C-8200

Premium High Pressure Gasket Material for use with Acids.

Characteristics & Main Applications

The standard in acid resistant compressed synthetic fibre gasketing material based on a blend of fibres with an acid resistant binder.

Specifically developed for aggressive chemical environments, this premium gasket material is resistant to: -

- Strong Organic Acids
- Most Mineral Acids, including: -
  - Dilute Nitric Acid **Not suitable for Concentrated Nitric Acid
  - Concentrated Sulphuric Acid
  - Concentrated Hydrochloric Acid
- Alkalis, Ketones, Solvents and Aldehydes
- Hydrocarbons, Fuels, Oils and Refrigerants

Note: Refer to Chemical Resistance Chart and Pressure/Temperature Diagram for more specific details

Tests and Approvals

-BS 7531 Grade X
-TÜV Poland
-TA-Luft (Clean Air) certificate acc. VDI 2440
-Germanischer Lloyd certificate

Sheet Dimensions and Tolerances

Sheet Size: 2000mm x 1500mm

Thicknesses

0.5mm, 1.0mm, 1.5mm, 2.0mm, 3.0mm Other thicknesses and sizes on request.

Tolerances

Thickness : ± 10%,
Length ± 50 mm, Width ± 50mm

***Klinger cold/hot compression**

With this test method developed by Klinger you can evaluate the cold/hot compression of a gasket in cold and hot condition. Unlike the method acc. to DIN 52913 and BS 7531, the surface load is kept constant during the complete test so that the gasket is exposed to much tougher conditions.
The thickness decrease at an ambient temperature of 23°C and at heating up to 200°C is measured.
The indicated thickness decrease at 200°C refers to the thickness obtained after loading at 23°C.

Typical values for 2 mm thickness				
Compressibility ASTM F 36 J			%	9
Recovery ASTM F 36 J		Minimum	%	55
Klinger Cold/Hot Compression* Thickness Decrease @ 25 MPa @ …°C		23°C	%	7
		200°C	%	17
Density			g/cm³	1.7
Acid Tests				
Thickness Increase	HNO_3, 96%	18h/23°C	%	unsuitable
	H_2SO_4, 96%	18h/23°C	%	10
	H_2SO_4, 65%	48h/23°C	%	8
Surface Resistance - Average		*ROA*	Ω	8.3x10E9
Specific Volume Resistance - Average		*ρD*	Ω cm	1.2x10E10
Dielectric Strength - Average			kV/mm	17.5
Power Factor - Average		*1 kHz, ca. 3mm thick*	tan δ	0.27
Dielectric Coefficient - Average		*1 kHz, ca. 3mm thick*	εr	8.4
ASME-Code Sealing Factors				
Gasket Thickness 2.0mm and Tightness Classes DIN 28090 m & y factors		Tightness Class 1.0 mg/s x m	MPa y	15
			MPa m	3
		Tightness Class 0.1 mg/s x m	MPa Y	22.5
			MPa m	4
		Tightness Class 0.01 mg/s x m	MPa Y	27.5
			MPa m	4

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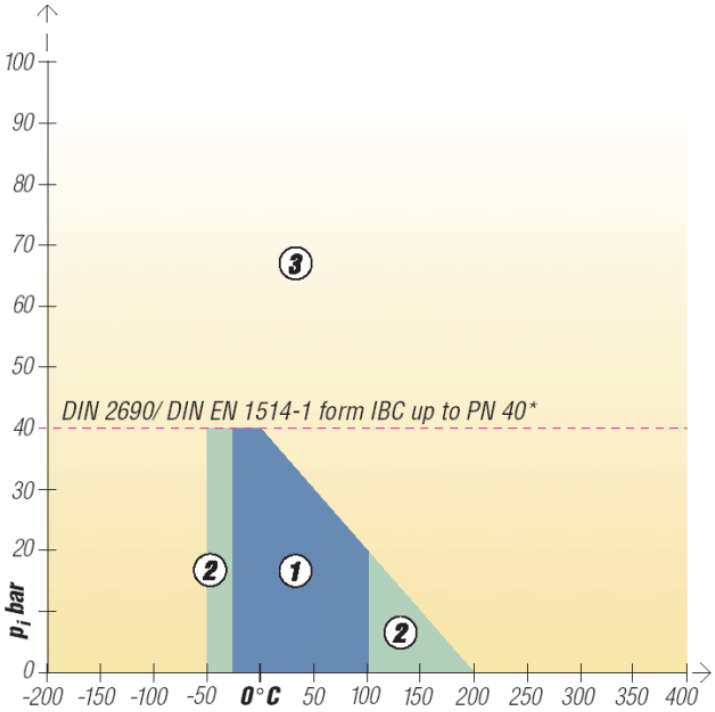
Selecting Gaskets with pT Diagrams

