

## GENERAL INFORMATION

Flexible Graphite Foil is made from exfoliated graphite flake and is produced through an extensive calendaring process to give a thin flexible with no binder or resins.

Because of the excellent properties such as thermal stability, high and low temperature-resisting, impermeability and corrosion resistance etc. Flexible Graphite Foil is widely used in fields of industrial sealing, heating elements for high temperature application and insulation/heat shields.



To meet some special applications and high-quality requirements, products with special properties are available, for example we have the width of 60" (1.5m), low and even non-Sulfur content or tensile strength of 70 bar (1015psi) and above.

### ADVANTAGES

- ◆Asbestos-free
- ◆No respirable fibers
- ◆No health hazard
- ◆No aging or embrittlement
- ◆Non-toxic and suitable for foodstuffs and potable water
- ◆Low chloride content
- ◆Excellent chemical resistance
- ◆Excellent creep resistance with no hot or cold flow
- ◆Excellent gas and fluids impermeability
- ◆Easily cut and punched

### APPLICATIONS

- ◆Glands
- ◆Pressed packing rings
- ◆Gaskets used in flanges, covers of observation holes, level meters
- ◆Spiral-wound graphite gaskets
- ◆Stuffing box packing
- ◆Crinkle tapes for stuffing box packing
- ◆Release foils in glassworks and hot presses
- ◆Backing strips for welding operations
- ◆Electrostatic filter plates
- ◆Cathodes for electrolysis of liquids, electrical contacts
- ◆Vessel linings and coatings against hot and aggressive media
- ◆Facing for hot pressing moulds
- ◆Basic material for vapor phase deposition of metal films
- ◆Protective material against laser beams

This information, which is subject to change, is offered solely for your consideration. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. Nothing contained in this brochure is to be understood as authorization or recommendation to use our products in the infringement of any patent.

**CERAMSOURCE FOIL PRODUCT GRADES**

<b>PRODUCT</b>	<b>DESCRIPTION</b>
CERAMSOURCE FOIL-ST	Standard foil grade
CERAMSOURCE FOIL-OR	Foil with excellent Oxidation resistant properties
CERAMSOURCE FOIL-HC	Foil with high Carbon content up to 99.5%
CERAMSOURCE FOIL-LS	Foil with low Sulfur content 300 ppm
CERAMSOURCE FOIL-HTS	Foil with high Tensile Strength up to 70 bar
	Foil with high Tensile Strength up to 994 psi
CERAMSOURCE FOIL-JUMBO	Foil with 60" wide
	Foil with 1.5m wide

**PROPERTIES (CERAMSOURCE FOIL-ST)**

	<b>TEST METHOD</b>	<b>APPLICATION RANGE</b>
Bulk Density	ASTM F1315	43.75~68.70 ( $\pm 3.13$ )lbs/ft <sup>3</sup> 0.70~1.10 ( $\pm 0.05$ ) g/cm <sup>3</sup>
Ash Content	ASTM C561	$\leq 1\%$
Sulfur Content	ASTM C816	$< 1200$ ppm
Fluorine Content	ASTM D1179	$< 50$ ppm
Chlorine Content	ASTM F1277	$< 50$ ppm
Tensile Strength	ASTM F152	$> 40$ bar $> 580$ psi
Compressive Strength	ASTM C695	$> 2000$ bar $> 29000$ psi
Recovery	ASTM F36	$> 12\%$
Compressibility	ASTM F36	$> 40\%$
Applied Temp. Range		-328~1112°F -328~5972°F (In non-oxidizing media)
		-200~600°F -200~3300°F (In non-oxidizing media)
Ignition Loss		$< 1\%$ , with 1 hr at 842°F ( $\pm 50^\circ\text{F}$ ) with 1 hr at 450°C ( $\pm 10^\circ\text{C}$ )

◆ Further data are available according to our customers' requirements.

This information, which is subject to change, is offered solely for your consideration. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. Nothing contained in this brochure is to be understood as authorization or recommendation to use our products in the infringement of any patent.

