KLINGER®
Graphite Laminate TSM

KLINGER India

KLINGER®Graphite Laminate TSM fulfils safely the TA-Luft requirements.

An adhesive-free gasket material comprising impregnated graphite and an 0.1 mm tanged stainless steel insert, KLINGER®Graphite Laminate TSM fully retains its physical properties at high temperatures (up to 450 °C). It is fully compliant with the German Technical Instructions on Air Quality Control (TA Luft).



Basis composition	Impregnated flexible graphite foil and a tanged stainless steel insert.
Color	Grey
Certificates	TA-Luft (Clean Air), BAM

Sheet size	1000 x 1000 mm
Thickness	1.5 mm, 2.0 mm, 3.0 mm

Tolerances

Thickness:	± 5 %
Length:	± 5 mm
Width:	± 5 mm

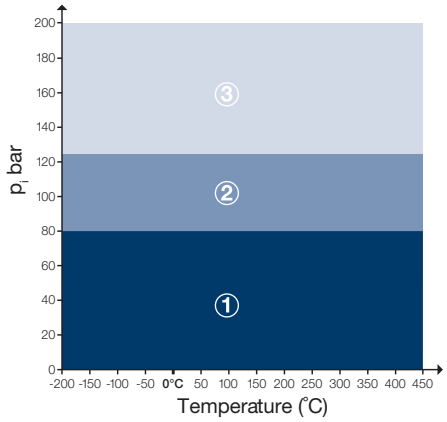
Industry

General industry / Chemical / Oil & Gas / Energy / Pulp & Paper / Marine / Automotive

TECHNICAL DATA - Typical values for a thickness of 2.0 mm

Density of the graphite layer	DIN 28090-2	g/cm³	1.0
Purity of graphite	DIN 51903	%	> 99%
Metallic reinforcement	Tanged metal		AISI 316 (L)
	Thickness	mm	0.1
	Number of sheets		1
Compressibility	ASTM F36 A	%	35 - 45
Recovery	ASTM F36 A	%	15 -25
Compression creep DIN 52913	16 h/ 50 MPa/ 300°C	MPa	≥ 45

P-T diagram - thickness 2.0 mm



The area of the P-T diagram

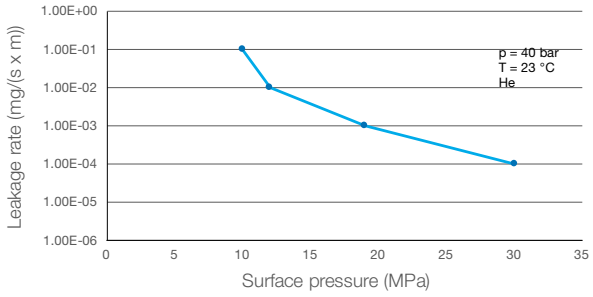
① In area one, the gasket material is normally suitable subject to chemical compatibility.

② In area two, the gasket material may be suitable but a technical evaluation is recommended.

③ In area three, do not install the gasket without a technical evaluation.

Always confirm the chemical resistance of the gasket to the media.

Tightness performance



The tightness performance graph

The graph shows the required stress at assembling to seal a certain tightness class. The determination of the graph is based on EN13555 test procedure which applies 40bar Helium at room temperature. The sloping curve indicates the ability of the gasket to increase tightness with raising gasket stress.

Chemical resistance chart

Simplified overview of the chemical resistance depending on the most important groups of raw materials:

KLINGER® Graphite Laminate TSM — **A**: small or no attack — **B**: weak till moderate attack — **C**: strong attack

Paraffinic hydrocarbon	Motor fuel	Aromates	Chlorinated hydrocarbon fluids	Motor oil	Mineral lubricants	Alcohol	Ketone	Ester	Water	Acid (diluted)	Base (diluted)
A	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**B**	**B**

For more information on chemical resistance please visit www.klinger.in

All information is based on years of experience in production and operation of sealing elements. However, in view of the wide variety of possible installation and operating conditions one cannot draw final conclusions in all application cases regarding the behaviour in gasket joint. The data may not, therefore, be used to support any warranty claims. This edition cancels all previous issues. Subject to change without notice.

Subject to technical alterations.
KLINGER Industrial Products India Pvt. Ltd. #6 Tarana, 1st Floor, GoodEarth Malhar, Kambipura, Kengeri, Bengaluru 560074, Karnataka, India. Tel +91 8618523021 / +91 80 2990 9572 / e-mail: info@klinger.in

www.klinger.in