

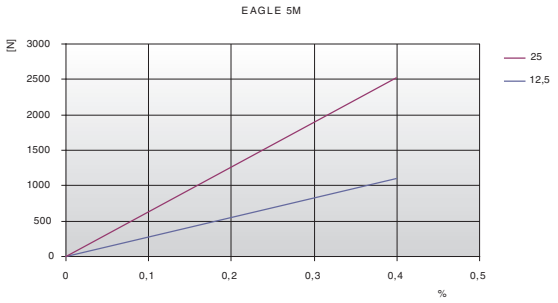
• Width tolerance:	±0,5 [mm]
• Length tolerance:	±0,5 [mm/m]
• Thickness tolerance:	±0,2 [mm]

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 C_{spez} [N]	Weight [kg/m]
12,5	1150	575	4200	287500	0,06
25	2530	1265	9240	632500	0,12

Other widths are available on request.

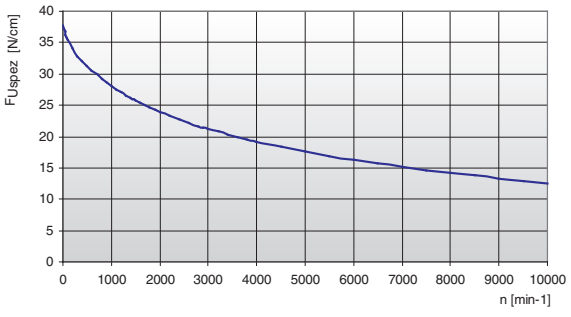
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	37,80	**900**	28,61	**2200**	23,30	**5500**	16,95
20	37,25	**1000**	28,05	**2400**	22,72	**6000**	16,32
40	36,75	**1100**	27,52	**2600**	22,19	**6500**	15,74
60	36,30	**1200**	27,03	**2800**	21,69	**7000**	15,19
80	35,89	**1300**	26,56	**2880**	21,50	**7500**	14,68
100	35,52	**1400**	26,13	**3000**	21,23	**8000**	14,20
200	34,13	**1440**	25,96	**3200**	20,78	**8500**	13,75
300	32,87	**1500**	25,71	**3400**	20,37	**9000**	13,33
400	32,10	**1600**	25,32	**3600**	19,97	**9500**	12,92
500	31,31	**1700**	24,94	**3800**	19,59	**10000**	12,53
600	30,56	**1800**	24,58	**4000**	19,23	-	-
700	29,86	**1900**	24,24	**4500**	18,40	-	-
800	29,21	**2000**	23,91	**5000**	17,64	-	-

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} • 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

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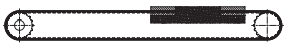
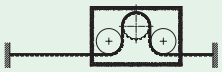
Flexibility

Minimum pulley number of teeth and minimum idler diameter		Type of cord STANDARD
Drive without reverse bending	Timing pulley z_{min}	16
	Flat idler running on belt teeth d_{min}	30 mm
Drive with reverse bending	Timing pulley z_{min}	25
	Flat idler running on belt back d_{min}	60 mm

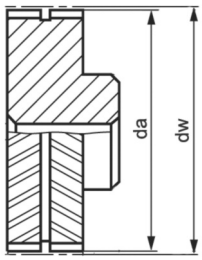
Timing pulleys

z	da	dw
10	14,95	15,91
11	16,54	17,50
12	18,14	19,10
13	19,73	20,69
14	21,32	22,28
15	22,91	23,87
16	24,51	25,47
17	26,10	27,06
18	27,69	28,65
19	29,27	30,23
20	30,87	31,83
21	32,46	33,42
22	34,05	35,01
23	35,65	36,61
24	37,23	38,19
25	38,83	39,79
26	40,42	41,38
27	42,01	42,97
28	43,60	44,56
29	45,19	46,15
30	46,79	47,75
31	48,38	49,34
32	49,97	50,93
33	51,56	52,52
34	53,15	54,11
35	54,75	55,71
36	56,34	57,30
37	57,93	58,89
38	59,52	60,48
39	61,11	62,07