**STANDARD SIZES**

CODE	DENSITY		THICKNESS	
07025	43.75 lbs/ft <sup>3</sup> ( $\pm 4.37$ )	0.70 g/cm <sup>3</sup> ( $\pm 0.07$ )	0.010 ( $\pm 0.0008$ )"	0.25( $\pm 0.02$ )mm
07038			0.015 ( $\pm 0.0008$ )"	0.38( $\pm 0.02$ )mm
07050	43.75 lbs/ft <sup>3</sup> ( $\pm 3.12$ )	0.70 g/cm <sup>3</sup> ( $\pm 0.05$ )	0.020 ( $\pm 0.0012$ )"	0.50( $\pm 0.03$ )mm
07075			0.030 ( $\pm 0.0012$ )"	0.75( $\pm 0.03$ )mm
07080			0.032 ( $\pm 0.0012$ )"	0.80( $\pm 0.03$ )mm
07100			0.040 ( $\pm 0.0012$ )"	1.00( $\pm 0.03$ )mm
07150			0.060 ( $\pm 0.002$ )"	1.50( $\pm 0.05$ )mm
10020	62.50 lbs/ft <sup>3</sup> ( $\pm 4.37$ )	1.00 g/cm <sup>3</sup> ( $\pm 0.07$ )	0.080( $\pm 0.0008$ )"	0.20( $\pm 0.02$ )mm
10025			0.010( $\pm 0.0008$ )"	0.25( $\pm 0.02$ )mm
10038			0.015 ( $\pm 0.0008$ )"	0.38( $\pm 0.02$ )mm
10050	62.50 lbs/ft <sup>3</sup> ( $\pm 3.12$ )	1.00 g/cm <sup>3</sup> ( $\pm 0.05$ )	0.020 ( $\pm 0.0012$ )"	0.50( $\pm 0.03$ )mm
10075			0.030 ( $\pm 0.0012$ )"	0.75( $\pm 0.03$ )mm
10080			0.032 ( $\pm 0.0012$ )"	0.80( $\pm 0.03$ )mm
10100			0.040 ( $\pm 0.0012$ )"	1.00( $\pm 0.03$ )mm
10150			0.060 ( $\pm 0.002$ )"	1.50( $\pm 0.05$ )mm
11038	68.70 lbs/ft <sup>3</sup> ( $\pm 4.37$ )	1.00 g/cm <sup>3</sup> ( $\pm 0.07$ )	0.015 ( $\pm 0.0008$ )"	0.38( $\pm 0.02$ )mm
12013	75.00 lbs/ft <sup>3</sup> ( $\pm 4.37$ )	1.20 g/cm <sup>3</sup> ( $\pm 0.07$ )	0.050 ( $\pm 0.0008$ )"	0.13( $\pm 0.02$ )mm
12020			0.080 ( $\pm 0.0008$ )"	0.20( $\pm 0.02$ )mm

WIDTH	LENGTH
20" ( $\pm 0.08$ " ), 40" ( $\pm 0.04$ " ) 50mm( $\pm 2$ mm), 1000mm ( $\pm 1$ mm)	164' ( $\pm 8$ " ), 328' ( $\pm 8$ " ) 50m ( $\pm 200$ mm), 100m ( $\pm 200$ mm)

**PACKAGE**

SIZE	INNER PACKAGE	OUTER PACKAGE
0.02" X 39.40" X 164' 0.50mm X 1.00m X 50m	Each roll in a vacuum sealed plastic bag within a carton	16 or 12 cartons per wooden crate
0.03" X 39.40" X 164' 0.75mm X 1.00m X 50m	Each roll in a vacuum sealed plastic bag within a carton	9 cartons per wooden crate
0.04" X 39.40" X 164' 1.00mm X 1.00m X 50m	Each roll in a vacuum sealed plastic bag within a carton	9 or 6 cartons per wooden crate

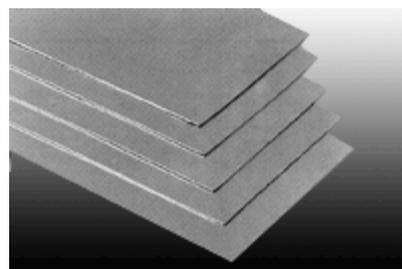
◆Based on order, special sizes (for example foil with 60" wide) and packaging are available.

