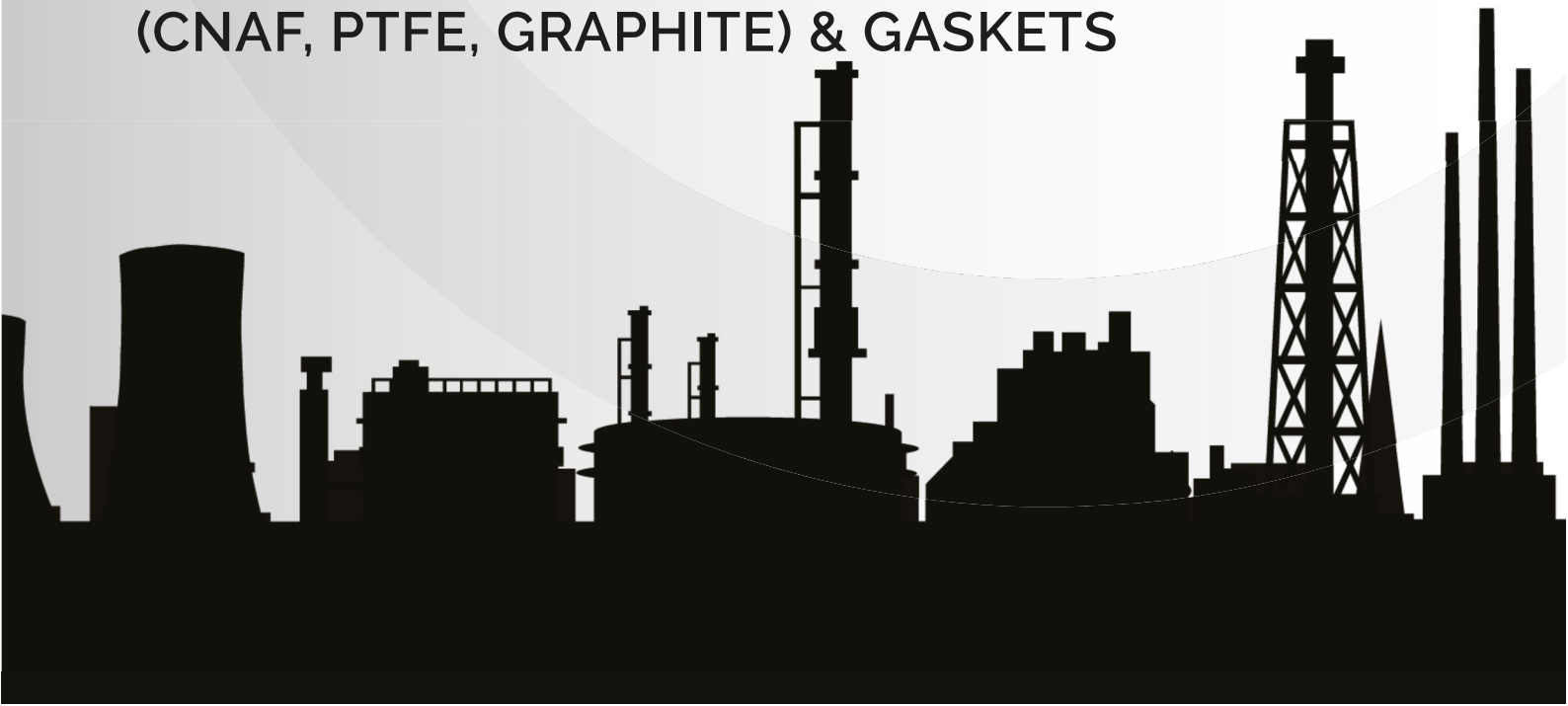


**MANUFACTURER OF GASKET JOINTING SHEETS  
(CNAF, PTFE, GRAPHITE) & GASKETS**





## ORE INDUSTRIAL SUPPLY LLC

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ORE INDUSTRIAL and Jointings started its operation in India under the partnership of expert in gaskets since decades. CNAF sheets are the prime focused product under the Araflex roof and manufacture other gasket raw materials like PTFE sheets (Filled & Pure) and Graphite sheets.

