

Technical data

HEVALOID® Endless-Flat belts length-stable

Transmission and conveying belts endless

Type	5005	5065	525 HF / 525	535	ATM belt * (VOC free)
Thickness	0.5 mm	0.7 mm	1.0 / 1.5 mm	2.0 mm	0.65 mm
Surface pulley side carrying side	smooth smooth	smooth smooth	profile smooth	profile smooth	smooth grinded
Tensile member	Polyester fabric, endless woven				semi-elastic
Quality of rubber	Chloroprene black, 70 ShA				
Properties	antistatic, resistant against abrasion, durable				
Temperature resistance	-25 ...100 °C	-25 ...100 °C	-25 ...100 °C	-25 ...100 °C	-25 ...100 °C
Minimum pulley-Ø	4 mm	6 mm	10 / 20 mm	40 mm	6 mm
Tensile strength, endless	> 800 N/cm	> 1000 N/cm	1500 N/cm	3000 N/cm	120 N/cm
Force at 1% elongation	> 120 N/cm	> 150 N/cm	200 / 220 N/cm	350 N/cm	1.1 N/mm (at 5 % el.)
Pretension	0.8 - 1.0 %	0.8 - 1.0 %	0.8 - 1.0 %	0.8 - 1.0 %	4 - 6 %
Dimensions					
length	150 - 1500 mm	150 - 1500 mm	150 - 3000 mm	800 - 9000 mm	75 - 1500 mm
width	3 - 140/280 mm	3 - 140/280 mm	3 - 280 mm	15 - 280 mm	2 - 280 mm
thickness	0.5 mm	0.7 mm	1.0 mm	2.0 mm	0.65 - 2.00 mm
Tolerances					
length	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %
width	+/- 0.5 mm	+/- 0.5 mm	+/- 0.5 mm	+/- 0.5 mm	+/- 0.5 mm
thickness	+/- 0.1 mm	+/- 0.1 mm	+/- 0.1 mm	+/- 0.1 mm	+/- 0.1 mm

Special production:

- surfaces grinded
- one-side gliding for slider bed units
- tighter tolerances
- other thickness available

* **ATM belt** – type Hevaloid SE black 70 ShA – made of endlessly woven semi-elastic fabric and a high-quality rubber coating that has been processed using only VOC free solvents. They convey banknotes, tickets, coins and credit cards in ATMs reliably and precisely. No belt tensioners are required.

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Approx. power transmission (kW/cm belt width)

Belt-speed	Type 5005	Type 5065	Type 525 HF Type 525	Type 535
[m / s]	[kW / cm]	[kW / cm]	[kW / cm]	[kW / cm]
1	0.07	0.12	0.14	0.24
2	0.14	0.24	0.28	0.48
3	0.21	0.36	0.42	0.71
4	0.28	0.47	0.56	0.92
5	0.35	0.58	0.70	1.14
6	0.42	0.70	0.84	1.38
7	0.49	0.82	0.98	1.61
8	0.56	0.94	1.12	1.82
9	0.63	1.06	1.26	2.05
10	0.70	1.19	1.40	2.28
12	0.84	1.43	1.68	2.74
14	0.98	1.67	1.96	3.19
16	1.12	1.91	2.24	3.65
18	1.26	2.15	2.52	4.10
20	1.40	2.38	2.80	4.56
22	1.54	2.61	3.08	5.02
24	1.68	2.84	3.36	5.47
26	1.82	3.08	3.64	5.93
28	1.96	3.32	3.92	6.36
30	2.10	3.58	4.20	6.84

Pretension: 0.8 – 1.0 %

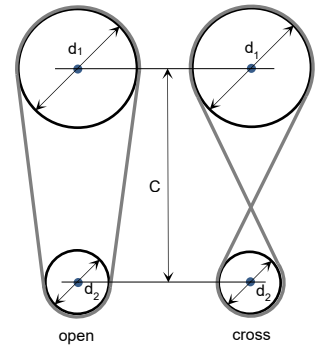
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Calculation of flat belts

Legend

diameter of large pulley [mm]	=	d ₁
diameter of small pulley [mm]	=	d ₂
centre to centre distance [mm]	=	C
rotation speed [rpm]	=	n



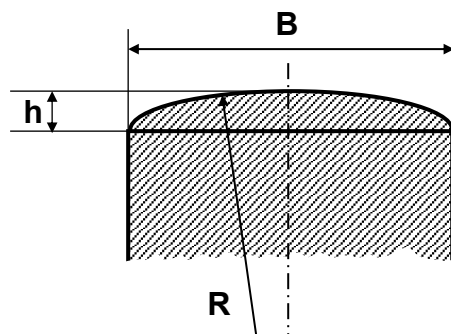
Belt length L [mm]

open drive:	$L = 2 C + \pi/2 * (d_1 + d_2) + ((d_1 - d_2)^2 / 4 C)$
cross drive:	$L = 2 C + \pi/2 * (d_1 + d_2) + ((d_1 + d_2)^2 / 4 C)$
half-cross belt drive:	please measure with a steel tape measure

Peripheral speed v [m/s]: $v = d_1 * \pi * n_1 / 60 / 1000$

Pulley crowns

In order to obtain good results with endless woven belts, note the following:
 Pulleys should **not** be equipped **with rims**. A smooth pulley surface provides the best traction. The belt is technologically well guided by crowned pulleys. At least **one pulley should be properly crowned** in every flat belt drive.



Correct design results in proper belt guidance and long running life

The following dimensions are recommended for normal open drives [mm]:

Pulley width	B =	20	30	40	50	60	70	80	90	100	120	140	160	180	200
Crown radius	R =	172	286	405	526	648	770	894	1018	1142	1510	1890	2290	2705	3130
Crown height	h =	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6