z	da	dw
40	62,70	63,66
41	64,30	65,26
42	65,89	66,85
43	67,48	68,44
44	69,07	70,03
45	70,66	71,62
46	72,25	73,21
47	73,84	74,80
48	75,43	76,39
49	77,03	77,99
50	78,62	79,58
51	80,21	81,17
52	81,80	82,76
53	83,39	84,35
54	84,99	85,95
55	86,58	87,54
56	88,17	89,13
57	89,76	90,72
58	91,35	92,31
59	92,94	93,90
60	94,53	95,49
61	96,13	97,09
62	97,72	98,68
63	99,31	100,27
64	100,90	101,86
65	102,49	103,45
66	104,08	105,04
67	105,67	106,63
68	107,27	108,23
69	108,86	109,82

z	da	dw
70	110,45	111,41
71	112,04	113,00
72	113,63	114,59
73	115,23	116,19
74	116,82	117,78
75	118,41	119,37
76	120,00	120,96
77	121,59	122,55
78	123,18	124,14
79	124,77	125,73
80	126,36	127,32
81	127,95	128,91
82	129,54	130,50
83	131,14	132,10
84	132,73	133,69
85	134,32	135,28
86	135,91	136,87
87	137,51	138,47
88	139,09	140,05
89	140,69	141,65
90	142,28	143,24
91	143,87	144,83
92	145,46	146,42
93	147,05	148,01
94	148,64	149,60
95	150,24	151,20
96	151,83	152,71
97	153,42	154,38
98	155,01	155,97
99	156,60	157,56

z	da	dw
100	158,19	159,15
101	159,79	160,75
102	161,38	162,34
103	162,99	163,95
104	164,56	165,52
105	166,15	167,11
106	167,74	168,70
107	169,34	170,30
108	170,93	171,89
109	172,52	173,48
110	174,1	175,06
111	175,7	176,66
112	177,29	178,25
113	178,88	179,84
114	180,47	181,43
115	182,06	183,02
116	183,65	184,61
117	185,25	186,21
118	186,84	187,8
119	188,43	189,39
120	190,02	190,98



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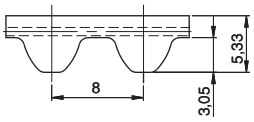
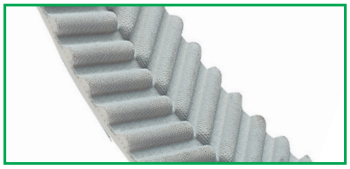




Belt characteristics

- 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 8 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning and medium power transmission applications
- The special profile allows most compact drive

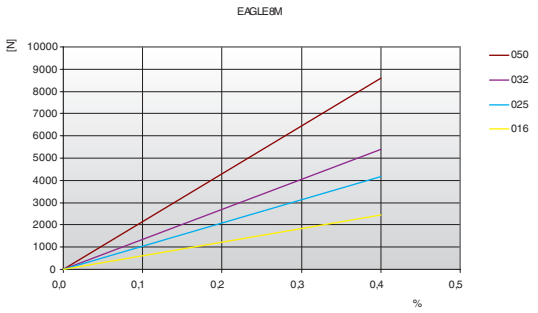
- Width tolerance: ±0,8 [mm]
- Length tolerance: ±0,8 [mm/m]
- Thickness tolerance: ±0,3 [mm]

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]
16	2450	1200	9500	612500	0,085
25	4170	2100	16150	1042500	0,145
32	5390	2700	20900	1347500	0,180
50	8580	4300	33250	2145000	0,300

Other widths are available on request.