Gaskets are considered as a problem solver for joint leakage hassles in industry. Joint leakages are caused by several reasons, but a proper gasket can stop 99% of emissions and fluid leakages to the desired levels. The selection of gaskets depends up on various engineering factors need an expert opinion and a trained technician for installation.

Manufacturing techniques of gaskets are of utmost important to ensure proper sealing. Araflex can supply the highest quality gasket sheets and gaskets by following the latest technology and automations in their factory.

## Mission & Visions

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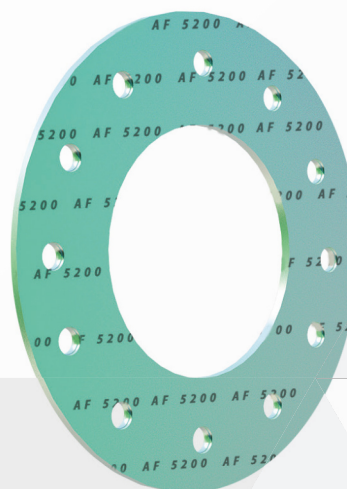
Develop a potential market for gasket sheets and gaskets in India and foreign market is our prime mission by developing mutual trust and 24/7 service to the valuable customers.

Cater complete gasket raw materials and gaskets under one roof with highest quality standards and utmost important to human safety as a motto is our vision.



## STYLE: AF-5200

Mild and less severe applications are always there but why go for traditional and costly gasket sheets? We design an economic combination of HIGH QUALITY Aramid fibers and Inorganic fibers bonded with NBR. Recommended for mild services in piping installation applications, work with mild steam, hydrocarbons and refrigerants.



Color	Green, Branded
Fiber:	Aramid/Inorganic
Binder:	Nitrile (NBR)
Fluid Service:	Steam, Water, Oils, Dilute Acids & Alkalies Solvents, Refrigerants.
Density:	1.7 g/cm <sup>3</sup>
Tensile Strength ASTM F 152:	1500 psi (11.3Mpa)
Change in Tensile, ASTM F-152	30% Max
Compressibility ASTM F 36:	8 to 19%
Recovery ASTM F 36:	45%
Temperature	
Range:	-100 to 662°F (-73 to 350°C)
Max. Continuous :	413°F (212°C)
Max. Pressure:	870 psig (60 bar)
Fluid Resistance-ASTM F146 IRM 903 Oil, 5h/300°F (150°C)	
Thickness increase:	0 to 15%
Weight increase:	15%

# STYLE: AF-5200

ASTM Fuel B 5h/70°F (21°C)	
Thickness Increase:	0 to 10%
Weight increase:	12%
Sealability	
ASTM F 37 (Fuel A):	0.03ml/hr
ASTM F37 (Nitrogen):	0.5 ml/hr
Dielectric Breakdown ASTM D 149:	11kV/mm (279V/mil)
DIN 3535 Gas Permeability:	0.05cc/min
Creep relaxation ASTM F 38:	20%
Flexibility ASTM F1 47:	10x
<b>Gasket Factors of Araflex-AF-5200</b>	

<b>THICKNESS</b>	1/16"	1/8"
<b>m factor</b>	3	3.2
<b>y psi (Mpa)</b>	3347 (23.08)	3385 (23.34)

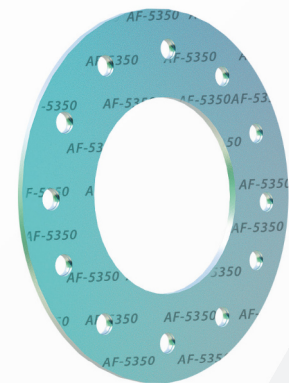
**Note:**

ASTM properties based on 1/16" sheet thickness except ASTM F38, which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties but should not be used to establish specification limits nor used alone as the basis of design.

