KLINGER® KLINGERSIL® C-4265

Gasket for liquids and gaseous media at lower pressures and temperatures and low bolt loads.
Good resistance to oils, hydrocarbons, refrigerants and other chemicals.

Basis
Mineral Fibres bonded with NBR.

Typical Applications
Suitable for a wide range of applications including oils, solvents, steam and gases. Excellent conformity with the flanges at low surface loads. Max. temperatures 250°C and max. pressure 40 bar.
(The maximum temperatures and pressures are dependent on the thickness of gasket material, flange conditions, bolt loading and service conditions. Since the ability of the gasket material to resist pressure is dependent on the temperature the maximum values do not apply simultaneously.)

Klinger Hot and Cold Compression Test Method
The Klinger Hot Compression Test was developed by Klinger as a method to test the load bearing capabilities of gasket materials under hot and cold conditions.

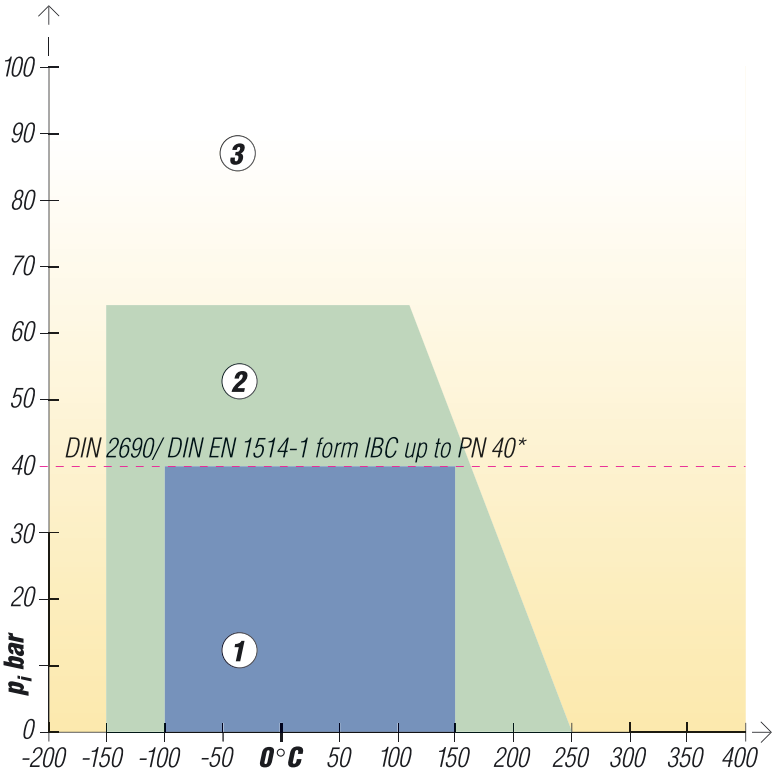
In contrast to the BS 7531 and DIN 52913 tests, the Klinger Compression test maintains a constant gasket stress throughout the entire test. This subjects the gasket to more severe conditions.

The thickness decrease is measured at an ambient temperature of 23°C after applying the gasket load. This simulates assembly.

Temperatures up to 300°C are then applied and the additional thickness decrease is measured. This simulates the first start up phase.

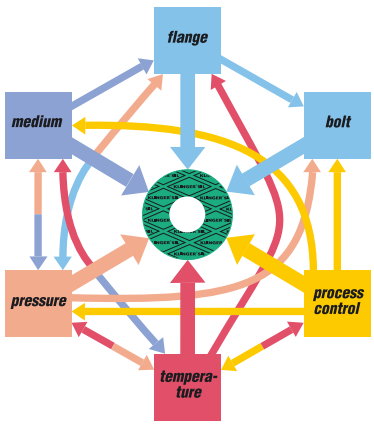
The many and varied demands made on gaskets
The successful operation of a gasket depends upon a multiplicity of factors. Many who use static gaskets believe that the values quoted for maximum admissible temperature and maximum operating pressure are inherent properties or characteristics of gaskets and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



**Gaskets according to DIN 2690 are only standardised up to PN 40 and for a thickness of 2 mm.*

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

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.

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Technical data

Typical values for 1.0 mm thickness			
Compressibility ASTM F 36 J		%	26 ±3
Recovery ASTM F 36 J	min	%	> 50
Klinger cold/hot compression,	thickness decrease at 23°C	%	12
50 MPa	thickness decrease at 200°C	%	15
Thickness increase ASTM F 146	oil IRM 903: 5 h/150 °C	%	< 10
	fuel B: 5 h/23 °C	%	< 15
Density		g/cm³	1.6

Important points to be observed

The selection of gaskets requires expertise and know-how since ever greater reliability coupled with the lowest possible leakage rates are demanded of gasket materials. The exacting demands made on the tightness of gasket materials (e.g. Tightness class $L_{0.01}$) mean that with increasing internal pressure higher surface pressures must be applied to the gasket.

It must be shown that the flange joint will tolerate the demands made on it without being mechanically overloaded. Furthermore, the surface pressure applied to create the seal should never fall below the required minimum value since this will reduce the life of the gasket. Highly stressed, but not overstressed gaskets have a longer life than understressed gaskets.

If the gasket fitted will be subjected to non-static loading, or will suffer stress fluctuations during discontinuous operation, it is advisable to choose a gasket which is not prone to embrittlement with increasing temperature (e.g. KLINGERgraphite laminate or KLINGERtop-chem), especially for steam and/or water applications.

For discontinuous operations in water and/or steam applications, we recommend as a general guide a surface pressure of about 30 MPa. In such cases the gasket should be as thin as is practicable.

For reasons of safety, we advise against the re-use of gaskets.

Dimensions of the standard sheets

Sizes:
2000 mm x 1500 mm
Thicknesses:
0.5 mm, 0.8 mm, 1.0 mm, 1.5 mm; other thicknesses on request.
Tolerances:
thickness ± 10%, length ± 50 mm, width ± 50 mm

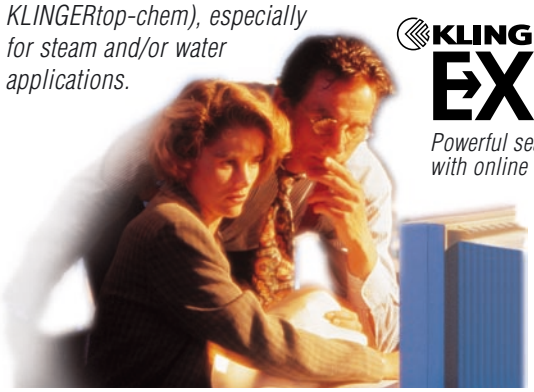
Surfaces

The standard surface finish of the material is such that the surface has an extremely low adhesion. On request, graphite facings and other surface finishes on one or both sides are also available.

Function and durability

The performance and 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.



KLINGER EXPERT®
Powerful sealing calculation with online help on CD-ROM

Subject to technical alterations.
Status: June 2008

Certified according to DIN EN ISO 9001:2000

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