

Toothed belts by the meter

AT profile



Material:

Polyurethane (PU) with steel cord reinforcement.

Sample order:

nIm 22059-0510X0500
(include length L)

Note:

Toothed belt with trapezoidal profile and reinforced steel cord (compared to T-Series). Optimised tooth profile for more uniform force distribution and lower tooth deformation under load. High-performance steel cord reinforcement for high breaking strength and low belt extension. Reduced polygon effect for quieter belt operation. Especially well-suited for linear drives and low power transmission where exact axial and angular positioning are required. Polyurethane belts may be welded. The power transmission rating of welded belts drops by about 50%.

Width tolerance: ± 0.5 mm

Thickness tolerance: ± 0.2 mm

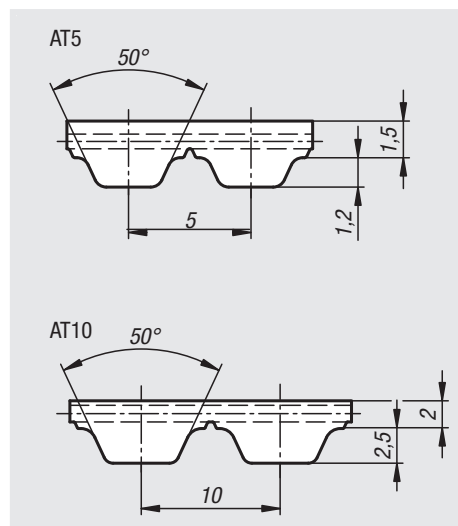
On request:

Other lengths.

AT5 pitch in 5 mm length increases.

AT10 pitch in 10 mm length increases.

Maximum belt length 100 metres.



Order No.	Profile	belt width	Tension max. N	Length	matching clamp plate
22059-0510X	AT5	10	640	500/1000/1500/2000/2500/3000/3500/4000/5000	22012-05102
22059-0516X	AT5	16	1120	500/1000/1500/2000/2500/3000/3500/4000/5000	22012-05162
22059-0525X	AT5	25	1840	500/1000/1500/2000/2500/3000/3500/4000/5000	22012-05252
22059-1016X	AT10	16	2450	500/1000/1500/2000/2500/3000/3500/4000/5000	22012-10162
22059-1025X	AT10	25	4170	500/1000/1500/2000/2500/3000/3500/4000/5000	22012-10252
22059-1032X	AT10	32	5390	500/1000/1500/2000/2500/3000/3500/4000/5000	22012-10322

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Specific tooth force

The specific tooth force F_{Uspez} is the maximum force that a single engaged belt tooth 1 cm wide can transmit.

This force depends on the speed of the drive pulley. To calculate the transmissible longitudinal force F_U for the belt cross-section, the number z_e of engaged teeth is multiplied by the specific tooth force F_{Uspez} and the belt width b .

$$F_U = F_{Uspez} \cdot z_e \cdot b$$

F_U = transmissible longitudinal force

F_{Uspez} = specific tooth force

z_e = number of engaged teeth

z_{emax} = for the calculation, perm. maximum number of engaged teeth = 12

b = belt width in cm

Pitch AT5

rpm	F_{Uspez} (N/cm)	rpm	F_{Uspez} (N/cm)	rpm	F_{Uspez} (N/cm)	rpm	F_{Uspez} (N/cm)
0	36,40	800	27,69	1900	22,73	4500	17,18
20	35,88	900	27,06	2000	22,42	5000	16,47
40	35,40	1000	26,49	2200	21,82	5500	15,83
60	34,97	1100	25,96	2400	21,28	6000	15,24
80	34,59	1200	25,47	2600	20,77	6500	14,69
100	34,24	1300	25,01	2800	20,29	7000	14,18
200	32,92	1400	24,57	3000	19,85	7500	13,71
300	31,92	1440	24,41	3200	19,43	8000	13,26
400	30,89	1500	24,16	3400	19,03	8500	12,85
500	29,95	1600	23,78	3600	18,66	9000	12,45
600	29,12	1700	23,41	3800	18,30	9500	12,07
700	28,37	1800	23,07	4000	17,96	10000	11,72

Pitch AT10

rpm	F_{Uspez} (N/cm)	rpm	F_{Uspez} (N/cm)	rpm	F_{Uspez} (N/cm)	rpm	F_{Uspez} (N/cm)
0	75,70	800	53,70	1900	42,02	4500	29,13
20	74,59	900	52,21	2000	41,28	5000	27,50
40	73,55	1000	50,85	2200	39,89	5500	26,01
60	72,57	1100	49,59	2400	38,62	6000	24,65
80	71,65	1200	48,43	2600	37,44	6500	23,40
100	70,78	1300	47,34	2800	36,33	7000	22,23
200	67,13	1400	46,32	3000	35,30	7500	21,14
300	64,18	1440	45,93	3200	34,33	8000	20,12
400	61,53	1500	45,36	3400	33,41	8500	19,15
500	59,21	1600	44,46	3600	32,55	9000	18,24
600	57,16	1700	43,60	3800	31,72	9500	17,38
700	55,34	1800	42,79	4000	30,94	10000	16,56