

### Belt characteristics

- Polyurethane timing belt with round tooth profile and high tensile load tension cords.
- Tooth profile according to ISO 13050
- Metric pitch 8 mm
- The round tooth profile allows a uniform load distribution that guarantees high performances, high transmissible torque and precise tooth engagement
- Widely used in linear positioning, medium power transmission applications
- Double sided tooth construction available

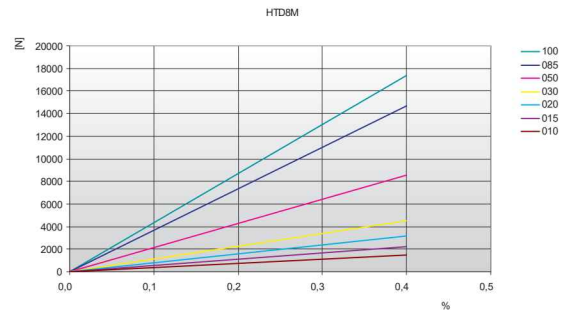
- Width tolerance:  $\pm 0,5$  [mm]
- Length tolerance:  $\pm 0,5$  [mm/m]
- Thickness tolerance:  $\pm 0,2$  [mm]

## 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	0,14
30	4660	2330	18050	1165000	0,21
50	8580	4290	33250	2145000	0,35
85	14700	7350	57000	3675000	0,59
100	17400	8700	67450	4350000	0,69

Other widths are available on request.

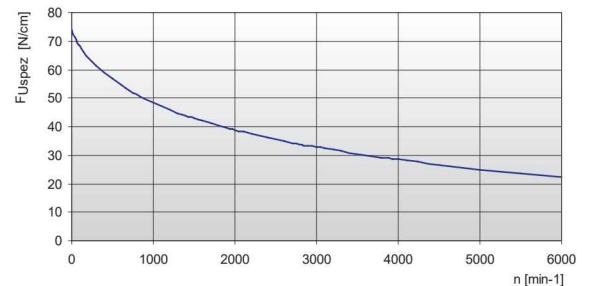
### Load / Elongation [ % ]



### Tooth shear strength

rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]
0	74,00	800	51,20	1900	39,52	4500	26,63
20	72,62	900	49,71	2000	38,78	5000	25,00
40	71,34	1000	48,35	2200	37,39	5500	23,51
60	70,16	1100	47,09	2400	36,12	6000	22,15
80	69,07	1200	45,93	2600	34,94	-	-
100	68,07	1300	44,84	2800	33,83	-	-
200	64,09	1400	43,82	3000	32,80	-	-
300	61,68	1440	43,43	3200	31,83	-	-
400	59,03	1500	42,86	3400	30,91	-	-
500	56,71	1600	41,96	3600	30,05	-	-
600	54,66	1700	41,10	3800	29,22	-	-
700	52,84	1800	40,29	4000	28,44	-	-

### 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:

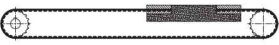

$$F_U [N] = F_{Uspez} \cdot Z_e \cdot b$$

- $F_U [N]$  = 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]	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	100 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	180,80	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			

