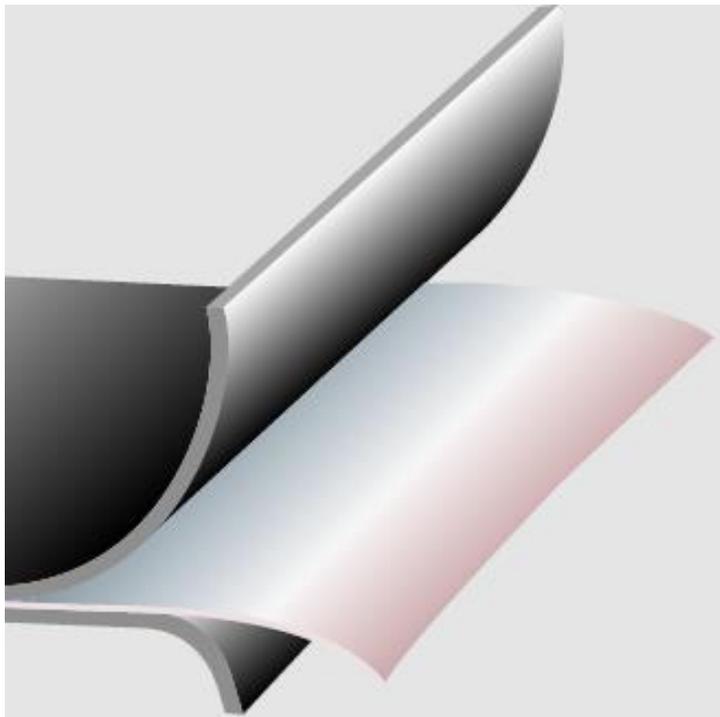


KLINGER

Graphite-Laminate SLS



KLINGER® graphite-laminate SLS

Characteristic and main applications:

Gasket material made of pure expanded graphite with a plain stainless steel 0.05 mm thick foil insert for improved handling and load-bearing characteristics. Due to the excellent chemical and thermal capabilities of graphite it is used in many industrial sealing applications.



Technical data KLINGER®graphite-laminate SLS			1.0 mm	1.5 mm	2.0 mm
Density of the graphite layer	DIN 28090-2	g/cm ³	1.0	1.0	1.0
Purity of graphite ¹⁾	DIN 51903	%	≥ 99.0	≥ 99.0	≥ 99.0
Metallic reinforcement	Flat metal		1.4401 (or 1.4404)		
	Thickness	mm	0.05	0.05	0.05
	Number of sheets		1	1	1
Compressibility ASTM F36 J	ASTM F36 J	%	40 - 50	40 - 50	40 - 50
Recovery ASTM F36 J	ASTM F36 J	%	10 - 15	10 - 15	10 - 15
Stress relaxation DIN 52913	DIN 52913, 16 h/ 50 MPa/ 300°C	MPa	≥ 45	≥ 45	≥ 45
Klinger cold/hot compression 50 MPa (KLINGER test method)	Thickness decrease at 23°C	%	42 - 48	42 - 48	45 - 50
	Thickness decrease at 300°C	%	2 - 4	2 - 4	2 - 4
Specific leakrate λ	DIN 3535-6	mg/(s*m)	< 0.06	< 0.10	< 0.10
Chloride content of graphite layer ²⁾	DIN 28090-2	ppm	≤ 40	≤ 40	≤ 40

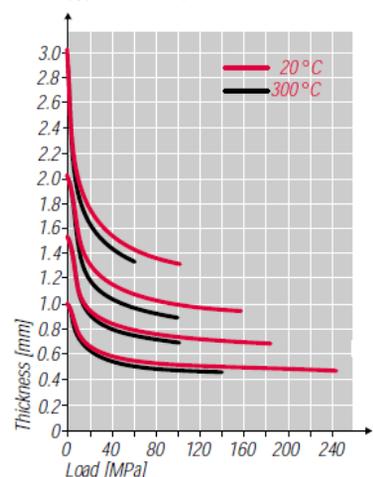
1). Also available in 99.8% pure nuclear grade on request.

2). Detailed specifications of the graphite foils are available on request.