The Klinger pT diagram provides guidelines for determining the suitability of a particular gasket material for a specific application based on the operating temperature and pressure only.
Maximum temperature and pressure values alone cannot define a material's suitability for an application. Additional stresses such as fluctuating load may significantly affect the suitability of a gasket in the application and must be considered separately. Always refer to the chemical resistance of the gasket material to the fluid.



Areas of Application

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

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

In area three: ③ do not install the gasket without a technical evaluation. Always refer to the chemical resistance of the gasket material to the fluid.

NOTE
If the gasket is to be subjected to non-static loading and stress fluctuations due to temperature and pressure cycling, it is advisable to select a gasket material which is less prone to embrittlement with increasing temperatures e.g. Graphite S/Steel laminate or Topchem. In cyclic loading conditions Klinger suggest a minimum surface stress of 30 MPa and that the gasket should be as thin as is practicable. For safety reasons never re-use gaskets.

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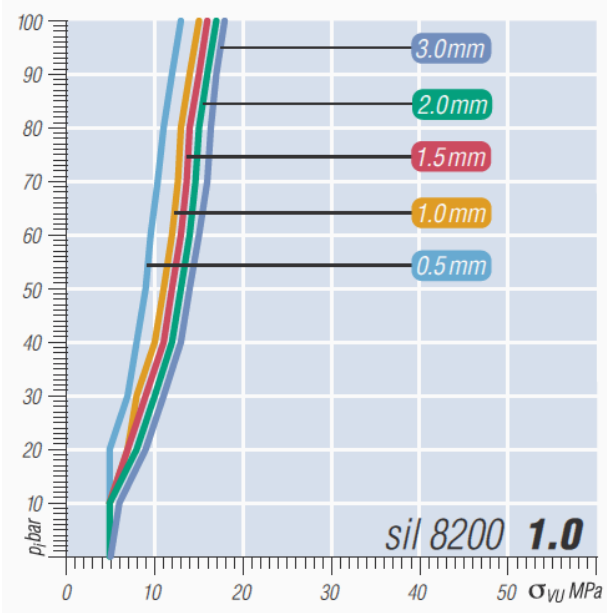
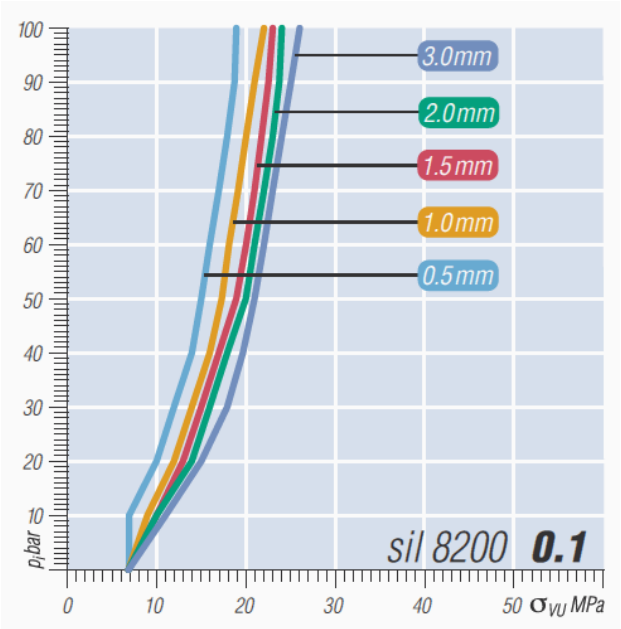
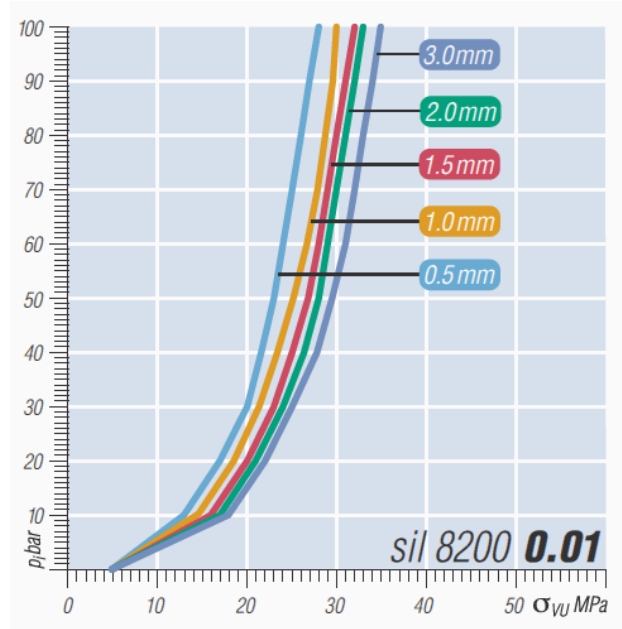
Min. gasket pressure σ_{VU} for tightness classes L = 1.0, L = 0.1 and L = 0.01 in accordance with DIN 28090

