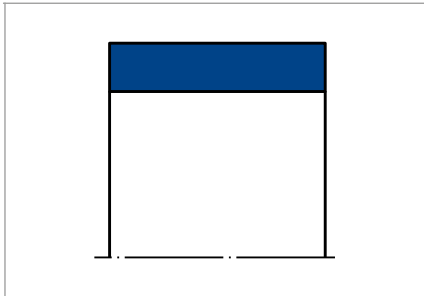


MERKEL GUIDE STRIP SF



PRODUCT DESCRIPTION

Non-metallic Merkel Guide Strip SF, available ready to fit cut to size or by the metre.

PRODUCT ADVANTAGES

As a non-metallic guide element for rods, also for standardised housings according to ISO 10766.

- Low friction, free of stick-slip

APPLICATION

- Handling equipment
- Injection moulding machines
- Control and regulation equipment

MATERIAL

Material	Code
PTFE bronze compound	PTFE B500

OPERATING CONDITIONS

Medium/ Temperature	PTFE B500
Hydraulic oils HL, HLP	-40 °C ... +200 °C
HFA fluids	-
HFB fluids	-
HFC fluids	-
HFD fluids	-40 °C ... +200 °C
Water	-
HETG (rapeseed oil)	-40 °C ... +80 °C
HEES (synthetic ester)	-40 °C ... +100 °C
HEPG (glycol)	-40 °C ... +80 °C
Mineral greases	-40 °C ... +200 °C

DESIGN NOTES

Please observe our general design notes in → Technical Manual.

Surface quality

Peak-to-valley heights	R_a	R_{max}
Sliding surface	0,05 ... 0,3 μm	$\leq 2,5 \mu\text{m}$
Groove base	$\leq 2 \mu\text{m}$	$\leq 10,0 \mu\text{m}$
Groove flanks	$\leq 3 \mu\text{m}$	$\leq 15,0 \mu\text{m}$

Percentage contact area $M_p > 50\%$ to max. 90% at cutting depth $c = R_z/2$ and reference line $C_{ref} = 0\%$.

Tolerances

D_1
H8

The tolerance definition for the dimensions D and dF must be viewed in connection with the seal used. The diameter d_1 specified in the table of dimensions is to be viewed exclusively in relation to the guide ring. The corresponding diameter of an adjacent seal housing should be tailored to the sealing component.

SPECIALITIES

Manufacturing tolerance

Production tolerance profile thickness S
-0,05 mm

Surface load

$p < 15 \text{ N/mm}^2$ up to 20 °C
 $p < 7,5 \text{ N/mm}^2$ up to 80 °C
 $p < 5 \text{ N/mm}^2$ up to 120 °C

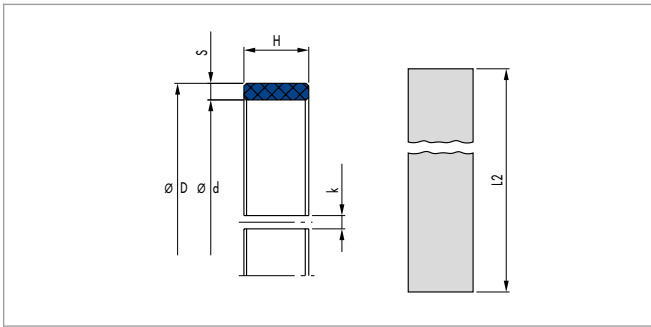
For running speed, see sealing system.

Cutting rolls to size

The following dimensions are available from stock by the metre. The straight length L2 of blanks is to be determined using the formula. The gap k produced after fitting is necessary due to thermal expansion. We recommend a straight cut on the strips. In the event of butt joints the tips may be damaged and break-off. Our cutter (Article No. 507228) facilitates time-saving and accurate cutting to size.

