

With the banning of Asbestos and the varied performance of Non-Asbestos Fibres against steam, and many vigorous chemicals Graphite has come to the fore as a premium quality jointing to suit many applications.

- *The flexible Graphite Foil is a homogenous material that contains no adhesives or binders at all.*
- *Flexible Graphite shows no notable changes in its properties, even after long service periods.*

To further this process inhibitors can and are added to enhance the oxidation and corrosion resistance properties of the graphite.

The main properties of Graphite are therefore its main advantages are as follows:

- **Soft, Flexible**
- **Suitable for high temperatures**
- **Long term stability**
- **High Recovery**
- **No Ageing**
- **Suitable for lamination using commercial adhesives**
- **No measurable cold/warm flow**
- **Impermeable to gases & liquids**
- **Inert**
- **Resistance to radiation**
- **Excellent residual stress**
- **No Embrittlement**
- **Excellent resistance to thermal shock**
- **Low co-efficient of friction**

Homogenous Graphite

Is made of expanded graphite foil without insertion. The compressed sheets are also used in the manufacturing of expanded flexible graphite materials with stainless steel reinforcement.

Homogenous Graphite is used as a gasket material for low pressures and high temperature; also as a layering material for camprofile gaskets and as an insert material for PTFE-envelope gaskets.

Stainless Steel Foil Graphite

Is an expanded graphite foil laminate with one or more thin, flat stainless steel layers. It is used for high pressure and high temperature conditions. This material finds many applications in both chemical and petrochemical industries.

Nickel Foil Graphite

Is an expanded graphite foil laminate, however in this product the stainless steel foil is replaced with a layer or layers of nickel giving the sheet additional mechanical and chemical properties.

Tanged Graphite

Is expanded graphite foil reinforced with a single or more insertions of tanged 0.10mm thick stainless steel. No adhesive is used to bond graphite layers. This sheet is used frequently in flange connections for piping and machinery. It is extremely suitable for steam systems, in chemical and petrochemical industries, processing industry, etc.

Sheet Sizes

All of the above products are manufactured and stocked in the following sheet sizes:

1m sq, 1.5m sq, 2m sq

Other sheet sizes are available upon request, as the material is manufactured in roll form at 1m, 1.5m and 2m wide prior to cutting.

Technical Properties

		HOMOGENOUS	SS FOIL	S/S TANGED
Thickness	mm	1.0 1.5 2.0 3.0	0.75 1.0 1.5 2.0 3.0	1.0 1.5 2.0 3.0
Max Temperature	°C	-200°C to +500°C oxid -200°C to +650°C steam	-200°C to +500°C oxid -200°C to +650°C steam	-200°C to +500°C oxid -200°C to +650°C steam
Max Pressure	bar	40	140	140
Density	g/cm ³	1.1	1.1	1.1
Ash content	% DIN 51 903	≤1.0	≤1.0	≤1.0
Leachable Chloride Content	ppm	≤50	≤50	≤50
Material of insertion	DIN/ASTM	-	1.4401/SS (flat)	1.4401/SS (tanged)
Thickness of insetion	mm	-	0.05	0.1
No. of inserts		-	1 or 2	1 or 2
Gas permeability	cm ² /min	<0.30<0.60<0.80<0.80	≤0.60	0.60<0.60<0.80<1.0
Spec. leak pate	mg/s/m	<0.05<0.08<0.1<0.1		
Stress relaxation DIN 52 913, 16h/300°C	mg/s/m	>47	≥45	>48 >48 >48 >45
Compressability	% ASTM F 36A-66	40-50	40-50	30-35 30-40
	% ASTM F 36A-66	10-15	10-15	15-20
Min. gasket assembly stress	N/mm ²	20	10	20
M	DIN Factor	1.3	1.3	1.3
Max. permissible gasket stress	N/mm ²	160 140 120 120	100	180 160 140 120
Max. permissible gasket stress under service conditions	N/mm ²	140 120 100 100	60	160 140 120 100
M	ASTM Factor	2	2	3 3 2.5 2.5
Y	psi ASTM Factor	1500	900	9000 9000 4000 4000