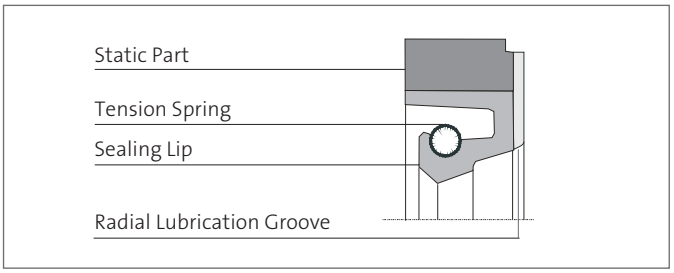
MERKEL RADIAMATIC R58

Merkel Radiamatic R58 is a radial shaft seal consisting of a fabric reinforced section of sturdy design, firmly bonded to the rubber sealing lip.
A helical tension spring assists radial contact pressure of the lip on the shaft. Radial shaft seal with a groove around the circumference to facilitate additional lubrication from the outside.



VALUE TO THE CUSTOMER

- Highly wear resistant
- Constant radial force assuring steady performance
- Also available as a joint-on-site version

Applications

The Merkel Radiamatic R58 is designed for the special requirements of grease-lubricated bearings in rolling mills.

Material

Sealing Lip	Adhesive Part	Tension Spring
80 NBR B241	Impregnated Cotton Fabric	ST 1.4571

Further material combinations on request.

TECHNICAL PROPERTIES

Operating Conditions

Material	80 NBR B241
Mineral Oils	–30 ... +100 °C
Water	+5 ... +100 °C
Lubricating Greases	–30 ... +100 °C
Rolling Oil Emulsion	on request
Pressure	0,05 MPa
Sliding Speed	15 m/s

Other media on demand. The figures given are maximum values and must not be applied simultaneously.

Surface Finish

Peak-to-valley Heights	R_a	R_{max}
Sliding Surface	≤0,6 µm	≤2,5 µm
Housing	≤4 µm	≤15 µm

The counter surface is suitably machined by plunge grinding, i.e. without feed. The recommended surface hardness is approx. 60 HRC (hardening depth min. 0,5 mm). As the circumferential speed increases, the counter surface should be finished with a decreasing roughness depth R_a. The surface must not get too smooth in order to ensure sufficient lubricant film formation.
Standard value: R_a min. = 0,1 µm. Profile bearing length ratio t_p > 50 % up to max. 90 % at average depth c = $R_z/2$ and reference line C_{ref} = 0 %.
Abrasive surfaces, ridges, scratches and blow-holes are to be avoided.

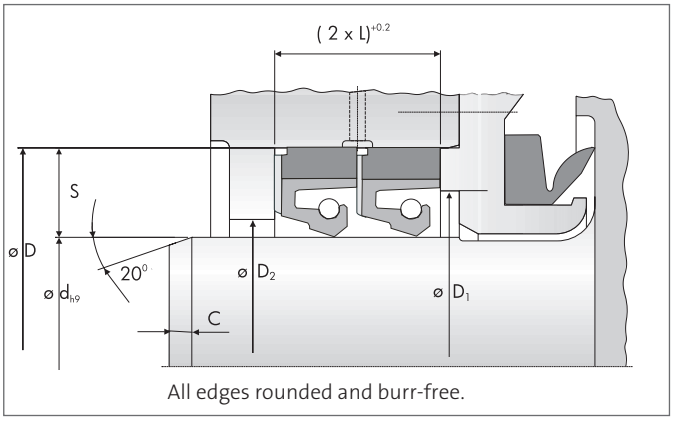
Tolerances

Ø D [mm]	Tolerances
<500	H8
>500	+0,0004 x D

Overall Eccentricity

The permissible overall eccentricity (static and dynamic eccentricity) between shaft and housing is dependent on the seal profile and circumferential speed. Recommended values on request.

Installation Diagram



All edges rounded and burr-free.

Please note the general design-related remarks in our technical manual.

Installation Chamfers

See dimension “C” in table of dimensions.

Housing recommendations for new designs

Ø d [mm]	S (Profile) [mm]	L [mm]
>100	20	16
>250	22	20
>450	25	22
>750	32	25

Installation & Assembly

The shaft seal Merkel Radiamatic R58 is axially pretensioned to the metallic housing dimension L in an axially accessible installation space via a cover plate with tightening screws. The ring is therefore supplied with an oversize in the seal height. Certain deformation forces are required for pressing. The cover plate and the tightening screws must be designed accordingly. Guide values are available on request.