AraflexWarning: Araflex gasket materials should never be recommended when both the temperature and the pressure are at the maximums listed. Properties and applications shown are typical. No application should be undertaken by anyone without independent study and evaluation for suitability. Never use more than one gasket in one flange joint, and never reuse a gasket. Improper use or gasket selection could cause property damage and/or serious personal injury. The data reported is a compilation of field testing, field service reports and/or in-house testing. While the utmost care has gone into publishing the information contained herein, we assume no responsibility for errors. The information and specifications contained in this website are subject to change without notice. This revision cancels and obsoletes all previous editions.

## STYLE: AF-5350

The widely used and high-performance gasket sheet from Araflex to apply joints where doubts of leaking exist. Highest quality of Aramid fiber in extra % added with inorganic fiber and superior quality NBR binder. Excellent with natural gas, Steam, new generation refrigerants, chemical, refinery, gas pipe line, food beverage and pharmaceutical industries.



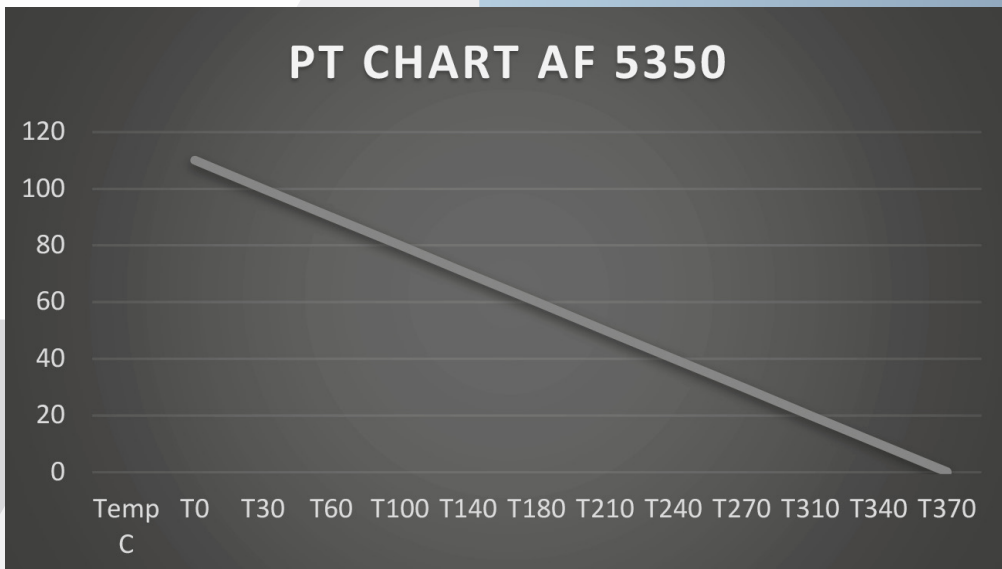
### TYPICAL PROPERTIES

Color	Blue, Branded
Fiber:	Aramid/Inorganic
Binder:	Nitrile (NBR)
Fluid Service:	Steam, natural gas, chemicals, Hydrocarbons Solvents, Refrigerants, food and beverages.
Density:	1.7 g/cm <sup>3</sup>
Tensile Strength ASTM F 152:	2000 psi (13.8 Mpa)
Change in Tensile, ASTM F-152	30% Max
Compressibility ASTM F 36:	8 to 16%
Recovery ASTM F 36:	50%
Temperature	
Range:	-100 to 700°F (-73 to 370°C)
Max. Continuous :	548°F (280°C)
Max. Pressure:	1500 psig (103 bar)
Fluid Resistance-ASTM F146 IRM 903 Oil, 5h/300°F (150°C)	
Thickness increase:	0 to 15%
Weight increase:	15%
ASTM Fuel B 5h/70°F (21°C)	
Thickness Increase:	0 to 10%
Weight increase:	10%
Sealability	
ASTM F 37 (Fuel A):	0.01ml/hr.

