

Merkel U-Ring Syprim SM

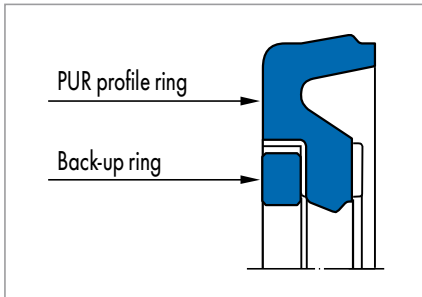


Fig. 1 Merkel U-Ring Syprim SM

Product description

Two-piece Merkel seal set for use as a primary rod seal. The Merkel Syprim SM seal set is always used in a sealing system in combination with U-ring (e.g. Merkel U-Ring T 20).

Product advantages

The Merkel U-Ring Syprim SM is designed especially for use as a system seal

- Short primary seal
- No pressure enclosed between primary and secondary seal
- Low friction
- Highly wear-resistant
- Protection against extrusion through activated back-up ring.

Application

Earth moving equipment, agricultural machinery, injection moulding machines, industrial vehicles, cranes, standard cylinders.

Material

PUR profile ring

Material	Code	Hardness
Polyurethane	95 AU V142	95 Shore A

Back-up ring

Material	Code
Polyacetal	POM PO202

Operating conditions

Material	95 AU V142/POM PO202
	Temperature range in °C
Hydraulic oils HL, HLP	-30 ... +110
HFA fluids	+5 ... +50
HFB fluids	+5 ... +50
HFC fluids	-30 ... +40
HFD fluids	-
Water	+5 ... +50
HETG (rapeseed oil)	-30 ... +60
HEES (synthetic ester)	-30 ... +80
HEPG (glycol)	-30 ... +50
Mineral greases	-40 ... +110
Pressure p in MPa	40
Running speed v in m/s	0,5

Surface quality

Surface roughness	R _a	R _{max}
Sliding surface	0,05 ... 0,3 µm	≤2,5 µm
Groove base	≤1,6 µm	≤6,3 µm
Groove flanks	≤3,0 µm	≤15,0 µm

Percentage contact area M_v >50% to max. 90% at cutting depth c = Rz/2 and reference line C ref = 0%.

Design notes

Please observe our general design notes in → Technical Manual.

Gap dimension

The decisive factor for the function of the seal is the largest gap dimension occurring during operation on the non-pressurised side of the seal. → Technical Manual.

Profile		Max. permissible gap dimension			
L	Profile	16 MPa	26 MPa	32 MPa	40 MPa
6,3	7,55	0,6	0,5	0,4	0,4
8,1	10,25	0,7	0,6	0,5	0,5

Tolerance recommendation and dimension D2

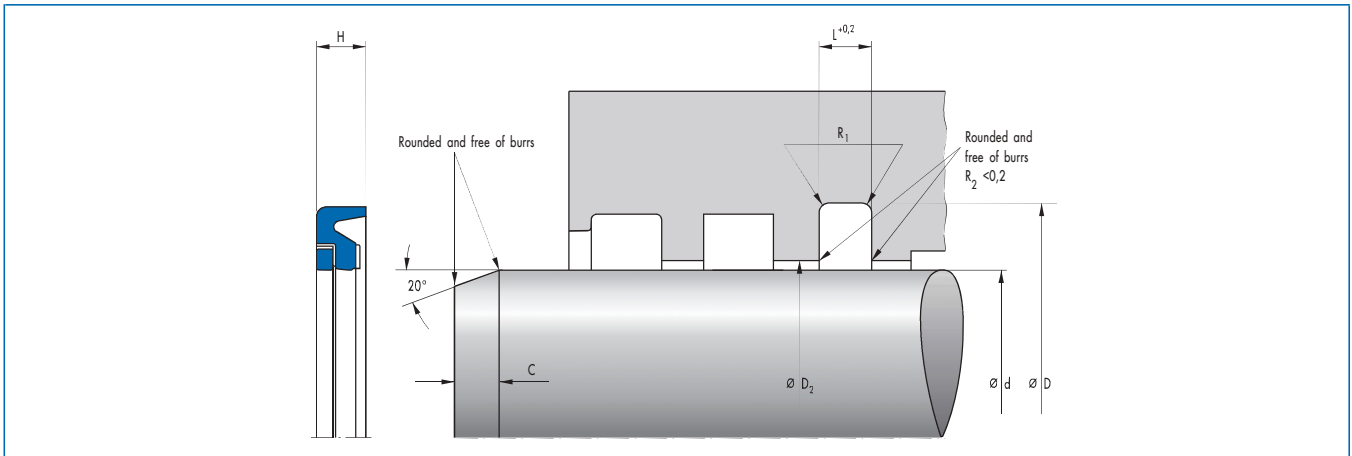
The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing D2. → Technical Manual.

Nominal Ø d	d	D
45 ... 80	f8	H9
>80 ... 200	f8	H8

Fitting & installation

Careful fitting is a prerequisite for the correct function of the seal.
→ Technical Manual.

Article list



d	D	H	L	Profile	C	R ₁	Fitting	Material	Article No.	
40	55,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24360070	○
42	57,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24356005	○
45	60,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24355139	●
50	65,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24341750	●
54	69,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24370654	○
56	71,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24351367	○
60	75,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24352073	●
63	78,1	5,9	6,3	7,55	5,5	1,2	H	95 AU V142	24356949	●
70	85,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24345981	●
80	95,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24355289	●
85	100,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24341751	○
90	105,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24359197	●
100	115,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24332507	●
105	120,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24369062	○
110	125,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	528762	○
115	130,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	533605	○
120	135,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24368150	○
125	140,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24357329	●
150	165,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24357330	○
170	185,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24357331	○
180	195,1	5,9	6,3	7,55	6	1,2	H	95 AU V142	24357332	○
200	220,5	7,6	8,1	10,25	7,5	2	H	95 AU V142	24357333	○

● Available from stock ○ On request: Tool is available, delivery at short notice

Fitting: H = by hand; W = with fitting tool; blank = axially accessible housing