



# PLANIGRAPH™ METALBOND

## Composition

Expanded graphite C > 98.00% with tanged foil inserted and inner steel eyelet. Since the graphite does not come into direct contact with the fluid the mechanical properties of the seal remain unchanged over time, guaranteeing a longer joint operating life and a drastic reduction of fugitive emissions with greater safety.

## Characteristics

Metalbond is the graphite gasket with inner eyelet that increases the effectiveness of the seal. It is the solution that allows a minimum diffusion of the fluid through the most stressed part of the gasket. At the same time it is an economical and long service gasket because the eyelet prevents the erosion of the inner edge of the seal and avoid the permeation of the fluid through the graphite.

## Applications

Graphite gaskets for flanges. The graphite doesn't work with oxidizing fluids.

## Tech Data

Planigraph™ Metalbond 2.00 mm thk.

Graphite density	gr/cm <sup>3</sup>	1.0
Carbon Content	%	> 98.0
Ash Content	%	< 2.0
Material of insert	AISI	316L
Thickness of insert	mm	0.10
Compressibility	%	35 - 45
Recovery	%	15 - 20
Gas Permeability DIN 3535	cm <sup>3</sup> /min	< 0.6
Relaxation stress DIN 52913	N/mm <sup>2</sup>	> 45
Temperature max with steam	°C	550
Temperature max with weak oxidants	°C	450
Temperature min cryo	°C	-196
Maximum assembly load RT	N/mm <sup>2</sup>	120

- Never use the product at its maximum rated temperature and pressure. Consult the manufacturer for further information.
- With weakly oxidizing agents and hot air, the temperature must be limited to 450 °C.
- Flexible graphite and carbon yarns shall not be used with oxidizing fluids.

Thickness	1,5 ÷ 3,0 mm	1/16" ÷ 1/8"
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## Planigraph™ Metalbond

The Planigraph™ sales program includes the following items Premium grade and Industrial Grade:

- LG without insert
- LGR with single smooth insert
- LGRF with single or multiple tanged inserts
- LGRHDI with multiple smooth inserts

The maximum allowable load on expanded graphite gaskets depends on the type and number of metallic inserts and is closely related to the effective sealing area. Verification requires calculating the ratio  $[(De-Di)/thk]$ , where **De** and **Di** are the diameters of the area actually compressed between the flanges and **thk** is the gasket thickness. The ratio must be  $\geq 4$ . On WN RF flanges, the gaskets can be used up to class 300 psi.

The Planigraph™ line also includes corrugated graphite tapes for maintenance:

- NG - corrugated tape in expanded mineral graphite
- NGA - adhesive corrugated tape in expanded mineral graphite



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