# STYLE: AF-5350

ASTM F37 (Nitorgen):	0.4 ml/hr.
Dielectric Breakdown ASTM D 149:	11.7kV/mm (297V/mil)
DIN 3535 Gas Permeability:	0.03cc/min
Creep relaxation ASTM F 38:	20%
Flexibility ASTM F1 47:	10x
<b>Gasket Factors of Araflex-AF-5350</b>	

<b>THICKNESS</b>	1/16"	1/8"
<b>m factor</b>	2.7	4.2
<b>y psi (Mpa)</b>	2359 (16)	2930 (20.20)

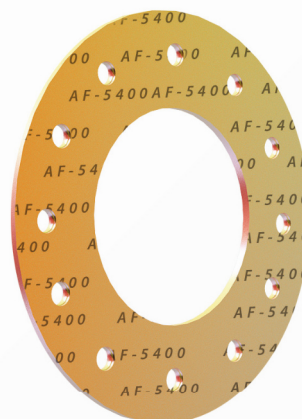


Note: ASTM properties based on 1/16" sheet thickness except ASTM F38, which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties but should not be used to establish specification limits nor used alone as the basis of design.

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# STYLE: AF-5400

AF-5400 is a high performance gasket material suitable for sealing in a wide range of demanding applications involving, water, oils, fuels, hydrocarbons, refrigerants, mild acids and alkalis. AF 5400 meets the requirements of BS 7531 Grade X.



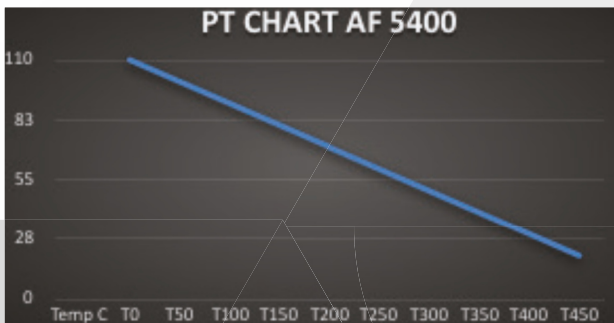
## TYPICAL PROPERTIES

Color	Golden, Branded
Fiber:	Glass and Aramid Fiber
Binder:	Nitrile (NBR)
Fluid Service:	Steam, Water, Oils, Dilute Acids & Alkalies Hydrocarbons, Solvents, Refrigerants.
Density:	1.85 g/cm <sup>3</sup>
Tensile Strength ASTM F 152:	1305 psi (9 Mpa)
Change in Tensile, ASTM F-152	30% Max
Compressibility ASTM F 36:	7%
Recovery ASTM F 36:	62%
Temperature	
Range:	-328°F to 842°F (-200°C to 450°C)
Max. Continuous :	554°F (290°C)
Max. Pressure:	1450 psi (100 bar)
Fluid Resistance-ASTM F146 IRM 903 Oil, 5h/300°F (150°C)	
Thickness increase:	0 to 15%
Weight increase:	15%
ASTM Fuel B 5h/70°F (21°C)	
Thickness Increase:	0 to 10%
Weight increase:	15%
Leakage Rate	
ASTM F 37 (Fuel A):	0.03ml/hr

# STYLE: AF-5400

ASTM F37 (Nitorgen):	0.5 ml/hr
Dielectric Breakdown ASTM D 149:	14kV/mm (370V/mil)
DIN 3535 Gas Permeability:	0.05cc/min
Creep relaxation ASTM F 38:	25%
Flexibility ASTM F1 47:	8x
<b>Gasket Factors of Araflex-AF-5400</b>	

<b>THICKNESS</b>	1/16"	1/8"
<b>m factor</b>	3.2	2.8
<b>y psi (Mpa)</b>	3000 (20)	3800 (26)



Note: ASTM properties based on 1/16" sheet thickness except ASTM F38, which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties but should not be used to establish specification limits nor used alone as the basis of design.

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## STYLE: AF-5450

A distinctive design of Araflex for a high trouble sealing area of Steam and Hydrocarbons. Piping experts always demand an alternate to graphite gaskets. AF-5450 contains high strength Carbon Fibers and Aramid fiber bonded with NBR synthetic rubber. Best worked with refinery, petrochemical, water desalination and power generating industries.



