GRAFILIT® EM



GRAFILIT® EM is an expanded graphite-based gasket material endowed with expanded stainless steel reinforcement for high operation pressures, including cycling loading. Uniform surface pressure distribution provides excellent thermomechanical properties and sealing characteristics, and increases blowout resistance. It is particularly suitable for high-temperature applications in the petrochemical industry and steam supply.

Composition	Expanded graphite
Color	Black
Approvals and compliances	ABS, API 607, DNV, DVGW DIN 3535-6, ISO 10497, TA-Luft (VDI 2440)
Sheet dimensions	Sizes (mm):1000 x 1000 | 1500 x 1500 Thicknesses (mm):1 | 1.5 | 2 | 3 Rolls:/ Other sizes and thicknesses available on request
Tolerances	± 20 mm on length and width | On thickness up to 1.0 mm ± 0.1 mm | On thickness above 1.0 mm ± 10 %
Surface finish	

TECHNICAL DATA for 2 mm

Density	DIN 28090-2	g/cm3	1.4
Density (plain graphite)	DIN 28090-2	g/cm3	1.0
Total sulfur content	ASTM D5016	ppm	/
Leachable chloride content	FSA NMG 202	ppm	20
Leachable fluoride content	FSA NMG 203	ppm	20
Leachable halogen content			/
Ash content	DIN 51903	%	≤1
Weight loss (air, 670°C, 4 h)	DIN 28090-2	%/h	<4
Compressibility	ASTM F36A	%	35
Recovery	ASTM F36A	%	20
Tensile strength	ASTM F152		
Longitudinal		MPa	/
Transversal		MPa	/
Residual stress	DIN 52913		
50 MPa, 300°C, 16 h		MPa	49
Specific leak rate	DIN 3535-6	mg/(s·m)	<0.02
Thickness increase	ASTM F146		
Oil IRM 903, 150°C, 5 h		%	/
ASTM Fuel B, 23°C, 5 h		%	/
Compression modulus	DIN 28090-2		
At room temperature: εKSW		%	32
At elevated temperature: εWSW/300°C		%	2.5
Creep relaxation	DIN 28090-2		
At room temperature: εKRW		%	4.5
At elevated temperature: εWRW/300°C		%	3.5

APPROPRIATE INDUSTRIES & APPLICATIONS

- AUTOMOTIVE AND ENGINE BUILDING INDUSTRIES
- CHEMICAL INDUSTRY
- COMPRESSORS & PUMPS
- GAS SUPPLY
- GENERAL PURPOSE
- HEATING SYSTEMS
- HIGH-TEMPERATURE APP.
- PAPER & CELLULOSE INDUSTRIES
- PETROCHEMICAL INDUSTRY
- POWER PLANT
- REFRIGERATION & COOLING
- SHIPBUILDING
- STEAM SUPPLY
- VALVES

Operating conditions		
Minimum temperature	°C/°F	-200/-328
Maximum continuous temperature		
– under oxidizing atmosphere	°C/°F	550/1022
– under reducing or inert atmosphere	°C/°F	700/1292
Maximum pressure	bar/psi	150/2175

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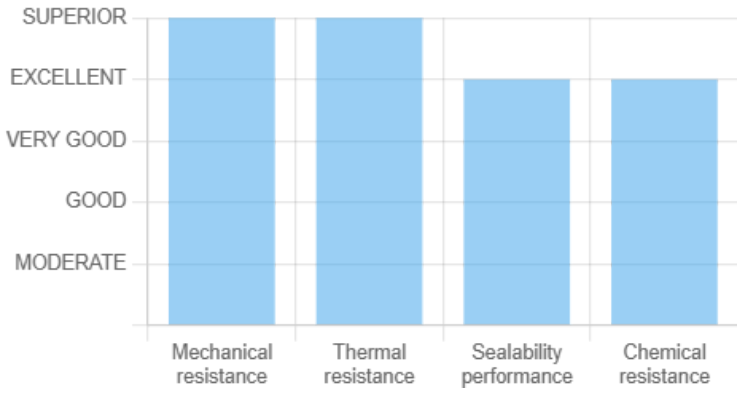
PROPERTIES



