

### 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
- White colour and grey fabric on tooth side (PAZ) as standard

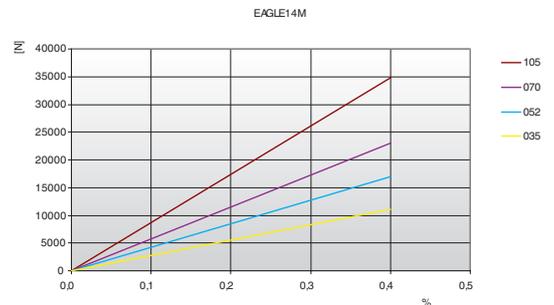
- Width tolerance:  $\pm 1,2$  [mm]
- Length tolerance:  $\pm 0,8$  [mm/m]
- Thickness tolerance:  $\pm 0,4$  [mm]

## 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]
35	11050	5525	41600	2762500	0,40
52,5	17000	8500	64000	4250000	0,60
70	22950	11475	86400	5737500	0,80
105	34850	17425	131200	8712500	1,20

Other widths are available on request.

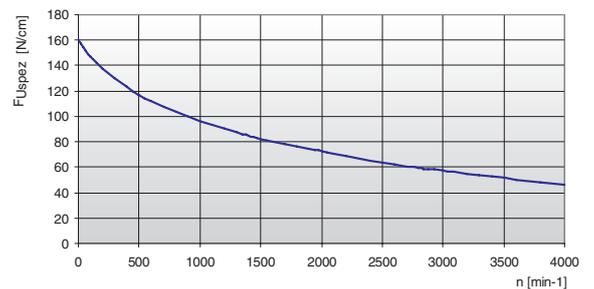
### Load / Elongation [ % ]



## 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:

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

- $F_U [N]$  = 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

## Specialties

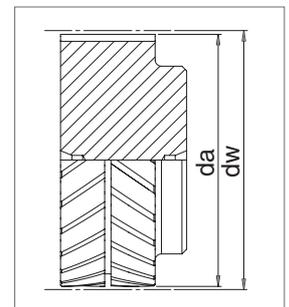
Belt width b [mm]	HPL High Performance	
	F <sub>Tzul</sub> [N] M type	F <sub>Br</sub> [N]
35	12100	49500
52,5	17600	72000
70	24200	99000
105	37400	153000

## Flexibility

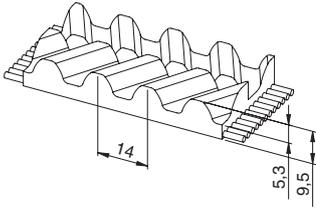
Minimum pulley number of teeth and minimum idler diameter		Type of cord	
		STANDARD	HPL
Drive without reverse bending 	Timing pulley z <sub>min</sub>	32	32
	Flat idler running on belt teeth d <sub>min</sub>	140 mm	140 mm
Drive with reverse bending 	Timing pulley z <sub>min</sub>	32	32
	Flat idler running on belt back d <sub>min</sub>	200 mm	200 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			



# 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 on tooth side (PAZ) as standard

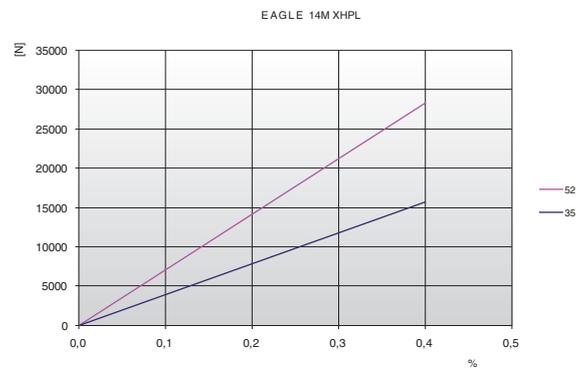
- Width tolerance:  $\pm 1,2$  [mm]
- Length tolerance:  $\pm 1,0$  [mm/m]
- Thickness tolerance:  $\pm 0,5$  [mm]

## 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.

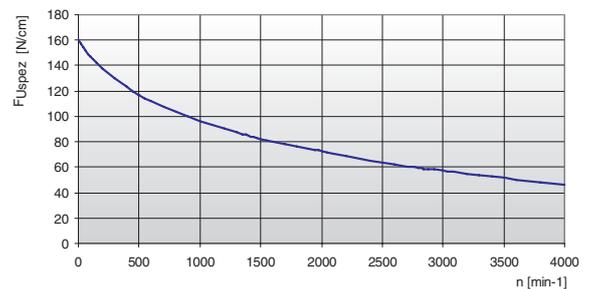
### Load / Elongation [ % ]



### 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

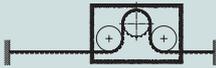


The specific load  $F_{Uspez}$  is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions. This force is related to the drive rpm. The total load  $F_u$  transmissible by the belt in the drive is calculated by:

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

- $F_u [N]$  = 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 $z_{min}$	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.