### TYPICAL PROPERTIES

Color	Black, Branded
Fiber:	Carbon Fiber, Aramid Fiber
Binder:	NBR
Fluid Service:	Steam, Water, Oils, Dilute Acids & Alkalies Hydrocarbons, Solvents, Refrigerants.
Density:	1.6 g/cm <sup>3</sup>
Tensile Strength ASTM F 152:	1800 psi (12.4 Mpa)
Change in Tensile, ASTM F-152	25% Max
Compressibility ASTM F 36:	8 to 16%
Recovery ASTM F 36:	50%
Temperature	
Range:	-100 to 752°F (-73 to 400°C)
Max. Continuous :	600°F (315°C)
Max. Pressure:	2175 psig (150 bar)
Fluid Resistance-ASTM F146 IRM 903 Oil, 5h/300°F (150°C)	
Thickness increase:	0 to 10%
Weight increase: ASTM Fuel B 5h/70°F (21°C)	10%
Thickness Increase:	0 to 10%
Weight increase:	12%
Sealability	
ASTM F 37 (Fuel A):	0.03ml/hr

# STYLE: AF-5450

ASTM F37 (Nitrogen):	0.4 ml/hr
Dielectric Breakdown ASTM D 149:	14kV/mm (370V/mil)
DIN 3535 Gas Permeability:	0.05cc/min
Creep relaxation ASTM F 38:	18%
Flexibility ASTM F1 47:	10x
<b>Gasket Factors of Araflex-AF-5450</b>	

<b>THICKNESS</b>	1/16"	1/8"
<b>m factor</b>	3.7	3.0
<b>y psi (Mpa)</b>	3515 (24.2)	4010 (27.50)

Note: ASTM properties based on 1/16" sheet thickness except ASTM F38, which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties but should not be used to establish specification limits nor used alone as the basis of design.

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# STYLE: AF-5450W

Extended from AF 5450 to AF 5450W by spreading steel wire to withstand severe conditions of pressure and temperature. AF-5450W contains high strength carbon fibers and Aramid Fibers bonded with NBR synthetic rubber and steel wire reinforced. Best worked with boilers, refinery, petrochemical, water desalination and power generating industries.



## TYPICAL PROPERTIES

Color	Black, Branded
Fiber:	Carbon Fiber, Aramid Fiber
Binder:	Nitrile (NBR)
Reinforcement:	Steel Wire
Fluid Service:	Steam, Water, Oils, Dilute Acids & Alkalies Hydrocarbons, Solvents, Refrigerants.
Density:	1.6 g/cm <sup>3</sup>
Tensile Strength ASTM F 152:	2175 psi (15.0 Mpa)
Change in Tensile, ASTM F-152	20% Max
Compressibility ASTM F 36:	10 to 17%
Recovery ASTM F 36:	40%
Temperature	
Range:	-100 to 752°F (-73 to 400°C)
Max. Continuous :	600°F (315°C)
Max. Pressure:	2175 psig (150 bar)
Fluid Resistance-ASTM F146 IRM 903 Oil, 5h/300°F (150°C)	
Thickness increase:	0 to 10%
Weight increase:	10%
ASTM Fuel B 5h/70°F (21°C)	
Thickness Increase:	0 to 10%
Weight increase:	12%
Sealability	
ASTM F 37 (Fuel A):	0.03ml/hr

# STYLE: AF-5450W

ASTM F37 (Nitrogen):	0.4 ml/hr
Dielectric Breakdown ASTM D 149:	14kV/mm (370V/mil)
DIN 3535 Gas Permeability:	0.05cc/min
Creep relaxation ASTM F 38:	19%
Flexibility ASTM F1 47:	10x
<b>Gasket Factors of Araflex-AF-5450W</b>	

<b>THICKNESS</b>	1/16"	1/8"
<b>m factor</b>	3.8	3.0
<b>y psi (Mpa)</b>	3800 (26.2)	4200 (28.95)

Note: ASTM properties based on 1/16" sheet thickness except ASTM F38, which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties but should not be used to establish specification limits nor used alone as the basis of design.