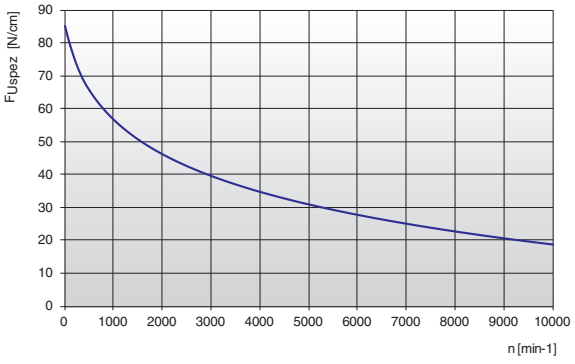
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	85,00	**800**	59,66	**1900**	46,95	**4500**	32,75
20	83,78	**900**	58,05	**2000**	46,14	**5000**	30,94
40	82,62	**1000**	56,58	**2200**	44,62	**5500**	29,30
60	81,49	**1100**	55,22	**2400**	43,22	**6000**	27,79
80	80,42	**1200**	53,95	**2600**	41,91	**6500**	26,40
100	79,38	**1300**	52,77	**2800**	40,70	**7000**	25,11
200	74,78	**1400**	51,66	**3000**	39,56	**7500**	23,90
300	71,01	**1440**	51,23	**3200**	38,49	**8000**	22,77
400	67,93	**1500**	50,61	**3400**	37,48	**8500**	21,70
500	65,52	**1600**	49,62	**3600**	36,52	**9000**	20,69
600	63,36	**1700**	48,69	**3800**	35,61	**9500**	19,73
700	61,42	**1800**	47,80	**4000**	34,75	**10000**	18,82

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} • 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

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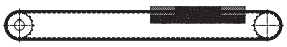
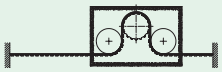
Specialties

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]
16	1800	7500	1800	7500	3840	14000
25	3060	12750	3060	12750	6720	24500
32	3960	16500	3960	16500	8640	31500
50	6300	26250	6300	26250	14400	52500

Flexibility

Minimum pulley number of teeth and minimum idler diameter		Type of cord		
		STANDARD	STAINLESS	HPL
Drive without reverse bending 	Timing pulley z_{min}	20	24	30
	Flat idler running on belt teeth d_{min}	50 mm	70 mm	80 mm
Drive with reverse bending 	Timing pulley z_{min}	30	40	30
	Flat idler running on belt back d_{min}	120 mm	120 mm	150 mm

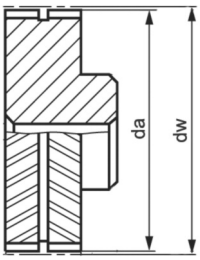
Timing pulleys

z	da	dw
18	44,46	45,83
19	47,01	48,38
20	49,56	50,93
21	52,10	53,47
22	54,65	56,02
23	57,20	58,57
24	59,75	61,12
25	62,29	63,66
26	64,84	66,21
27	67,38	68,75
28	70,08	71,30
29	72,59	73,84
30	75,13	76,39
31	77,65	78,94
32	80,16	81,49
33	82,68	84,03
34	85,21	86,58
35	87,76	89,12
36	90,30	91,67
37	92,85	94,22
38	95,40	96,77
39	97,94	99,31
40	100,49	101,86
41	103,04	104,40
42	105,58	106,95
43	108,13	109,50
44	110,68	112,05
45	113,22	114,59
46	115,77	117,14
47	118,31	119,68

z	da	dw
48	120,86	122,23
49	123,40	124,77
50	125,95	127,32
51	128,50	129,87
52	131,05	132,41
53	133,59	134,96
54	136,14	137,51
55	138,68	140,05
56	141,23	142,60
57	143,78	145,15
58	146,32	147,69
59	148,87	150,24
60	151,42	152,79
61	153,96	155,33
62	156,52	157,89
63	159,06	160,43
64	161,6	162,97
65	164,15	165,52
66	166,69	168,06
67	169,24	170,61
68	171,79	173,16
69	174,33	175,70
70	176,88	178,25
71	179,43	180,80
72	181,98	183,35
73	184,52	185,89
74	187,07	188,44
75	189,61	190,98
76	192,16	193,53
77	194,71	196,08

