KLINGER®graphite-laminate PSM

Characteristic and main applications

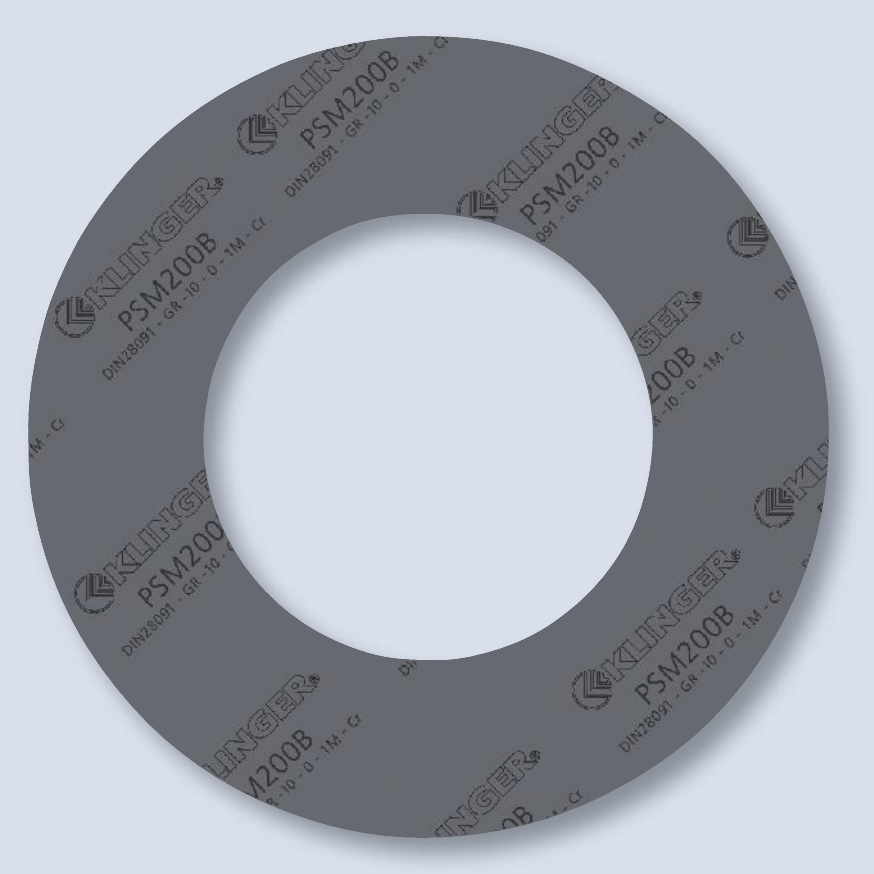
Gasket material made of expanded graphite with a 0.1 mm thick insert of tanged stainless steel sheet (1.4401), bonded without any adhesive. Free of resins, impregnations and other organic substances and with that, free of any eventual toxic rest risks.

Ideal for hot water and steam at temperatures up to 450°C. In combination with an inner eyelet also suitable for media used in the food industry.

Physical properties will not change during the whole temperature range.

Tests and approvals

DVGW DIN 3535-6,
KTW,
BAM (gaseous and liquid oxygen 200°C/130 bar),
FDA-conformity,
Fire-Safe,
German Lloyd



Technical data KLINGER®graphite-laminate PSM			1.0 mm	1.5 mm	2.0 mm
Density of the graphite layer	DIN 28090-2	g/cm³	1.0	1.0	1.0
Purity of graphite [1]	DIN 51903	%	≥ 99.0	≥ 99.0	≥ 99.0
Metallic reinforcement	Tanged metal		1.4401 (or 1.4404)		
	Thickness	mm	0.10	0.10	0.10
	Number of sheets		1	1	1
Compressibility ASTM F36 J	ASTM F36 J	%	25 - 35	30 - 40	35 - 45
Recovery ASTM F36 J	ASTM F36 J	%	15 - 20	15 - 20	12 - 18
Stress relaxation DIN 52913	DIN 52913, 16 h/ 50 MPa/ 300°C	MPa	≥ 46	≥ 46	≥ 46
Klinger cold/hot compression 50 MPa	Thickness decrease at 23°C	%	30 - 40	35 - 45	35 - 45
(KLINGER test method)	Thickness decrease at 300°C	%	1 - 3	1 - 3	1 - 3
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) Nuclear quality with a purity of ≥99.8 available on 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

Anti-stick finish

The KLINGER®graphite-laminate PSM is available with KLINGER®antistick (A/S) a finish which keeps its stability even at high temperatures and causes no organic contaminations of the pure graphite.

