POWER®gasket – gasket for uneven flange faces

PROTECTED BY REGISTERED PATENT EU NO. 001933151

DATA SHEET

Product name:	POWER®gasket gasket for uneven flange faces	Material data sheet No.:	D-0002-0-EN	Creation Date:	14. 03. 2012
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Description:

gaskets are made by layer of flexible graphite of different densities and thicknesses over two corrugated metallic cores. These gaskets are fixed on metallic annulus. Such design provides better sealing features against common gaskets. Corrugated shape increases recovery (flexibility) and reduces the surface area of the gasket at tightening start and it reduces the minimum needed seating pressure on gasket for sealing as well. This results in bolts stability and increased load invariability during thermal cycling. The proprietary production proces allows the graphite to be applied on surface of the core without any porosity that is present in other gaskets fabricated from graphite sheets. The thickness of the gasket 9,4 mm prevents contact of the outer diameter of the flanges.

Application:

The **„POWER®gasket for uneven flange faces"** solves the problems originating from insufficient gasket elasticity and hinders harmfull pollutants from leaking into surroundings. It is suitable for low starting tightening torque applications and/or where flange cooling and re-warming occures. It is an economical solution for low emission leak requirement. Thanks to its design is **„POWER®gasket for uneven flange faces"** efficient even for bended flange faces on their outer diameter (due to previous overtightening). Deformation of the gasket during tightening is min. 2 mm!

Benefits:

Common graphite products are made from one density of the graphite and provide the benefits of that one density only. **„POWER®gasket for uneven flange faces"** provides benefits of both high and low density. Expanded graphite contains passive oxidation and corrosion inhibitor, which constantly reduces galvanic corrosion of flange faces and increases temperature resistance in oxidizing atmosphere up to 450 °C.

Advantages of low density graphite (0,64 g/cm³)

- High compressibility
- Good sealing characteristics in applications requiring low tightening torque
- Highly conformable to uneven surface types

Advantages of high density graphite (1,84 g/cm³)

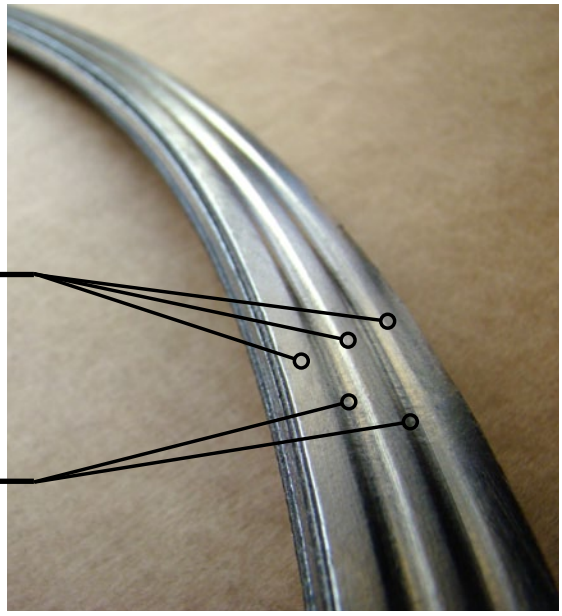
- High recovery
- Low porosity, good sealability
- High temperature resistance
- High pressure resistance
- High tensile strength
- Good wear resistance

Material composition:

Metal core - stainless steel 316 (1.4401), 304 (1.4301)

Sealing material - Expanded flexible graphite

- contains passive corrosion inhibitor
- compatible with uneven types of surfaces
- without additives and adhesives (high purity)
- high chemical resistance
- decreased porosity
- thermal conductivity
- thermal stability (low extensibility)
- it is not produced by calendering, therefore inner structure is homogenous and the same characteristics in all directions



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QUALITY SYSTEM CERTIFICATION DNV ISO 9001

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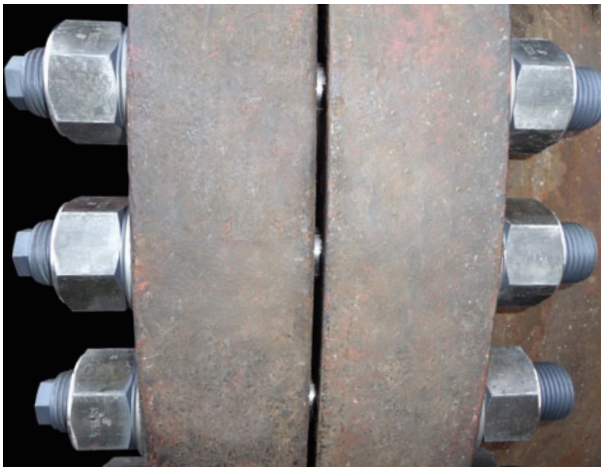
Technical Specifications:

Operating Temperature	up to +450°C (oxidizing atmosphere) up to +650°C (steam)
Operating Pressure	vacuum to 306 bar (depend on temperature and gasket dimension)
pH Range	0 –14
Graphite Density	0,64 and 1,84 (g/cm^3)
Calculation Parameters	Y = 35 MPa m = 3

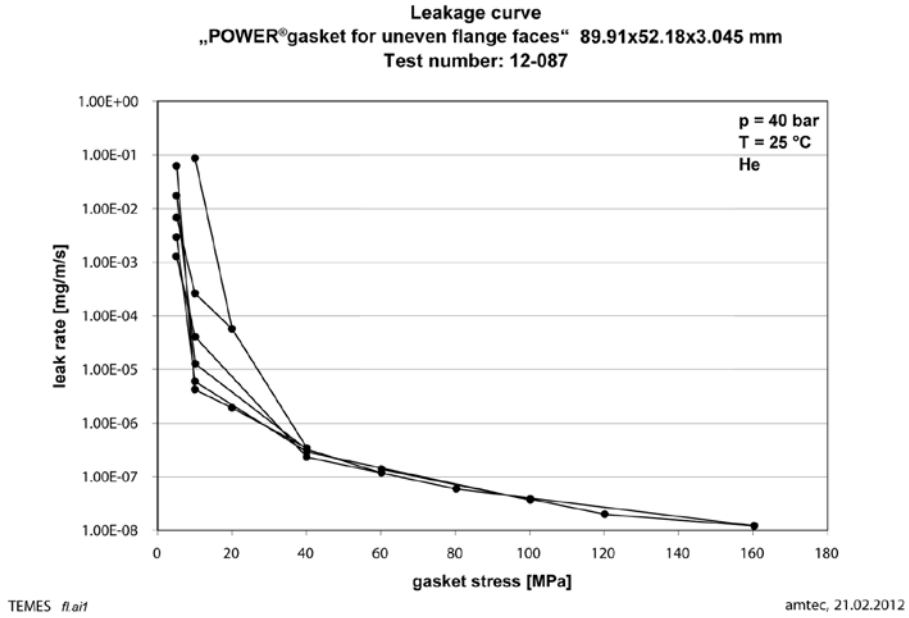
Gasket Dimensions:

Total Gasket Thicknesses: 9,4 mm
Annulus Width in mm: 9,50 • 11,10 • 12,70 • 14,30 • 15,90 • 17,45 • 19,10 • 22,20 •25,40 (other on request)

The flange faces on their outer diameters are touching each other because their bended shape due to previous overtightening and very small thickess of the gasket. High probability of the leakage during pressure test or operation!



The same flange joint with using
„POWER®gasket for uneven flange faces“



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