z	da	dw
78	197,25	198,62
79	199,80	201,17
80	202,35	203,72
81	204,89	206,26
82	207,44	208,81
83	209,98	211,35
84	212,53	213,90
85	215,08	216,45
86	217,63	219,00
87	220,17	221,54
88	222,72	224,09
89	225,26	226,63
90	227,81	229,18
91	230,35	231,72
92	232,90	234,27
93	235,45	236,82
94	238,00	239,37
95	240,54	241,91
96	243,09	244,46
97	245,63	247,00
98	248,18	249,55
99	250,73	252,10
100	253,28	254,67
101	255,82	257,19
102	258,37	259,74
103	260,91	262,28
104	263,46	264,83
105	266,01	267,38
106	268,55	269,92
107	271,1	272,47

z	da	dw
108	273,64	275,01
109	276,19	277,56
110	278,74	280,11
111	281,29	282,66
112	283,84	285,21
113	286,38	287,75
114	288,93	290,30
115	291,47	292,84
116	294,02	295,39
117	296,57	297,94
118	299,11	300,48
119	301,66	303,03
120	304,2	305,57



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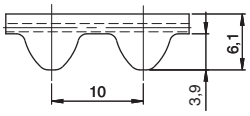
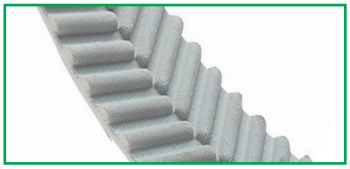




Belt characteristics

- 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

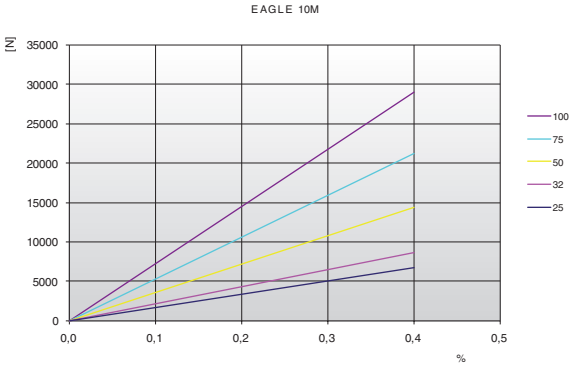
- Width tolerance: ±0,8 [mm]
- Length tolerance: ±0,8 [mm/m]
- Thickness tolerance: ±0,3 [mm]

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	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.

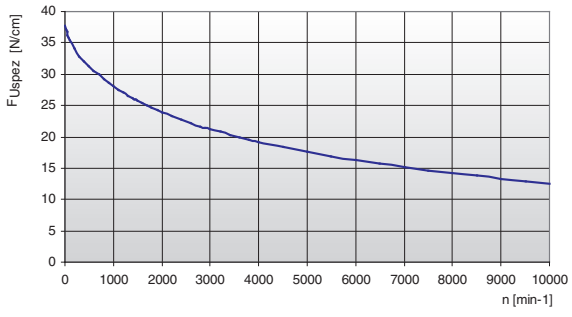
Load / Elongation [%]



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



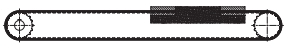
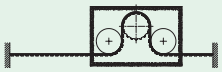
The specific load F_{Uspez} is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.
This force is related to the drive rpm.
The total load F_U transmissible by the belt in the drive is calculated by:

F_U [N] = F_{Uspez} • 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

EAGLE 10M

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

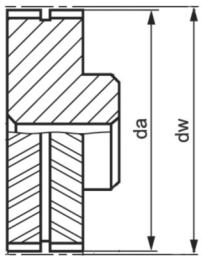
Timing pulleys

z	da	dw
18	55,29	57,29
19	58,48	60,48
20	61,66	63,66
21	64,84	66,84
22	68,03	70,03
23	71,20	73,20
24	74,39	76,39
25	77,58	79,58
26	80,76	82,76
27	83,95	85,95
28	87,12	89,12
29	90,21	92,21
30	93,49	95,49
31	96,67	98,67
32	99,86	101,86
33	103,04	105,04
34	106,19	108,19
35	109,41	111,41
36	112,59	114,59
37	115,77	117,77
38	118,95	120,95
39	122,14	124,14
40	125,32	127,32
41	128,50	130,50
42	131,69	133,69
43	134,87	136,87
44	138,05	140,05
45	141,24	143,24
46	144,42	146,42
47	147,60	149,60