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# ARAFLON 4522 VIRGIN PTFE (WHITE) SHEET

A Fluoropolymer product for high resistance to chemicals and weather

PTFE is a soft, low friction fluoropolymer with outstanding chemical and weather resistance. Shows high stability up to 500°F (260°C) and have high dielectric properties. Pure PTFE is extremely soft, formable and it is often used for chemical resistant seals and gasket making. PTFE Rods, Tubes & Tapes (Araflon 4555) are also available in virgin form.

Applications:



## Recommended

Strong acids  
Caustics, Hydrocarbons, Solvents  
Food and Beverage products  
Petrochemical Industry  
Metallic, organic, chemical compounds  
Cryogenic use

## Recommended

Seals & Gaskets  
Valve and fitting components  
Pump Parts, Manifolds  
Semi-conductor equipment  
Chemical resistant Tubing  
Not good with molten Alkali and Fluorine.

## Operating Conditions

Minimum Temperature	(°C/°F)	-200/-328
Maximum Temperature	(°C/°F)	260/500
Pressure	(bar/psi)	55/800

## Physical Properties

Specific Gravity	ASTM D 792	2.14-2.18 g/cm <sup>3</sup>
Hardness Shore D	ASTMD 2240	51 +/-5
Compressibility	ASTM F36	20-25%
Recovery	ASTM F36	45%
Tensile Strength	ASTM F152	24 Mpa
Creep Relaxation	ASTM F38	35%
pH Range		0-14
Dielectric Strength (0.5mm specimen)	ASTM D149	40 KV/mm
m value (3mm thk)		2.5
y value (3mm thk)		2845 psi (19Mpa)

The data we are herewith providing are all based on laboratory testing and are proposed to technical designers as possible and useful advice.

Deviations from the values hereabove indicated may occur, but they do not constitute themselves either detriment of quality or reason for rejection.

# ARAFLON 4540 EXPANDED PTFE (WHITE)

Expanded Microcellular multi directional PTFE

Applications:



## Suitable

Strong acids  
Caustics, Hydrocarbons  
Cryogenics  
Glass lined equipment  
Low bolt load FRP GRP flanges  
Food Industry  
Refrigerants

## Specialties

Highly compressible  
Can fill flange surface irregularities  
Low creep and cold flow  
High bolt torque retention property  
Easily compressed under lower loads  
Chemically inert  
Long shelf life

## Operating Conditions

Minimum Temperature	(°C/°F)	268/-450
Maximum Temperature	(°C/°F)	316/600
Maximum Continuous Temp	(°C/°F)	260/500
Pressure	(bar/psi)	85/1232

## Physical Properties

Specific Gravity	ASTM D 792	0.65 to 0.1 g/cm <sup>3</sup>
Compressibility	ASTM F36	70-80%
Recovery	ASTM F36	8%
Creep Relaxation	ASTM F38	10%
Gas permeability (cc/min)		<0.015
Dielectric Strength	F149	250 Volts/mil
m value 1/8" (3.2mm Thk)		3.0
y value 1/8" (3.2mm Thk)		2200 psi (15Mpa)

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# ARAFLON 4500 SILICA FILLED PTFE (GOLDEN)

A special material blend for concentrated inorganic acids

Applications:



Suitable	Not Suitable
Conc. H <sub>2</sub> SO <sub>4</sub> (Sulphuric Acid)	Molten Alkali
Most of the chemicals	Hydrofluoric Acids
Potable Water Supply	Fluorine Compounds, gas
Petrochemical Industry	
Pharmaceutical industry	
Food Industry	
Steam, Solvents	

Operating Conditions		
Minimum Temperature	(°C/°F)	-250/-418
Maximum Temperature	(°C/°F)	270/518
Pressure	(bar/psi)	85/1232

Physical Properties		
Specific Gravity	ASTM D 792	2.2g/cm <sup>3</sup>
Compressibility	ASTM F36J	7-11 %
Recovery	ASTM F36J	42%
Tensile Strength	ASTM F152	14 Mpa
Creep Relaxation	ASTM F38	18%
pH Range		0-14
Dielectric Strength	F149	20kV/mm
m value		4
y value		2175 psi (15Mpa)

