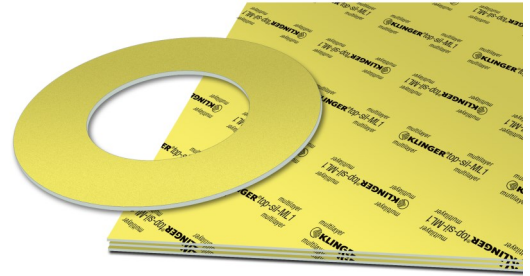


# KLINGER®top-sil ML1

Special multi-layer gasket material with extended service life

KLINGER®top-sil ML1 is a special multi-layer gasket material with extended service life and improved flexibility at higher temperatures. This material is resistant to creep and cold flow and is suitable for use with oils, water, steam, gases, salt solutions, fuels, alcohols, moderate organic and inorganic acids, hydrocarbons, lubricants and refrigerants.

This material is manufactured with a revolutionary combination of synthetic fibers and HNBR and NBR rubbers, reinforced in a multi-layer structure. This unique multi-layer structure extends service life.



## TYPICAL VALUES REFER TO 2.0 MM THICK MATERIAL UNLESS NOTED

Compressibility ASTM F36J	8 - 14%
Recovery ASTM F36J	50 % minimum
Stress Relaxation DIN 52913	
50 MPa, 16h/347°F (175 °C)	34 MPa
50 MPa, 16h/572°F (300 °C)	28 MPa
Stress Relaxation BS 7531	
40 MPa, 16h/572°F (300°C)	29 MPa
KLINGER Hot Compression Test	
Thickness Decrease 73°F (23°C)	8 % initial
Thickness Decrease 572°F (300°C)	15 % additional
Tightness DIN 28090-2	0.05 mg/s x m
Thickness Increase ASTM F146 after immersion in	
ASTM Oil IRM 903, 5h/300°F (149°C)	0 - 5 %
ASTM Fuel B, 5h/73°F (23°C)	0 - 10 %
Density	106 lb/ft <sup>3</sup> (1.7 g/cc <sup>3</sup> )
Color	Yellow

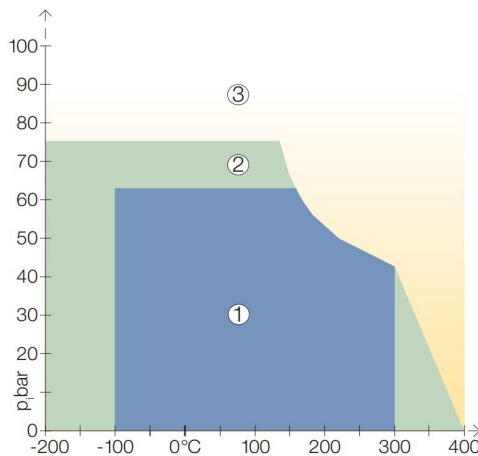
## KLINGERSIL®top-sil ML1

### CERTIFICATES & APPROVALS

- » BAM-tested
- » DIN-DVGW
- » WRAS approval
- » TA-Luft (Clean air)
- » Fire-Safe acc. to DIN EN ISO 10497

The pressure/temperature graphs shown are the most current method of determining the suitability of a gasket material in a known environment. However, chemical compatibility must also be considered.

#### pT diagram for thickness 2.0 mm



In area ① the gasket material is suitable using common installation practices subject to chemical compatibility.

In area ② appropriate measures are necessary for installation of the gasket to ensure maximum performance. Please call or refer to KLINGERexpert for assistance.

In area ③ do not install gaskets in these applications without first referring to KLINGERexpert or contacting KLINGER's technical support service.

The ability of a gasket to make and maintain a seal depends not only on the style and quality of the gasket material, but also on medium being sealed, the flange design, the amount of pressure applied to the gasket by the bolts and how the gasket is assembled onto the flanges and tightened. These factors are beyond the manufacturer's control.

**KLINGER Thermoseal**

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