C-4243 Jointing

Gasket material based on organic fibres bound with NBR suitable for liquids and gases at lower pressure and temperatures with good resistance against water and oil.

Typical Values	
Density	1.75 g/cm³
Compressibility ASTM F 36 J	8%
Recovery ASTM F 36 J	55% min
Stress relaxation DIN 52913 50 MPa, 16 h/175°C	24 MPa
Tightness acc. to DIN 3535/6	< 0.1 mg/s x m
Klinger hot / cold compression test @ 50 MPa thickness decrease at 23°C thickness decrease at 200°C	 10% 25%
Thickness increase ASTM F 146 IRM 903 Oil: 5 h/150°C Fuel B: 5 h/20°C	 5% 7%

Gasket Surfaces

C-4243 gasket materials are produced with anti stick surfaces to minimise adhesion to flange surfaces. This is especially valuable when flanges are dis-assembled for future maintenance by saving time & possible damage to flange sealing surfaces when attempting to remove the old gasket.

Availability

Standard Sheet: 2000mm x 1500mm
Thicknesses: 0.4mm, 0.8mm, 1.5mm, 3mm

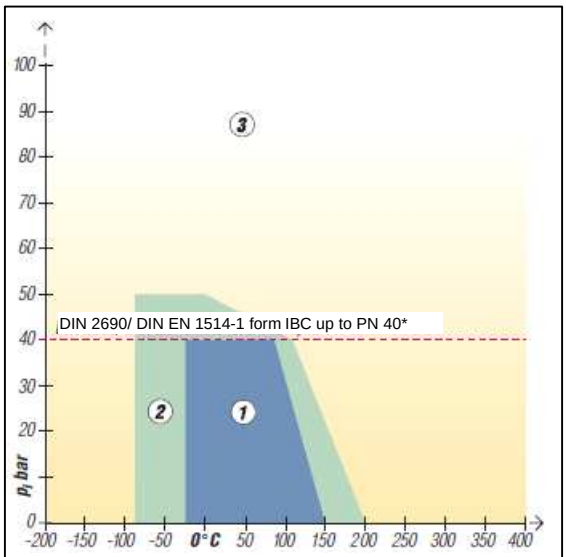
Tolerances

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

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. 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 to the fluid.

Pressure Temperature Diagram - pT



*Gaskets according to DIN 2690 are only standardised up to PN 40 and gasket thickness 2 mm

Areas of Application

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

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

③ In area three, do not install the gasket without a technical evaluation.

Hot and Cold Compression Test Method

The Hot and Cold 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.

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Function and durability

The performance and service life of gaskets depend in large measure on proper storage and fitting, factors beyond the manufacturer's control. With this in mind, please also observe the manufacturers installation instructions.

Important points to be observed

With heightened awareness of safety and environmental issues, reducing leaks from flanged assemblies has become a major priority for industry. It is therefore important for companies who use gaskets to choose the correct material for the job and install and maintain it correctly to ensure optimum performance.
A flanged joint will remain tight as long as the surface pressure in service is higher than the minimum surface pressure required to achieve the necessary levels of tightness but is lower than the maximum permissible surface pressure. But increasingly high demands on the tightness requirements for flanged joints (e.g. Tightness class L 0.1 in accordance with DIN 28090) necessitate the application of high loads on the gasket material in order to meet these stringent requirements.

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 Reinforced laminate or Topchem.

In cyclic loading conditions we recommend 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.

The many, varied demands placed on gaskets

A common perception is that the suitability of a gasket for any given application depends upon the maximum temperature and pressure conditions. **This is not the case**.
Maximum temperature and pressure values alone can not define a material's suitability for an application.
These limits are dependent upon a multiplicity of factors as detailed below.
It is always advisable to consider these factors when selecting a material for a given application.
・Flanges & Bolts ・Pressure ・Temperature ・Gasket Material & Thickness
・Process Control ・Medium

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Subject to technical alterations
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