

Technical data

HEVALOID® Endless-Flat belts length-stable

Transmission and conveying belts endless

Type	5005	5065	525 HF	525	535
Thickness	0.5 mm	0.7 mm	1.0 mm	1.5 mm	2.0 mm
Surface pulley side	smooth	smooth	profile	profile	profile
carrying side	smooth	smooth	smooth	smooth	smooth
Tensile member	Polyester fabric, endless woven				
Quality of rubber	Chloroprene black, 70 ShA				
Properties	antistatic, resistant against abrasion				
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 mm	20 mm	40 mm
Tensile strength, endless	> 800 N/cm	> 1000 N/cm	1500 N/cm	1500 N/cm	3000 N/cm
Force at 1% elongation	> 120 N/cm	> 150 N/cm	200 N/cm	220 N/cm	350 N/cm
Pretension	0.8 - 1.0 %	0.8 - 1.0 %	0.8 - 1.0 %	0.8 - 1.0 %	0.8 - 1.0 %
Dimensions					
length	150 - 1500 mm	150 - 1500 mm	150 - 3000 mm	150 - 3000 mm	800 - 9000 mm
width	3 - 140/280 mm	3 - 140/280 mm	3 - 280 mm	5 - 280 mm	15 - 280 mm
thickness	0.5 mm	0.7 mm	1.0 mm	1.5 mm	2.0 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

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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 %

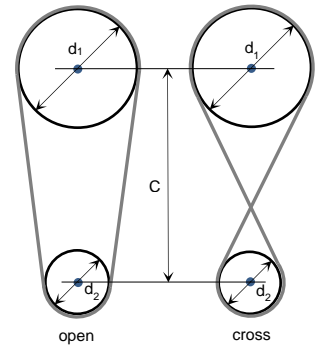
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Calculation of flat belts

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



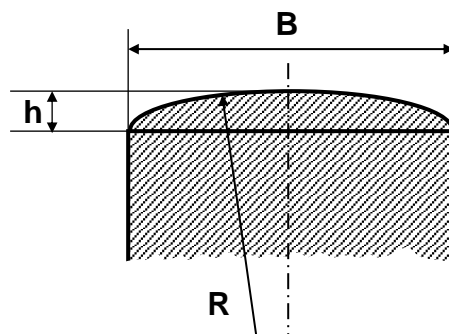
Belt length L [mm]

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

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

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