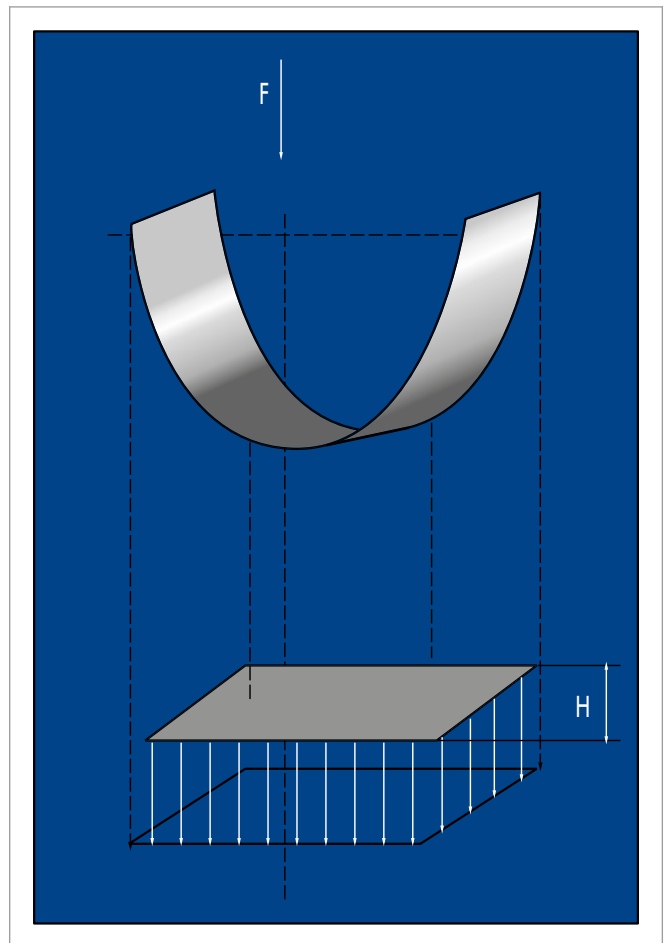
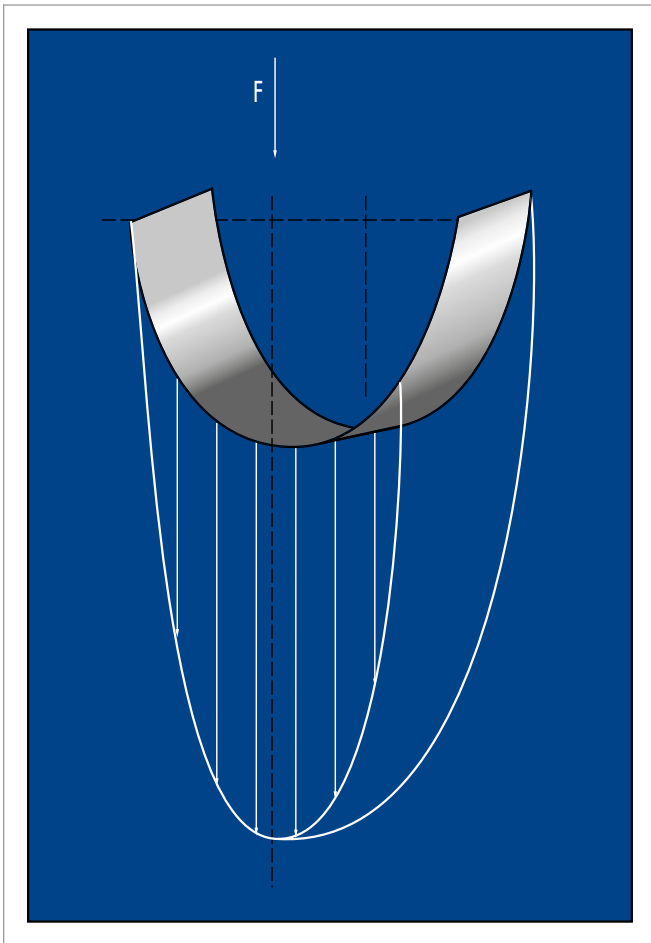
Calculating stretched length L2 for rods:

$$L2 = (d + S) \times 3,11 - 0,5$$



Groove length L	Profile thickness S	Article No.
8,0 mm	2,5 mm	24226174
9,7 mm	2,5 mm	24102775
10,0 mm	2,5 mm	24102763
12,0 mm	2,5 mm	24099191
15,0 mm	2,5 mm	24102564
20,0 mm	2,5 mm	24076217
25,0 mm	2,5 mm	24107955
15,0 mm	4,0 mm	24160019
20,0 mm	4,0 mm	24160052
25,0 mm	4,0 mm	24160053

Surface force



$$F = P \times A$$

$$H = F / (d \times P)$$

H = guide strip width [mm]

F = radial loading [N]

A = projected area [mm²]

P = perm. compression per unit area [N/mm²]

d = rod diameter with rod guidance;
piston diameter with piston guidance [mm].

The pressure distribution on the guide rings is non-linear. The non-linear pressure curve over the contact range was taken into account when calculating the permissible specific surface pressure. The permissible load on the guide strip is calculated by multiplying the projected surface with the permissible specific surface pressure. However, the figure for the permissible specific surface pressure takes into account the possible angular offset of the rods when the recommended guide elements are used.