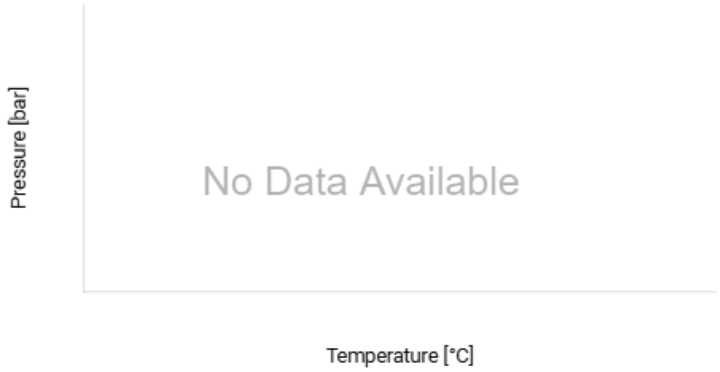
CHEMICAL RESISTANCE CHART

EN 13555

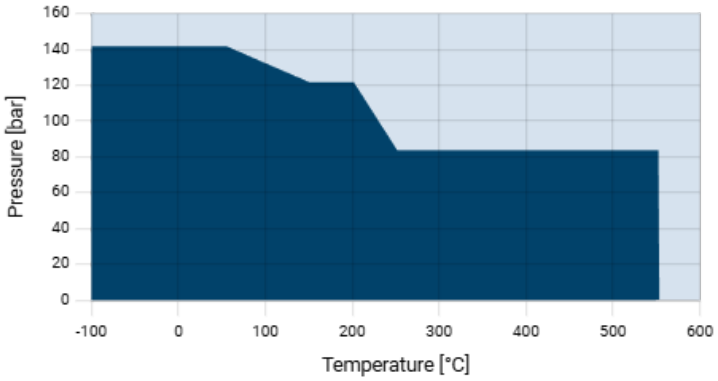
P-T DIAGRAMS

EN 1514-1, Type IBC, PN 40, DIN 28091-2 / 3.8, 2 mm

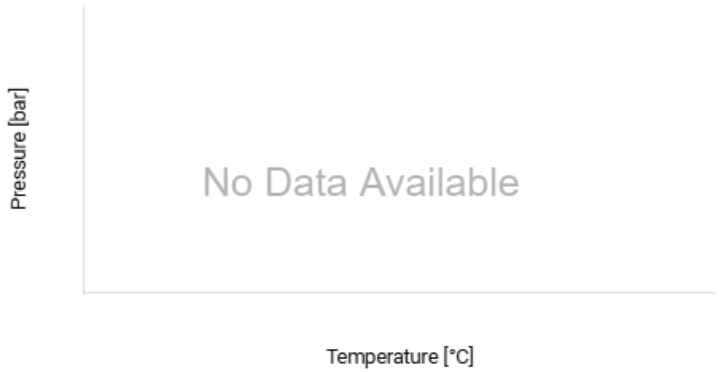
Aggressive gasses



Steam or gasses



Liquids



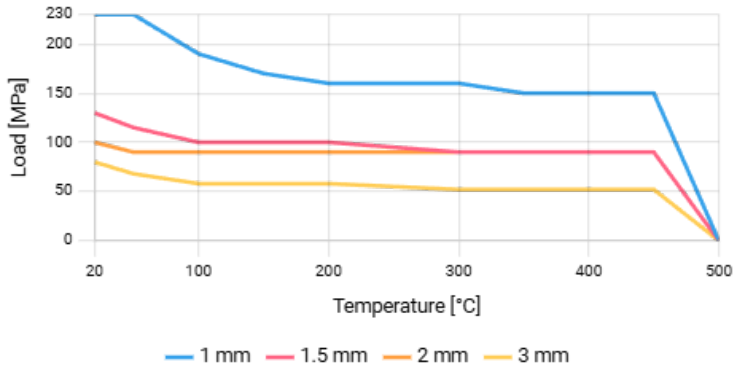
Legend:

- General suitability - Under common installation practices and chemical compatibility.
- Conditional suitability - Appropriate measures ensure maximum performance for joint design and gasket installation. Technical consultation is recommended.
- Limited suitability - Technical consultation is mandatory.

P-T diagrams indicate the maximum permissible combination of internal pressure and service temperature which can be simultaneously applied to a given gaskets thickness, size and tightness class. Given the wide variety of gasket applications and service conditions, these values should only be regarded as a guidance for the proper gasket assembly. In general, thinner gaskets exhibit better P-T properties.

σBO DIAGRAM

DIN 28090-1



σBO diagrams represent σBO values for different gasket material thicknesses. These values indicate the maximum in-service compressive pressures which can be applied on the gasket area involved without destructing or damaging the gasket material.

All information and data quoted are based upon decades of experience in the production and operation of sealing elements. This data may not be used to support any warranty claims. With its publication this latest edition supersedes all previous issues and is subject to change without further notice.

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