Special construction

If desired, **KLINGER®graphite-laminate XSM** can be delivered. The construction of the material is equivalent to KLINGER®graphite-laminate PSM, however a special graphite foil protected against oxidation is used. Therefore an application **up to 550°C is possible** (only available in sheet size 1,000 mm x 1,000 mm).

Delivery sheets sizes

1,000 mm x 1,000 mm, 2,000 mm x 1,000 mm, 1,500 mm x 1,500 mm

Delivery thickness

1.0 mm/ 1.5 mm/ 2.0 mm/ 3.0 mm

Tolerances

thicknes ±10%, length ± 50 mm, widt ± 50 mm

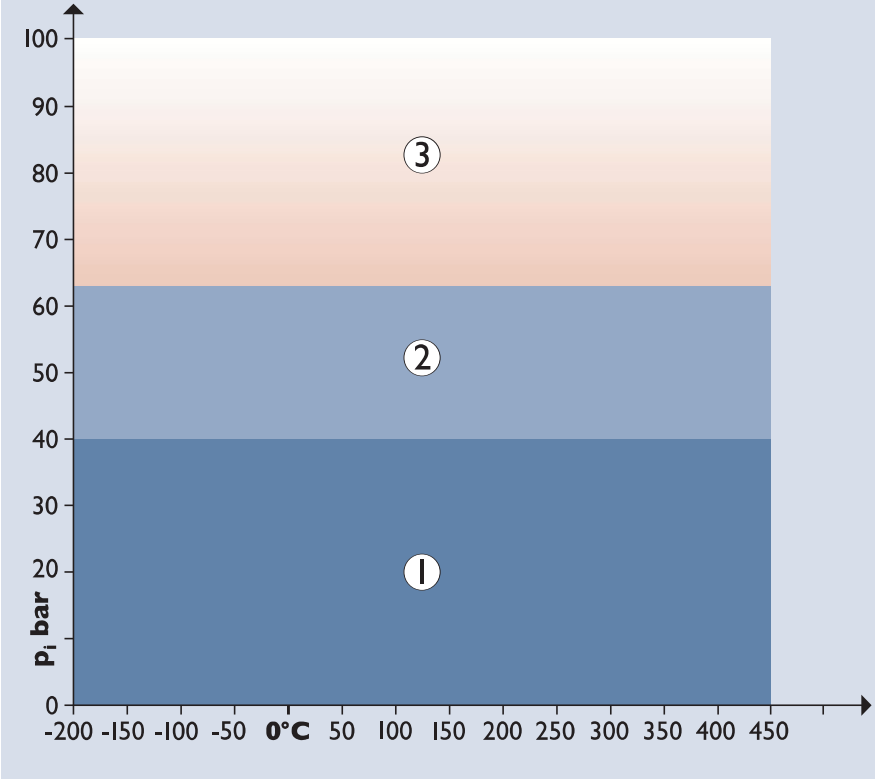
Order example 1 sheet

KLINGER®graphite-laminate PSM
1,000 mm x 1,000 mm x 2.0 mm

KLINGER® graphite-laminate PSM

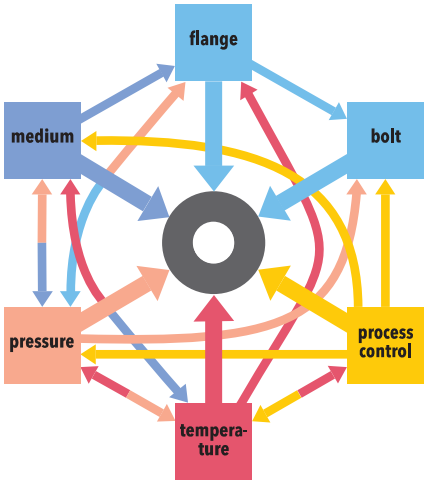
Function and durability

The performance and service life of KLINGER® gaskets depend in large measure on proper storage and fitting, factors beyond the manufactor'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 pres-sures 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.

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