z	da	dw
48	150,78	152,78
49	153,97	155,97
50	157,15	159,15
51	160,33	162,33
52	163,52	165,52
53	166,70	168,70
54	169,88	171,88
55	173,06	175,06
56	176,25	178,25
57	179,43	181,43
58	182,61	184,61
59	185,80	187,80
60	188,98	190,98
61	192,16	194,16
62	195,35	197,35
63	198,53	200,53
64	201,71	203,71
65	204,90	206,90
66	208,08	210,08
67	211,26	213,26
68	214,44	216,44
69	217,63	219,63
70	220,81	222,81
71	223,99	225,99
72	227,18	229,18
73	230,33	232,33
74	233,54	235,54
75	236,72	238,72
76	239,94	241,94
77	243,09	245,09

z	da	dw
78	246,24	248,24
79	249,46	251,46
80	252,64	254,64
81	255,82	257,82
82	259,00	261,00
83	262,19	264,19
84	265,37	267,37
85	268,52	270,52
86	271,74	273,74
87	274,92	276,92
88	278,10	280,10
89	281,28	283,28
90	284,47	286,47
91	287,65	289,65
92	290,84	292,84
93	294,02	296,02
94	297,20	299,20
95	300,39	302,39
96	303,57	305,57
97	306,75	308,75
98	309,93	311,93
99	313,12	315,12
100	316,30	318,30
101	319,48	321,48
102	322,66	324,66
103	325,85	327,85
104	329,03	331,03
105	332,21	334,21
106	335,40	337,40
107	338,58	340,58

z	da	dw
108	341,76	343,76
109	344,95	346,95
110	348,13	350,13
111	351,31	353,31
112	354,50	356,50
113	357,68	359,68
114	360,86	362,86
115	364,04	366,04
116	367,23	369,23
117	370,41	372,41
118	373,59	375,59
119	376,78	378,78
120	379,96	381,96



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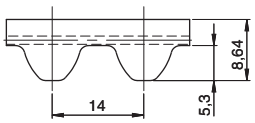
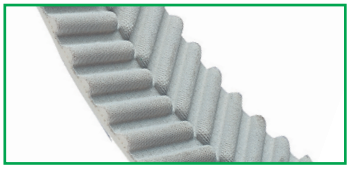




Belt characteristics

- 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 14 mm
- **Extremely reduced noise generation**
- Offers excellent operational reliability in linear positioning, heavy power transmission and lifting applications
- The special profile allows most compact drive

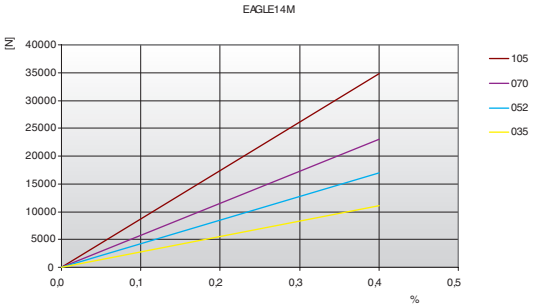
• Width tolerance:	±1,2 [mm]
• Length tolerance:	±0,8 [mm/m]
• Thickness tolerance:	±0,4 [mm]

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]
35	11050	4650	41600	2762500	0,40
52,5	17000	7350	64000	4250000	0,60
70	22950	9800	86400	5737500	0,80
105	34850	16300	131200	8712500	1,20

Other widths are available on request.