This information, which is subject to change, is offered solely for your consideration. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. Nothing contained in this brochure is to be understood as authorization or recommendation to use our products in the infringement of any patent.

**GENERAL INFORMATION**

Flexible Graphite Sheet is made from exfoliated graphite flake and is produced through an extensive calendaring process to give a thin pure graphite sheet or flexible foil with no binder or resins

The only difference between the sheet and foil is the size of these two products.



**PROPERTIES (CERAMSOURCE SHEET-ST)**

	TEST METHOD	APPLICATION RANGE
Bulk Density	ASTM F1315	43.75~68.70 ( $\pm 3.125$ ) lbs/ft <sup>3</sup> 0.70~1.10 ( $\pm 0.05$ ) g/cm <sup>3</sup>
Ash Content	ASTM C561	$\leq 1\%$
Sulfur Content	ASTM C816	$< 1200$ ppm
Fluorine Content	ASTM D1179	$< 50$ ppm
Chlorine Content	ASTM F1277	$< 50$ ppm
Tensile Strength	ASTM F152	$> 40$ bar $> 580$ psi
Compressive Strength	ASTM C695	$> 2000$ bar $> 29000$ psi
Recovery	ASTM F36	$> 12\%$
Compressibility	ASTM F36	$> 40\%$
Applied Temp. Range		-328~1112°F -328~5972°F (In non-oxidizing media) -200~600°F -200~3300°F (In non-oxidizing media)
Ignition Loss		$< 1\%$ , with 3 hr at 842°F ( $\pm 50^\circ\text{F}$ ) with 3 hr at 450°C ( $\pm 10^\circ\text{C}$ )

**STANDARD SIZES**

<b>WIDTH X LENGTH</b>	39.4" ( $\pm 0.06$ ") X 39.4" ( $\pm 0.08$ ")	1000mm( $\pm 1.5$ mm) X 1000mm ( $\pm 2.0$ mm)
<b>THICKNESS</b>	0.015" ( $\pm 0.0008$ "), 0.02" ( $\pm 0.0012$ ") 0.03" ( $\pm 0.0012$ "), 0.04" ( $\pm 0.0012$ ") 0.06" ( $\pm 0.002$ ")	0.38mm( $\pm 0.02$ mm), 0.50mm ( $\pm 0.03$ mm) 0.75mm( $\pm 0.03$ mm), 1.00mm ( $\pm 0.03$ mm) 1.50MM( $\pm 0.05$ mm)

**PACKAGE**

SIZE	PACKAGE
Thickness 0.04" (1.0mm) to 0.06" (1.5mm)	100 sheets in a vacuum sealed plastic bag, within a carton, within a wooden crate
Thickness 0.125" (3.175mm)	50 sheets in a vacuum sealed plastic bag, within a carton, within a wooden crate

This information, which is subject to change, is offered solely for your consideration. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. Nothing contained in this brochure is to be understood as authorization or recommendation to use our products in the infringement of any patent.

**GENERAL INFORMATION**

TSS316 is manufactured from Flexible Graphite Foil mechanically clinched to a 0.004" (0.1mm) thick stainless steel **TANGED** (perforated) metal sheet---SUS316 insert

The product is recommended to use in pipework and vessels in the chemical and petrochemical industries and power stations

**PROPERTIES**

	TEST METHOD	APPLICATION RANGE
Bulk Density	ASTM F1315	62.50 lbs/ft <sup>3</sup> 1.00 g/cm <sup>3</sup>
Ash Content	ASTM C561	≤1%
Temperature	In oxidizing media	-400~842°F -240~450°C
	in non-oxidizing media	-328~1598°F-200~870°C
Compressibility	ASTM F36A-66	30~40%
Recovery	ASTM F36A-66	15~20%
Creep Strength	At 7250 psi, 572°F, 16hrs, DIN52913	≥6960 psi
	At 50 N/mm <sup>2</sup> , 300°C, 16hrs, DIN52913	≥48 N/mm <sup>2</sup>
Gas Permeability	DIN 3535 Thickness 0.06"	≥ 0.81 in <sup>3</sup> /s
	DIN 3535 Thickness 1.5mm	≥ 0.80 cm <sup>3</sup> /min
Thickness of Reinforced Materials		0.004 inch
		0.100 mm

