

thoenes[®] EM176

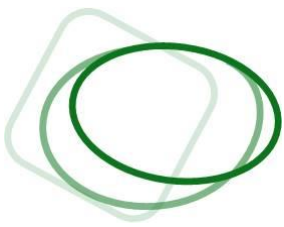
thoenes[®] EM176 is an expanded graphite based material with expanded stainless steel insert, which enables applications with high operation pressure, including cycling operations. Even surface pressure distribution on gasket provides excellent thermomechanical properties and sealing characteristics, and increase blowout resistance. Therefore, material is particularly suitable for high temperature applications on petrochemical industry and steam supply.

Basis:	Expanded natural graphite (purity > 99 %), expanded stainless steel sheet insert
Colour:	Black
Surface coating:	Standard - without non-stick coating
Certifications:	DVGW 3535-6
Applications:	Use in gas supply, compressors and pumps, power plants, shipbuilding, paper and cellulose industry, automotive and engine building industry, valves, refrigeration and coolings. Ideal sealing material under high temperatures and pressures, during mechanical and thermal cycles and shock loads. Expanded graphite is suitable for steam and for almost all chemical media, except for strongly oxidizing, such as nitric and chromic acid.

Technical specifications (typical values 2 mm thickness)

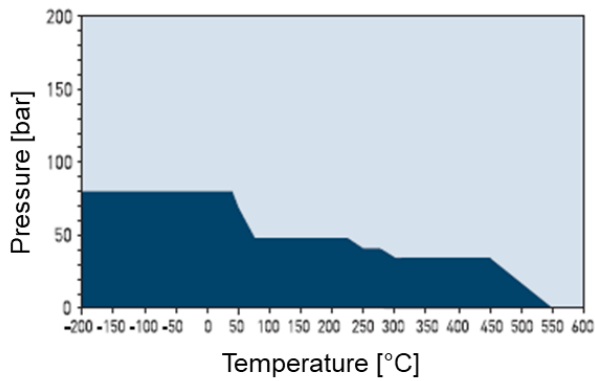
Density	DIN 28090-2	g/cm ³	1.4
Compressibility	ASTM F 36/A	%	35
Recovery	ASTM F 36/A	%	20
Pressure resistance	DIN 52913		
50 MPa, T= 300°C, 16 h		MPa	49
Specific leakage rate	DIN 3535/6	mg/m*s	< 0.02
Leachable chloride content	FSA NMG 202	ppm	20
Leachable fluoride content	FSA NMG 203	ppm	20
Ash content of graphite	DIN 51903	%	< 1
Oxidation rate in air at 670°C	LECO TGA	%/h	< 4
Cold compression value ϵ_{KSW}	DIN 28090-2	%	32
Cold rebound value ϵ_{KRW}	DIN 28090-2	%	4.5
Warm setting value $\epsilon_{WSW/300^\circ C}$	DIN 28090-2	%	2.5
Warm rebound value $\epsilon_{WRW/300^\circ C}$	DIN 28090-2	%	3.5
Operating conditions			
Minimum temperature		°C	-200
Continuous temperature			
Oxidizing atmosphere		°C	550
Reducing or inert atmosphere		°C	700
Pressure			
Demanding gasses		bar	80
Steam, gasses		bar	150
Liquids		bar	180

Dimensions: Plate sizes * 1000 mm x 1000 mm; 1500 mm x 1500 mm
 Thicknesses * 0.5 mm; 1.0 mm; 1.5 mm; 2.0 mm; 3.0 mm
 * Different sizes and thicknesses on request

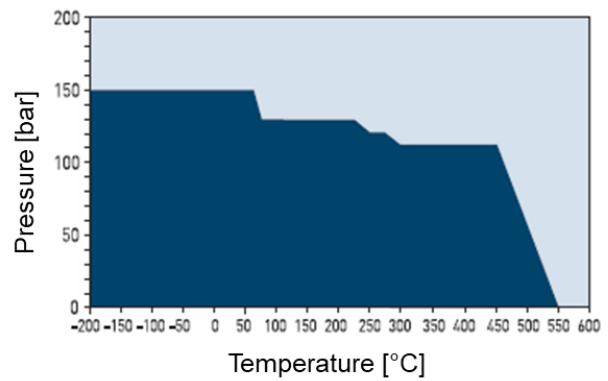


Recommendations for use

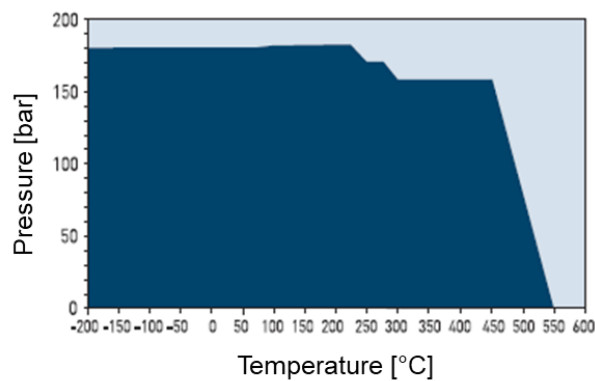
Demanding gasses



Steam, gasses



Liquids



- General suitability - Under common installation practices and chemical compatibility.
- Limited suitability – Technical consultation is mandatory.