

GRAPHITE SHEET STYLE : LGRF

WITH PERFORATED STAINLESS STEEL SHEET REINFORCEMENT



Material profile :

- Made of expanded graphite reinforced with perforated stainless steel SUS316 (0.10mm thick), used as gasket material.
- **LGRF** is an adhesive-free graphite sealing sheet made from impregnated graphite foil with stainless steel sheet reinforcement.
- **LGRF** is used mainly as a gasket material for raised-face flanges meeting DIN EN1514, DIN 28091 and ANSI. Typical applications are pipework with corrosive media and high-temperature applications in the chemical and petrochemical industries, as well as in power stations.
- The material can be used for high internal pressures up to 100 bar and high gasket pressures up to 140 N/mm^2 .
- Thicknesses: 1.0 mm; 1.5 mm; 2.0 mm; 3.0 mm
- Sheet sizes: 1000 x 1000 mm; 1500 x 1500 mm

Product survey

Product	Characteristics	Recommended applications
LGRF	Reinforced with perforated sheet steel; impregnated	Pipework and vessels in chemistry, petrochemistry and power stations; raised face diameters of maximum 1000 mm; longue-and-groove Din 28091 up to 40 bar.

Applications

- For gaskets meeting DIN 28091 in raised-face flanges; recommended. as one-piece gasket; over 1500 mm diameter as two-layer structure in segments.
- For high internal pressures up to 100 bar and high gasket pressures up to 140 N/mm^2 .
- For very impermeable and highly stressed, blow-out-resistant sealing joints, we recommend a stainless steel inner eyelet.
- For piping with corrosive media and high temperatures; for heat transfer oil and heating facilities; for existing plants, vessels and steam lines; for exhaust manifolds.
- For corrosive media thanks to its excellent resistance to chemicals; limits imposed by stainless steel sheet reinforcement.

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Properties

- With perforated stainless steel sheet reinforcement; easy to handle.
- Low permeability to liquids.
- Low diffusion rates, high blow-out resistance and high mechanical strength of gaskets with stainless steel inner eyelets.
- Good scratch resistance, virtually no sticking to other materials due to resin impregnation.
- Can be used from cryogenic temperatures up to about 500 °C depending on installation and operating conditions.
- Good resistance to chemicals. Good shear strength.
- Asbestos-free, presents no health hazard. Good resistance to thermal shock.
- No ageing or embrittlement, because of absence of binders.
- Long-term stability of compressibility and recovery over a wide temperature range
- No measurable cold or warm flow up to maximum permissible compressive stress.

Property	Standard	Unit	Data
Density (graphite)		g/cm ³	1.0
Compressibility	ASTM F36/A	%	30-45
Recovery	ASTM F36/A	%	10-25
Leakage rate	DIN 3535	ml/min	≤0.10
Temperature :			
Max.temp. (inert atmosphere)		°C	2500
Continual work temp.		°C	250
Fluid resistant :	ASTM F146		
<u>-ASTM 3# oil 150°C, 5h</u>			
weight increase		%	<15
Thickness increase		%	≤6
<u>-LLC50% 100°C, 2h</u>			
weight increase		%	<15
Thickness increase		%	≤6
Sulfur content	ASTM C 816	ppm	≤700
Leachable Chloride content	ASTM F1277	ppm	≤50
Carbon content	JB/T 9141.6	%	≥98.5
Flouride content		ppm	≤30

Data reported corresponds to laboratory and field tests typical results. Technical guidance are pleased to assistant when requested.

Supply data :

- 1). Size in mm : 500 x 1000, 1000 x 1000, 1500 x 1500
- 2). Thickness : 1.0mm, 1.5mm, 2.0mm, 3.0mm
- 3). Special size and thickness upon request.