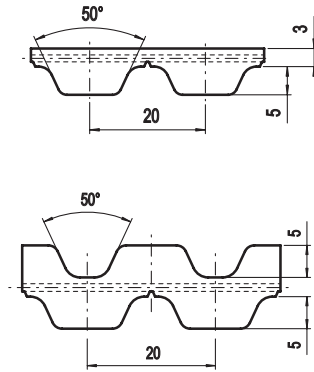


## AT20



### Belt characteristics

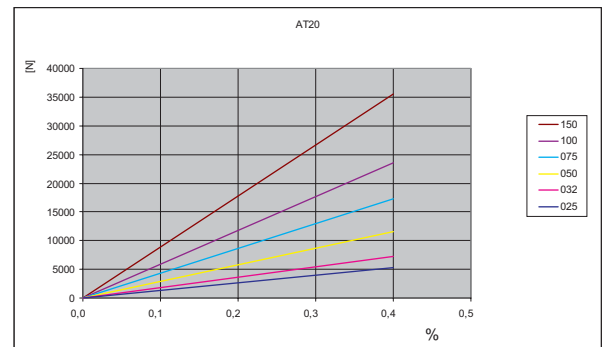
- Polyurethane timing belt with steel tension cords.
  - Metric pitch 20 mm
  - Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load.
  - High resistance and low stretch steel cords to guarantee high stability and low elongation
  - Reduced polygonal effect with reduced drive vibration.
  - Particularly suitable for linear drives and heavy power transmission applications with high axial and angular positioning accuracy.
  - Double sided tooth construction available
- Width tolerance:  $\pm 1,0$  [mm]
  - Length tolerance:  $\pm 0,5$  [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]
25	5280	2640	19250	1320000	0,24
32	7200	3600	26250	1800000	0,31
50	11520	5760	42000	2880000	0,48
75	17280	8640	63000	4320000	0,73
100	23520	11760	85750	5880000	0,97
150	35520	17760	129500	8880000	1,45

Other widths are available on request.

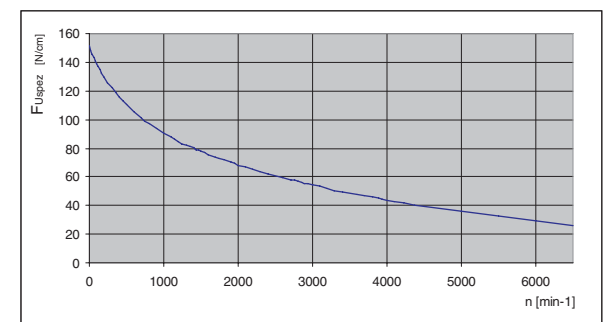
### Load / Elongation [ % ]



### Tooth shear strength

rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]
0	151,40	800	97,44	1900	69,96	4500	39,72
20	148,56	900	93,93	2000	68,22	5000	35,90
40	145,89	1000	90,73	2200	64,97	5500	32,42
60	143,38	1100	87,77	2400	61,98	6000	29,23
80	141,01	1200	85,02	2600	59,20	6500	26,29
100	138,78	1300	82,47	2800	56,62		
200	129,43	1400	80,07	3000	54,20		
300	122,28	1440	79,16	3200	51,92		
400	115,96	1500	77,82	3400	49,77		
500	110,45	1600	75,70	3600	47,74		
600	105,61	1700	73,69	3800	45,80		
700	101,31	1800	71,77	4000	43,96		

### 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:

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

$F_u$  [N]

$F_{Uspez}$  [N/cm]

$z_e$

$z_{emax}$

$z_{emax}$

$z_{emax}$

$b$  [cm]

= peripheral force

= specific load

= number of teeth in mesh in the small pulley

= max. no of teeth in mesh to be considered



for the calculation of the drive

= 12 for ELATECH® M

= 6 for ELATECH® V

= belt width in cm

## Flexibility

Minimum pulley number of teeth and minimum idler diameter		
AT20		TYPE OF CORD
		STANDARD
Drive without reverse bending 	Timing pulley $z_{min}$	18
	Idler running on belt teeth $d_{min}$	120 mm
Drive with reverse bending 	Timing pulley $z_{min}$	25
	Idler running on belt back $d_{min}$	180 mm

## Timing pulleys

z	da	dw	z	da	dw	z	da	dw	z	da	dw
18	111,75	114,59	47	296,35	299,21	76	480,95	483,82	105	665,60	668,43
19	118,10	120,95	48	302,70	305,58	77	487,35	490,19	106	671,95	674,80
20	124,50	127,32	49	309,10	311,93	78	493,70	496,56	107	678,30	681,17
21	130,75	133,69	50	315,45	318,30	79	500,05	502,91	108	684,70	687,54
22	137,20	140,05	51	321,80	324,67	80	506,45	509,28	109	691,05	693,89
23	143,55	146,42	52	328,20	331,03	81	512,80	515,65	110	697,40	700,26
24	149,95	152,78	53	334,55	337,40	82	519,15	522,02	111	703,80	706,63
25	156,30	159,15	54	340,90	343,76	83	525,55	528,39	112	710,15	712,99
26	162,65	165,52	55	347,30	350,13	84	531,90	534,74	113	716,50	719,36
27	169,05	171,88	56	353,65	356,50	85	538,25	541,11	114	722,90	725,72
28	175,40	178,25	57	360,00	362,86	86	544,60	547,48	115	729,24	732,09
29	181,75	184,62	58	366,40	369,23	87	551,00	553,85	116	735,61	738,46
30	188,15	190,99	59	372,75	375,59	88	557,35	560,22	117	741,96	744,83
31	194,50	197,35	60	379,10	381,96	89	563,70	566,57	118	748,34	751,19
32	200,85	203,72	61	385,45	388,33	90	570,10	572,94	119	754,70	757,56
33	207,20	210,09	62	391,85	394,69	91	576,45	579,31	120	761,07	763,93
34	213,60	216,44	63	398,20	401,06	92	582,85	585,67			
35	219,95	222,81	64	404,55	407,43	93	589,20	592,04			
36	226,35	229,18	65	410,95	413,79	94	595,55	598,40			
37	232,70	235,54	66	417,30	420,16	95	601,90	604,77			
38	239,05	241,91	67	423,65	426,52	96	608,30	611,14			
39	245,45	248,27	68	430,05	432,89	97	614,65	617,50			
40	251,80	254,64	69	436,40	439,26	98	621,00	623,87			
41	258,15	261,01	70	442,80	445,63	99	627,35	630,24			
42	264,50	267,37	71	449,15	451,99	100	633,75	636,60			
43	270,90	273,74	72	455,50	458,36	101	640,10	642,97			
44	277,25	280,10	73	461,85	464,73	102	646,50	649,34			
45	283,60	286,47	74	468,25	471,08	103	652,85	655,71			
46	290,00	292,84	75	474,60	477,45	104	659,20	662,06			