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# ARAFLON 4504 GLASS FILLED PTFE (BLUE)

A special material blend of PTFE with Glass Microspheres

Applications:



## Suitable

Medium conc. Acids, H2O2  
 Caustics, Hydrocarbons, Solvents  
 Potable Water Supply  
 Petrochemical Industry  
 Pharmaceutical Industry  
 Food Industry  
 Steam, Refrigerants, cryogenics

## Not Suitable

Molten Alkali  
 Hydrofluoric Acids  
 Fluorine gas

## Operating Conditions

Minimum Temperature	(°C/°F)	-250/-418
Maximum Temperature	(°C/°F)	270/518
Pressure	(bar/psi)	55/800

## Physical Properties

Specific Gravity	ASTM D 792	1.6 g/cm <sup>3</sup>
Compressibility	ASTM F36J	25-35% %
Recovery	ASTM F36J	45%
Tensile Strength	ASTM F152	14 Mpa
Creep Relaxation	ASTM F38	18%
pH Range		0-14
Dielectric Strength	F149	15kV/mm
m value (3mm thk)		2.5
y value (3mm thk)		1800 psi (12.4Mpa)

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# ARAFLON 4510 BARIUM SULFATE FILLED PTFE

Caustic resistant- PTFE filled with BaSo4 off-white



Applications:

## Suitable

Strong Caustics

Moderate Acids

Aqueous Hydrofluoric Acid (below 45%)

Pharmaceutical Industry

Food Industry

Steam, Refrigerants, cryogenics

## Not Suitable

Molten Alkali Metal

Fluorine gas

## Operating Conditions

Minimum Temperature	(°C/°F)	-268/-450
Maximum Temperature	(°C/°F)	260/500
Pressure	(bar/psi)	85/1235

## Physical Properties

Specific Gravity	ASTM D 792	2.8 g/cm <sup>3</sup>
Compressibility	ASTM F36J	5-10 %
Recovery	ASTM F36J	40%
Tensile Strength	ASTM F152	14 Mpa
Creep Relaxation	ASTM F38	14%
pH Range		0-14
Dielectric Strength	F149	20 kV/mm
Tp max		60500
m value (3mm thk)		2.0
y value (3mm thk)		2500 psi (17.2 Mpa)

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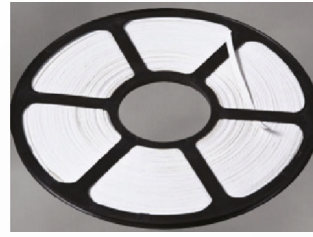
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# ARAFLON 4555 VIRGIN PTFE (WHITE)TAPE

A high molecular weight polymer for chemicals resistivity

## Applications:

Machine cut tapes used as filler winding material for spiral wound gaskets industry. Rigid plastic reels are used to support unwinding of the tapes while handling. Supplied in 0.4mm Thk and 5.4mm width.



### Suitable

Medium conc. Acids  
Caustics, Hydrocarbons, Solvents  
Alkalines  
Petrochemical Industry  
Metallic, organic, chemical compounds  
Food Industry  
cryogenics

### Not Suitable

Molten Alkali  
Hydrofluoric Acids  
Fluorine gas

### Operating Conditions

Minimum Temperature	(°C/°F)	-164/-328
Maximum Temperature	(°C/°F)	260/500
Pressure	(bar/psi)	25/362

### Physical Properties

Specific Gravity	ASTM D 792	2.15 g/cm <sup>3</sup>
Compressibility	ASTM F36J	16%
Recovery	ASTM F36J	45%
Tensile Strength	ASTM F152	22 Mpa
Creep Relaxation	ASTM F38	79%
pH Range		0-14
Dielectric Strength	F149	15kV/mm
m value (3mm thk)		2.5
y value (3mm thk)		2845 psi (19Mpa)

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# ARAFLEX 4666 EXPANDED PTFE GASKET TAPE

A self-adhesive tape made from 100% pure ePTFE

Softer and more flexible PTFE suitable for irregular and rough surfaces sealings. Wherever an irregular sealing surface and standard gaskets cannot be used, Araflex 4666 gasket tape can be applied with user friendly and easy installation methods. This is easy to compress and exhibits excellent resistance to creep and cold flow.