This diagram shows the minimum gasket pressure necessary to achieve the tightness for the above tightness classes at room temperature.
Tightness class L= 0.1 allows a max. leakage of 1 mg nitrogen per second per meter of gasket length (mg/s m). The curves are shown for the standard thickness material.







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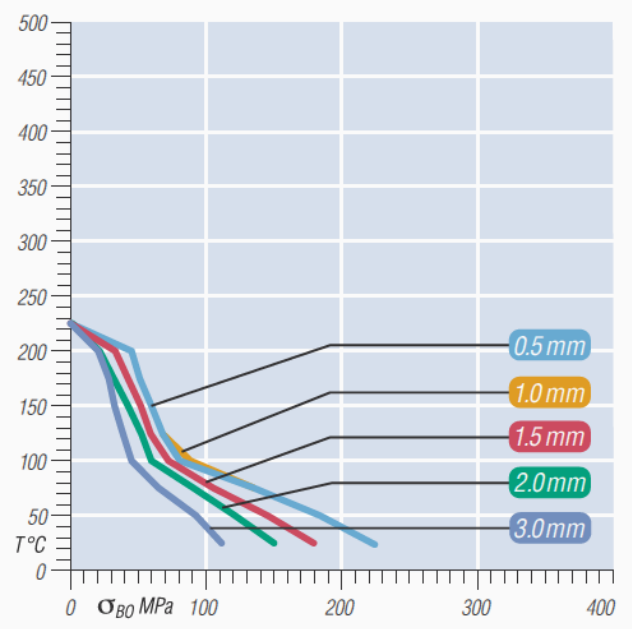
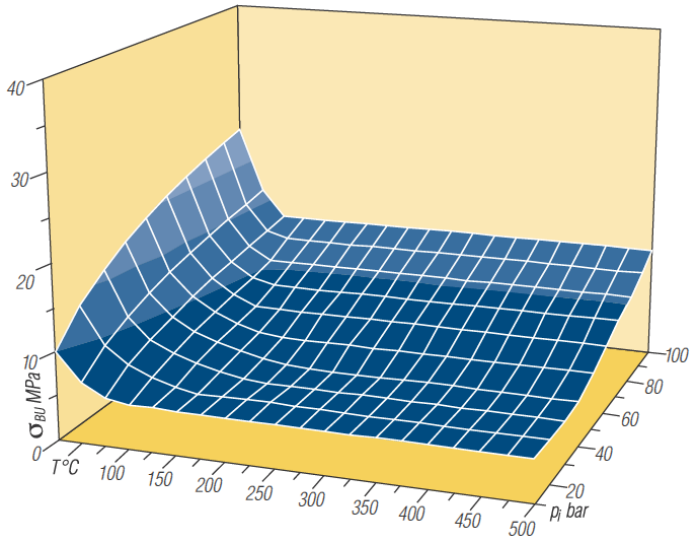
Maximum gasket pressure in operating condition σ_{BO} in accordance with DIN 28090

This diagram shows the maximum permissible gasket pressure in MPa to be applied as a function of the service temperature. The values apply to the stated gasket thicknesses.



Minimum gasket pressure σ_{BU}
For tightness class L = 0.1

This three-dimensional diagram describes the behaviour of the gasket material with respect to the required minimum gasket pressure for a complete temperature range at 2mm thickness. It clearly shows that the required minimum load decreases at medium and higher temperatures – the gasket will seal at lower surface loads under these conditions.



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