Gasket Factors per ASTM:

Thickness	M	Y (MPa)
1.5 mm	2.0	6
2.0 mm	2.0	6
3.0 mm	2.0	6

Load diagram: (typical values)



General Properties:

- Excellent resistance to steam
- Resistant to virtually all media
- Outstanding resistance to high and low temperature (max. temp.: 450°C (in oxidizing atmosphere) ; 3000°C (in non-oxidizing atmosphere) 650°C (Saturated Steam)
- High compressibility
- Good leakage properties
- Unlimited storage life (subject to correct storage conditions)
- Anti stick finish on both sides

Tests and Certifications:

- BAM approval for use with oxygen ,130 bar / 200°C
- WRc Approval
- DVGW Gas, DIN 3535-6 Approval

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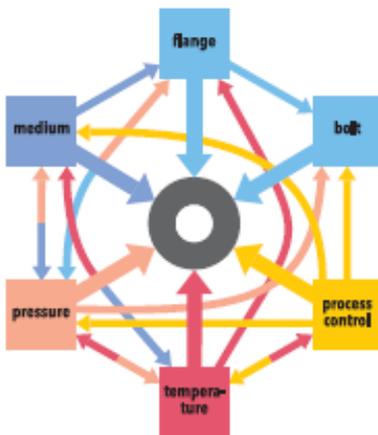
Function and durability

The performance and service life of KLINGER® gaskets depend in large measure on proper storage and fitting, factors beyond the manufacturer's control. We can, however, vouch for the excellent quality of our products.

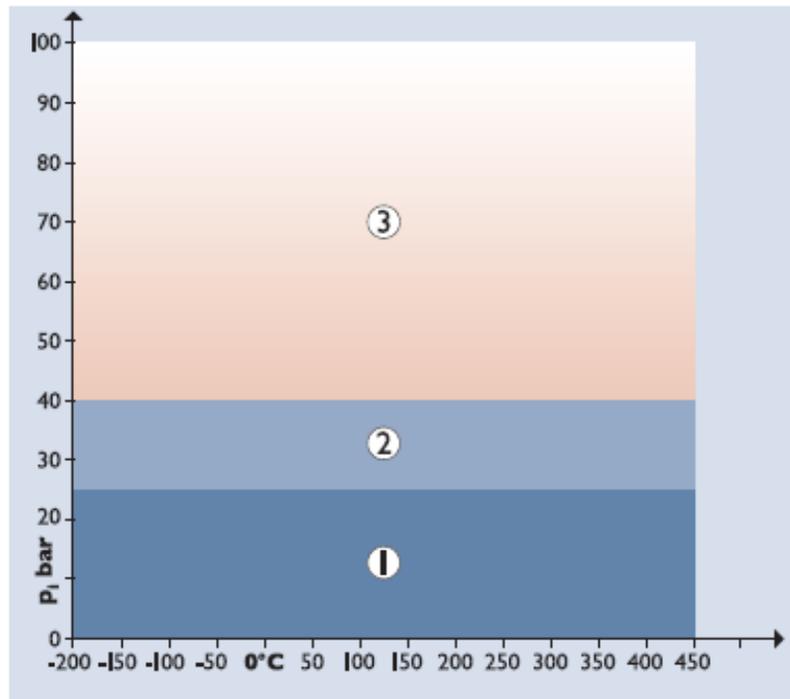
With this in mind, please also observe our installation instructions.

The many and varied demands made on gaskets

The successful operation of a gasket depends upon a multiplicity of factors. Many who use static gaskets believe that the values quoted for maximum admissible temperature and maximum operating pressure are inherent properties or characteristics of gaskets and gasket materials.



Unfortunately, this is not the case. The maximum temperatures and pressures at which gaskets may be



used are influenced by a large number of factors.

Therefore a definite statement of these values for gasket material is not possible.

So why does Klinger provide pT diagrams?

For the reasons given the pT diagram is not infallible: It serves as a rough guide for the end user who often has only the operating temperatures and pressures to go on. Additional stresses such as greatly fluctuating load may significantly affect whether a gasket is suitable for the application.

The fields of decision

- ① If your operating temperatures and pressures fall within this field, a technical examination is normally unnecessary.
- ② If your operating temperatures and pressures are within this field, a technical examination is recommended.
- ③ If your operating temperatures and pressures are within this "open" field, a technical examination is always necessary.

Resistance to media must be taken into account in every case.

The three fields of decision do not indicate limits for the use of our material but they indicate a way to select the right gasket material.

Availability:

- **Sheeting (mm):** 1000 x 1000 , 1500 x 1500
- **Thickness: (mm):** 0.8, 1.0, 1.5, 2.0, 3.0
- **Tolerance:** Thickness $\pm 5\%$ of nominal thickness / Sheet ± 5 mm of nominal size

Certified acc. to DIN EN ISO 9001:2008.