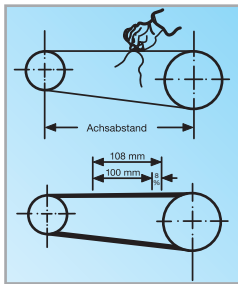


Express-Service endless belts

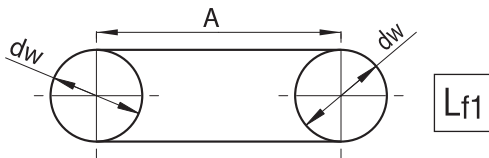
We are able to tailor round- and V-belts of different lengths and diameters - within a few days and in high quality. We offer both, standard butt splice and strong overlap splice. Feel free to contact us.
We always need the production length **L_f** in mm/inch on your enquiry or order.



Working out the correct belt length

Use a string or steel tape to make measurements after reducing take-up (if installed) to the minimum. Distance between pulleys should remain fixed. To obtain good driving strength and good belt life, the belt pretension should be 1 to 8%, based on hardness and length of the belt. To verify pretension on an installed belt, apply two marks with a pen separated by 10 inches (or 100 mm) on the belt when it is free from tension. The increase of space between the marks after mounting the belt in tenths of an inch (or mm) provides a measure of the pretension in percent.

Calculation of belt lengths



Appropriate formula

$$L_{f1} = \frac{dw \times \pi}{2} \times 2 + 2 \times A + \text{belt } \varnothing$$

Example 1

Example application

L_{f1}

dw = 50 mm
A = 250 mm
Belt \varnothing : 5,00 mm

Calculation

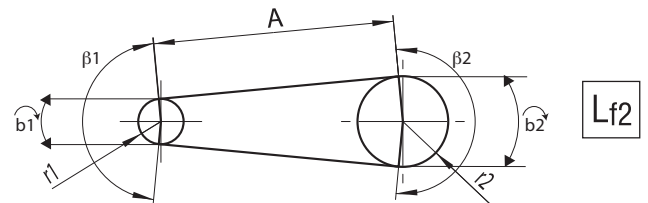
$$L_{f1} = \frac{(50 \text{ mm} \times 3,142)}{2} \times 2 + 2 \times (250 \text{ mm}) + \text{Belt } \varnothing$$

$$\begin{aligned} L_{f1} &= 157,1 \text{ mm} + 500 \text{ mm} \\ &= 657,1 \text{ mm} + 5 \text{ mm } \varnothing \\ &= 662,1 \text{ mm} - \text{Pretension} = L_{f1} \end{aligned}$$

L_f = production length
A = center distance
dw = effective diameter

r = radius
 β (beta) = angle of wrap
b = arc length

Please refer to the recommended pretension at the corresponding belt quality



Appropriate formula

$$L_{f2} = b1 + b2 + 2 \times A + \text{belt } \varnothing$$

$$b1 = \frac{\pi}{180^\circ} \times r1 \times \beta1$$

$$b2 = \frac{\pi}{180^\circ} \times r2 \times \beta2$$

Example 2

Example application

L_{f2}

A = 250 mm Belt \varnothing : 5,00 mm
r1 = 20 mm
r2 = 25 mm
 $\beta1 = 170^\circ$
 $\beta2 = 190^\circ$

Calculation

$$\begin{aligned} b1 &= \frac{3,142}{180^\circ} \times 20 \text{ mm} \times 170^\circ \\ &= 59,35 \text{ mm} \end{aligned}$$

$$\begin{aligned} b2 &= \frac{3,142}{180^\circ} \times 25 \text{ mm} \times 190^\circ \\ &= 82,91 \text{ mm} \end{aligned}$$

$$\begin{aligned} L_{f2} &= 59,35 \text{ mm} + 82,91 \text{ mm} + 2 \times (250 \text{ mm}) + 5 \text{ mm } \varnothing \\ &= 647,26 \text{ mm} - \text{Pretension} = L_{f2} \end{aligned}$$