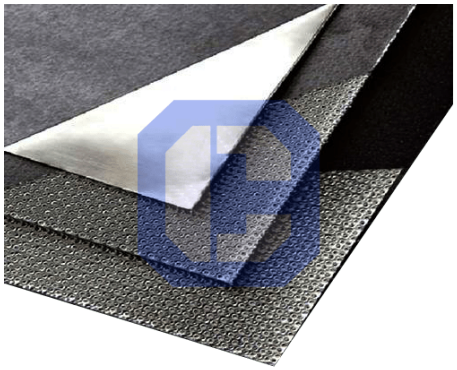
TECHNICAL DATA SHEET

Reinforced Graphite Sheets

DESCRIPTION:
Reinforced graphite sheets, used in many applications, is one of the most ideal gasket and sealing materials on the market (Graphite Sheet, Graphite Laminate). The sheets are manufactured with high purity flexible graphite foil reinforced with metallic or non-metallic inserts in the middle of two graphite foil sheets. Insert materials provide additional strength for high pressure applications and better handling.



Benefits

- Excellent seal-ability
- High temperature resistant
- Chemical resistant
- Blow-out resistant
- Non-aging, low creep relaxation
- Meets most industrial fluid sealing service requirements

Typical Applications

- Used in industrial fluid sealing applications.
- Can be used in refineries, chemical and petrochemical plants, paper mills, mines and other industrial fields
- Gaskets

2030L Standard - A plain graphite foil sheet, homogeneous or laminated, without reinforcement insert.
2030R with Stainless Steel Reinforcement - A graphite foil sheet laminate with .002" thick stainless steel insert reinforcement, adhesively bonded.
2030E with Stainless Steel Tang Reinforcement- A graphite foil sheet laminate with .004" thick perforated stainless steel tang insert reinforcement, mechanically bonded.
2030S with Wire Mesh Reinforcement - A graphite foil sheet laminate with stainless steel wire mesh insert reinforcement, adhesively bonded.
2030P with Mylar Reinforcement - A graphite foil sheet laminate with .0005" thick polyester (PET, Mylar) insert adhesively bonded.

Technical Specifications Board

Chemical Composition (%)					
Chemical Contents	2030L	2030R	2030E	2030S	2030P
Carbon	99% Min	99% Min	99% Min	99% Min	99% Min
Ash	0.8% Max	0.8% Max	0.8% Max	0.8% Max	0.8% Max
Leachable Chloride	30ppm Max	30ppm Max	30ppm Max	30ppm Max	30ppm Max

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Typical Physical Properties					
Type	2030L	2030R	2030E	2030S	2030P
Compressibility (ASTM F-36)	37%	40%	37%	-	42%
Recovery (ASTM F36)	18%	16%	18%	-	16%
Creep relaxation (ASTM F-38)	less than 5%	less than 5%	less than 5%	less than 5%	less than 5%
Maximum gasket unity load	24,000 psi (165 MPa)	24,000 psi (165 MPa)	24,000 psi (165 MPa)	-	-
M factor	-	2	-	2	1.25
Y stress	-	900 psi (6 MPa)	-	2500 psi (17 MPa)	700 psi (4.7 MPa)
Gasket Constants per ASME	-	-	-	Gb - 1400 psi (9.65 N/mm²)	-
	-	-	-	a - 0.324	-
	-	-	-	Gs - 0.01 psi ($6.9x10^{-5}$ N/mm²)	-
Sealability (ASTM F-37)	-	-	-	-	0.017 fluid ounce/hr (0.5ml/hr)

Temperature Ratings:			
Type	2030L	2030R	2030E
Oxidizing environemnt (such as air)	-400°F to 950°F (-240 °C to 510 °C)	-400°F to 950°F (-240 °C to 510 °C)	-400°F to 950°F (-240 °C to 510 °C)
Mild Oxidizing environment (most gasket applications)	-400°F to 1500°F (-240 °C to 850 °C)	-400°F to 1500°F (-240 °C to 850 °C)	-400°F to 1500°F (-240 °C to 850 °C)
Non-Oxidizing environment	-400°F to 5400°F (-240 °C to 3000 °C)	Up to 1800°F, the limit of Stainless Steel Insert (Limit of Graphite is 5400°F)	Up to 1800°F, the limit of Stainless Steel Insert (Limit of Graphite is 5400°F)

Temperature Ratings:		
Type	2030S	2030P
Oxidizing environemnt (such as air)	-400°F to 950°F (-240 °C to 510 °C)	-400°F to 950°F (-240 °C to 510 °C)
Mild Oxidizing environment (most gasket applications)	-400°F to 1500°F (-240 °C to 850 °C)	-400°F to 1500°F (-240 °C to 850 °C)
Non-Oxidizing environment	-400°F to 5400°F (-240 °C to 3000 °C)	-400°F to 5400°F (-240 °C to 3000 °C)

Thermal Conductivity:					
Type	2030L	2030R	2030E	2030S	2030P
Parallel to Sheet Surface	960 BTU-in/ft2.h.F (140 W/mK)	-	-	960 BTU-in/ft2.h.F (140 W/mK)	960 BTU-in/ft2.h.F (140 W/mK)
Through Thickness	36 BTU-in/ft2.h.F (5 W/mK)	-	-	30 BTU-in/ft2.h.F (5 W/mK)	30 BTU-in/ft2.h.F (5 W/mK)
Coefficient of Friction (against Steel)	0.018 @ 4 psi (0.03Mpa) 0.157 @ 12psi (0.08 Mpa)	-	-	0.018 @ 4 psi (0.03Mpa) 0.157 @ 12psi (0.08 Mpa)	0.018 @ 4 psi (0.03Mpa) 0.157 @ 12psi (0.08 Mpa)

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