**STANDARD SIZES**

<b>WIDTH X LENGTH</b>	39.4" (+0.2") X 39.4" (+0.2")	1000mm(+5mm) X 1000mm (+5mm)
	60.0" (+0.2") X 60.0" (+0.2")	1500mm(+5mm) X 1500mm (+5mm)
	39.4" (+0.2") X 80.0" (+0.2")	1000mm(+5mm) X 2000mm (+5mm)
<b>THICKNESS</b>	0.04" (±0.0032"), 0.06" (±0.004")	1.0mm (±0.08mm), 1.5mm (±0.10mm)
	0.08" (±0.0040"), 0.12" (±0.004")	2.0mm (±0.10mm), 3.0mm (±0.10mm)

**PACKAGE**

SIZE	PACKAGE
Thickness 0.04" to 0.06" Thickness 1.0mm to 1.5mm	100 sheets in a vacuum sealed plastic bag, within a carton, within a wooden crate
Thickness 0.125" (3.175mm)	50 sheets in a vacuum sealed plastic bag, within a carton, within a wooden crate

◆Based on order, special sizes and packaging are available.

This information, which is subject to change, is offered solely for your consideration. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. Nothing contained in this brochure is to be understood as authorization or recommendation to use our products in the infringement of any patent.

**GENERAL INFORMATION**

GSS316 is manufactured from Flexible Graphite Foil adhesively bonded to a 0.002" (0.05mm) thick **GLUED** SUS316 stainless steel sheet insert.

The product is recommended to use in pumps, fittings, gas, offshore, waste gas, pipelines.

**PROPERTIES**

	TEST METHOD	APPLICATION RANGE
Bulk Density	ASTM F1315	62.50 lbs/ft <sup>3</sup> 1.00 g/cm <sup>3</sup>
Ash Content	ASTM C561	≤1%
Temperature	In oxidizing media	-400~842°F -240~450°C
	in non-oxidizing media	-328~1598°F -200~870°C
Compressibility	ASTM F36A-66	40~50%
Recovery	ASTM F36A-66	10~15%
Creep Strength	At 7250 psi, 572°F, 16hrs, DIN52913 At 50 N/mm <sup>2</sup> , 300°C, 16hrs, DIN52913	≤6960 psi ≤45 N/mm <sup>2</sup>
Gas Permeability	DIN 3535, Thickness 0.06" DIN 3535, Thickness 1.5mm	≤0.41 in <sup>3</sup> /s ≤0.40 cm <sup>3</sup> /min
Thickness of Reinforced Materials		0.002 inch 0.050 mm

**STANDARD SIZES**

<b>WIDTH X LENGTH</b>	39.4" (+0.2") X 39.4" (+0.2")	1000mm(+5mm) X 1000mm (+5mm)
	60.0" (+0.2") X 60.0" (+0.2")	1500mm(+5mm) X 1500mm (+5mm)
<b>THICKNESS</b>	39.4" (+0.2") X 80.0" (+0.2")	1000mm(+5mm) X 2000mm (+5mm)
	0.032" (±0.0032"), 0.04" (±0.0032"), 0.06" (±0.004"), 0.08" (±0.0040"), 0.12"(±0.004")	0.8mm (±0.08mm), 1.0mm (±0.08mm), 1.5mm (±0.10mm), 2.0mm (±0.10mm), 3.0mm (±0.10mm)

**PACKAGE**

SIZE	PACKAGE
Thickness 0.04" to 0.06" Thickness 1.0mm to 1.5mm	200 sheets in a vacuum sealed plastic bag, within a carton, within a wooden crate
Thickness 0.08" to 0.12" Thickness 2.0mm to 3.0mm	150 sheets in a vacuum sealed plastic bag, within a carton, within a wooden crate

◆Based on order, special sizes and packaging are available.

This information, which is subject to change, is offered solely for your consideration. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. Nothing contained in this brochure is to be understood as authorization or recommendation to use our products in the infringement of any patent.