KLINGER® Graphite Laminate PSM

KLINGER India

KLINGER®Graphite Laminate PSM - the pure graphite gasket with tanged sheet metal insert.

Made of expanded graphite with an 0.1 mm thick insert of tanged stainless steel and featuring adhesive-free bonding, this gasket material is ideal for hot water and steam applications at temperatures of up to 450 °C, in which it displays no change to its physical properties. Furthermore, it is free of resins, impregnations or other organic substances.



Basis composition	Expanded graphite with a 0.1 mm thick tanged stainless steel insert.
Color	Grey
Certificates	DIN-DVGW, KTW, Fire Safe acc. to DIN EN ISO 10497, German Lloyd, BAM tested
Sheet size	1000 x 1000 mm, 1500 x 1500 mm, 2000 x 1000 mm
Thickness	0.6 mm, 0.8 mm, 1.0 mm, 1.5 mm, 2.0 mm, 3.0 mm, 4.0 mm, 5.0 mm, 6.0 mm

Tolerances

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

Industry

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

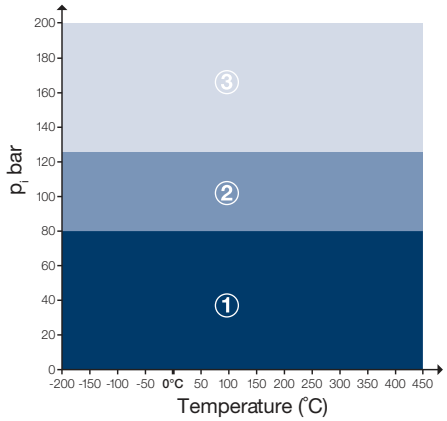
TECHNICAL DATA - Typical values for a thickness of 2.0 mm

Density of the graphite layer	DIN 28090-2	g/cm³	1.0
Purity of graphite[1)]	DIN 51903	%	≥ 99.0
Metallic reinforcement	Tanged metal		AISI 316 (L)
	Thickness	mm	0.10
	Number of sheets		1
Compressibility	ASTM F36 A	%	35 - 45
Recovery	ASTM F36 A	%	12 - 18
Compression creep DIN 52913	16 h/ 50 MPa/ 300°C	MPa	≥ 46
Klinger cold/hot compression 50 MPa	Thickness decrease at 23°C	%	35 - 45
	Thickness decrease at 300°C	%	1 - 3
Specific leak rate	DIN 28090-2	mg/ s x m	< 0.10
Chloride content of graphite layer[2)]	DIN 28090-2	ppm	≤ 40

1) High purity graphite with a purity of ≥99.8 with low sulphur and chloride levels available per request.

2) Detailed specifications of the used graphite foils are found in our Graphite vade mecum, which will be sent to you on request with pleasure

P-T diagram - thickness 2.0 mm



The area of the P-T diagram

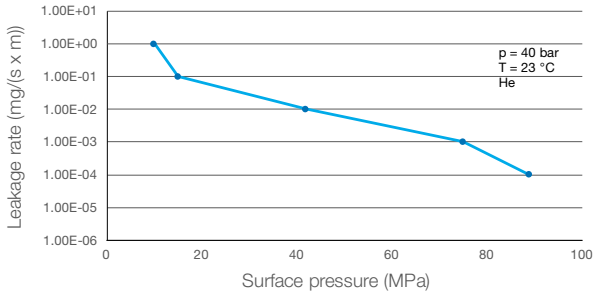
① In area one, the gasket material is normally suitable subject to chemical compatibility.

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 PSM — **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