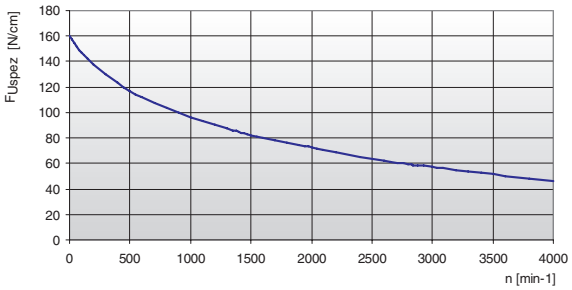
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	160,00	**800**	103,35	**1900**	73,99	**4000**	46,21
20	157,00	**900**	99,60	**2000**	72,13	-	-
40	154,22	**1000**	96,17	**2200**	68,66	-	-
60	151,64	**1100**	93,01	**2400**	65,46	-	-
80	149,24	**1200**	90,08	**2600**	62,50	-	-
100	147,01	**1300**	87,35	**2800**	59,73	-	-
200	138,04	**1400**	84,80	**2880**	58,68	-	-
300	129,87	**1440**	83,82	**3000**	57,15	-	-
400	123,12	**1500**	82,39	**3200**	54,71	-	-
500	117,24	**1600**	80,12	**3400**	52,42	-	-
600	112,07	**1700**	77,97	**3600**	50,24	-	-
700	107,48	**1800**	75,93	**3800**	48,18	-	-

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} • 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

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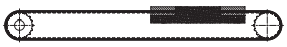
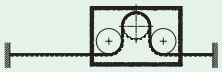
Specialties

Belt width b [mm]	HPL High Performance	
	F_{Tzul} [N] **M type**	F_{Br} [N]
35	12100	49500
52,5	17600	72000
70	24200	99000
105	37400	153000

Flexibility

Minimum pulley number of teeth and minimum idler diameter		Type of cord	
		STANDARD	HPL
Drive without reverse bending 	Timing pulley z_{min}	32	32
	Flat idler running on belt teeth d_{min}	140 mm	140 mm
Drive with reverse bending 	Timing pulley z_{min}	32	32
	Flat idler running on belt back d_{min}	200 mm	200 mm

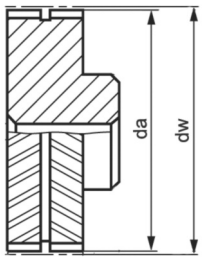
Timing pulleys

z	da	dw
28	122,12	124,77
29	126,58	129,22
30	130,99	133,69
31	135,45	138,14
32	139,88	142,59
33	144,35	147,06
34	148,79	151,51
35	153,25	155,96
36	157,68	160,41
37	162,14	164,88
38	166,60	169,34
39	171,02	173,79
40	175,48	178,24
41	179,92	182,71
42	184,37	187,16
43	188,83	191,61
44	193,29	196,08
45	197,75	200,53
46	202,21	204,98
47	206,65	209,43
48	211,11	213,90
49	215,57	218,35
50	220,03	222,80
51	224,49	227,27
52	228,95	231,72
53	233,39	236,18
54	237,85	240,64
55	242,30	245,09
56	246,76	249,55
57	251,22	254,01

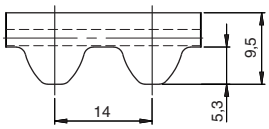
z	da	dw
58	255,68	258,46
59	260,14	262,91
60	264,60	267,38
61	269,04	271,83
62	273,50	276,28
63	277,96	280,75
64	282,42	285,20
65	286,88	289,65
66	291,32	294,11
67	295,78	298,56
68	300,24	303,03
69	304,70	307,48
70	309,16	311,93
71	313,61	316,40
72	318,07	320,85
73	322,53	325,30
74	326,98	329,77
75	331,44	334,22
76	335,90	338,67
77	340,34	343,12
78	344,80	347,59
79	349,26	352,04
80	353,72	356,49
81	358,17	360,96
82	362,63	365,41
83	367,09	369,86
84	371,54	374,33
85	376,00	378,78
86	380,46	383,23
87	384,91	387,70

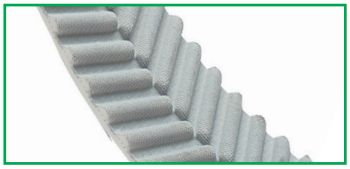
z	da	dw
88	389,37	392,15
89	393,83	396,60
90	398,29	401,07
91	402,73	405,52
92	407,19	409,97
93	411,65	414,44
94	416,10	418,89
95	420,56	423,35
96	425,02	427,80
97	429,48	432,25
98	433,94	436,72
99	438,38	441,17
100	442,84	445,62
101	447,30	450,09
102	451,76	454,54
103	456,21	459,00
104	460,67	463,45
105	465,13	467,90
106	469,58	472,37
107	474,03	476,82
108	478,49	481,28
109	482,95	485,74
110	487,41	490,19
111	491,87	494,64
112	496,32	499,10
113	500,78	503,55
114	505,23	508,02
116	514,14	516,93
117	518,60	521,38
118	523,06	525,83

