



# MERKEL® OMEGAT OMK-PU

## PRODUCT DESCRIPTION

Two-part piston seal consisting of a polyurethane profile ring with an O-ring as a preload element, optionally made of hydrolysis-resistant high-performance polyurethane.

## PRODUCT ADVANTAGES

Merkel® Omegat OMK-PU is used for sealing pistons with pressure on both sides for medium duty applications, and is also designed for housings according to ISO 7425, Part 1.

- Increased sealing effect
- Robust design
- Requires small housing
- Easy fitting

### In addition, for material 98 AU 30500:

- Very good static and dynamic tightness
- Very good extrusion resistance
- Very good media resistance
- Low dynamic friction

## APPLICATION

- Industrial vehicles
- Agricultural machinery
- Cranes
- Standard cylinders

### In addition, for material 98 AU 30500:

- Earthmoving equipment
- Tail lifts
- Injection moulding machines

## MATERIAL

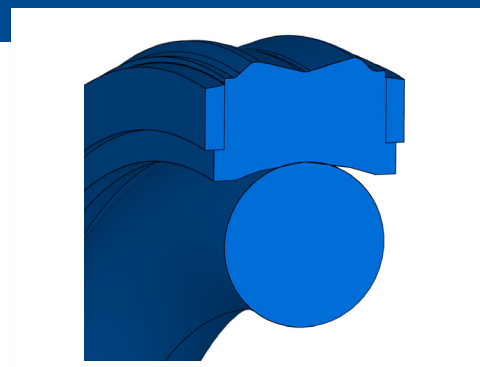
### Profile ring

Material	Code	Hardness
Polyurethane	95 AU V142	95 Shore A
Polyurethane	98 AU 30500	98 Shore A

### O-ring

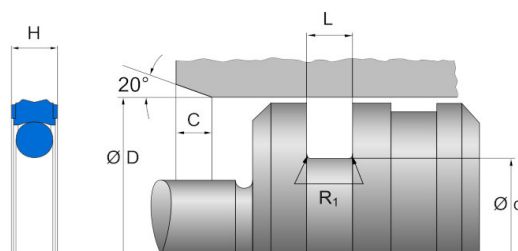
Material	Code	Hardness
Nitrile rubber	70 NBR B276	70 Shore A

Other combinations of materials are available on enquiry.



## FITTING & INSTALLATION

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



## OPERATING CONDITIONS

	95 AU V142/ NBR	98 AU 30500/ NBR
Pressure p	25 MPa	40 MPa
Running speed v	0,5 m/s	0,5 m/s

Medium/ Temperature	95 AU V142/ NBR	98 AU 30500/ NBR
Hydraulic oils HL, HLP	-30 °C ... +100 °C	-30 °C ... +100 °C
HFA fluids	+5 °C ... +50 °C	+5 °C ... +55 °C
HFB fluids	+5 °C ... +50 °C	+5 °C ... +50 °C
HFC fluids	-30 °C ... +40 °C	-30 °C ... +60 °C
HFD fluids	- °C	- °C
Water	+5 °C ... +50 °C	+5 °C ... +90 °C
HETG (rapeseed oil)	-30 °C ... +60 °C	-30 °C ... +60 °C
HEES (synthetic ester)	-30 °C ... +80 °C	-30 °C ... +80 °C
HEPG (glycol)	-30 °C ... +50 °C	-30 °C ... +60 °C
Mineral greases	-30 °C ... +100 °C	-30 °C ... +100 °C

## DESIGN NOTES

Please observe our general design notes in Technical Manual.

### Surface quality

Peak-to-valley heights	R <sub>a</sub>	R <sub>max</sub>
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<sub>r</sub> > 50% to max. 90% at cutting depth c = Rz/2 and reference line C ref = 0%.



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## Admissible gap dimension

The largest gap dimension occurring on the non-pressurised side of the seal in operation is of vital importance for the function of the seal. See Technical Manual.

### Material 98 AU 30500:

Dimension	max. admissible gab dimension			
	16 MPa	26 MPa	32 MPa	40 MPa
L				
3,20 mm	0,30 mm	0,20 mm	- mm	- mm
4,20 mm	0,40 mm	0,30 mm	0,20 mm	- mm
6,30 mm	0,50 mm	0,40 mm	0,30 mm	0,25 mm
8,10 mm	0,60 mm	0,50 mm	0,40 mm	0,35 mm

### Material 95 AU V142:

Dimension	max. admissible gab dimension	
	16 MPa	26 MPa
L		
3,20 mm	- mm	- mm
4,20 mm	0,20 mm	- mm
6,30 mm	0,30 mm	0,25 mm
8,10 mm	0,40 mm	0,35 mm

## Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account in the design. See Technical Manual. Certain dimensions must be considered in conjunction with the guide element used.

D	d
H8	h7

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