z	da	dw
119	527,51	530,30
120	531,97	534,75



EAGLE 14M XHPL





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 14 mm
- **Extremely reduced noise generation**
- **E14M - XHPL is the ideal belt for heavy duty synchronous lifting applications.**
- The special profile allows most compact drive
- **White colour and grey fabric backing on tooth size (PAZ) as standard.**

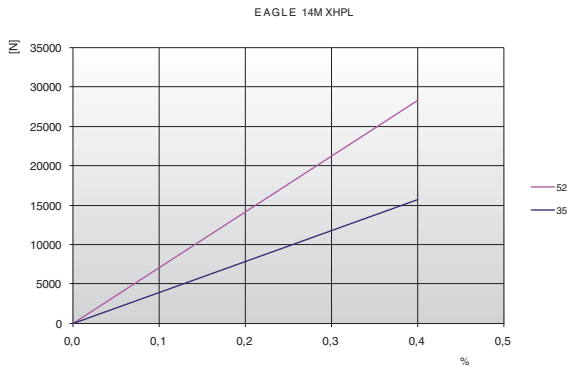
• Width tolerance:	±1,2 [mm]
• Length tolerance:	±1,0 [mm/m]
• Thickness tolerance:	±0,5 [mm]

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]
35	16000	56000	4000000	0,50
52,5	28000	98000	7000000	0,70

Other widths are available on request.

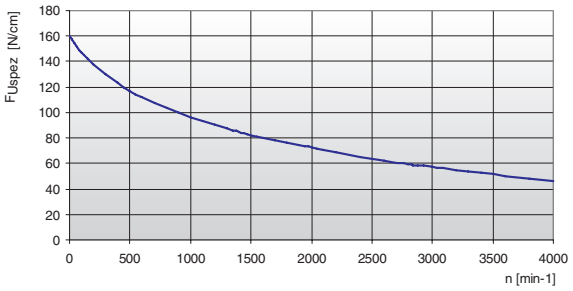
Load / Elongation [%]



Tooth shear strength

rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]	rpm	F_{Uspez} [N/cm]
0	160,00	**800**	103,35	**1900**	73,99	**4000**	46,21
20	157,00	**900**	99,60	**2000**	72,13	-	-
40	154,22	**1000**	96,17	**2200**	68,66	-	-
60	151,64	**1100**	93,01	**2400**	65,46	-	-
80	149,24	**1200**	90,08	**2600**	62,50	-	-
100	147,01	**1300**	87,35	**2800**	59,73	-	-
200	138,04	**1400**	84,80	**2880**	58,68	-	-
300	129,87	**1440**	83,82	**3000**	57,15	-	-
400	123,12	**1500**	82,39	**3200**	54,71	-	-
500	117,24	**1600**	80,12	**3400**	52,42	-	-
600	112,07	**1700**	77,97	**3600**	50,24	-	-
700	107,48	**1800**	75,93	**3800**	48,18	-	-

Tooth shear strength / rpm



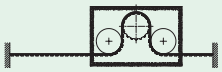
The specific load F_{Uspez} is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions.
This force is related to the drive rpm.
The total load F_U transmissible by the belt in the drive is calculated by:

F_U [N] = F_{Uspez} • 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

EAGLE 14M XHPL

Flexibility

Minimum pulley number of teeth and minimum idler diameter		Type of cord
		STANDARD
Drive without reverse bending	Timing pulley z_{min}	34
	Flat idler running on belt teeth d_{min}	140 mm
Drive with reverse bending	Timing pulley z_{min}	34
	Flat idler running on belt back d_{min}	200 mm

Timing pulleys

Nota
Pulleys with special EAGLE 14M - XHPL profile on request.
Contact our technical department.