Applications:



## Recommended for

Chemical Industry  
 Petrochemical and process industries  
 Pharmaceutical, paper, pulp, food beverage industries  
 Flange connections, normal and irregular  
 Reactor and process vessels and exchangers  
 Food Industry  
 Mining Industry

## Avoid

Molten Alkali  
 Hydrofluoric Acids  
 Fluorine gas

## Operating Conditions

Minimum Temperature	(°C/°F)	-268/-450
Maximum Temperature	(°C/°F)	260/500
Short Term Peak	(°C/°F)	315/600
Pressure	(bar/psi)	200/2900

## Physical Properties

Color	White
Density	0.8gm/cm <sup>3</sup>
pH	0-14
Size Range	7mm Width to 25mm Width & 2.5mm Thk to 7mm Thk

The data we are herewith providing are all based on laboratory testing and are proposed to technical designers as possible and useful advice.

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# ARAFLON 4530 GRAPHITE PTFE (BLACK)

High performance Graphite filled PTFE gasket for Conc. HF



Applications:

## Recommended usages

Concentrated Hydrofluoric Acid (HF)  
 Anhydrous Hydrogen Fluoride (AHF)  
 Cryogenics  
 Monomers & refrigerants  
 Steam, Oils, Caustics, Alcohols, Liquid & Gaseous Oxygen  
 Toxic gases  
 Resistant to Flame and Bacterial Growth

## Advantages

Low emissions  
 Excellent sealability  
 No cold Flows  
 Flexible  
 Anti-sticking  
 Easy cutting  
 Electrical conducting

Pressure (bar/psi)

85/1200

## Physical Properties

Specific Gravity ASTM D 792 2.1g/cm<sup>3</sup>  
 Compressibility ASTM F36 5-12%  
 Recovery ASTM F36 40%  
 Tensile Strength ASTM F152 20Mpa  
 Creep Relaxation ASTM F38 30%  
 pH Range 0-14  
 Dielectric Strength D149 1Kv/mm33 v/mil

## Gasket Factors

m value (1/16" Thk) 2.8  
 y value (1/16" Thk) 1800 psi (12Mpa)  
 m value (1/8" Thk) 2.0  
 y value (1/8" Thk) 1800 psi (12Mpa)

## ARAFLON 4530 GRAPHITE PTFE (BLACK)

### Leakage

ASTM F37 (Fuel A)	0.02ml/hr
ASTM F37 (gas N2)	0.015ml/hr

### Operating Conditions

Araflon 4530 is used in Areas where pure PTFE and Barium filled PTFE cannot be used best with highly aggressive chemicals and HF.

Minimum Temperature (°C/°F)	-270/-454
Maximum Temperature (°C/°F)	260/500
Pressure (bar/psi)	85/1200

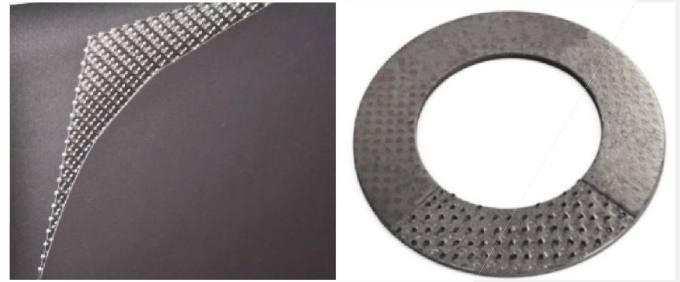
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## STYLE: ARAFOIL 6000T (STEEL TANGED)

Pure Expanded Flexible Mineral Graphite Gasket Sheet with Tanged Insert

Metal reinforced laminate consists of Arafoil flexible graphite mechanically bonded to two sides of a perforated steel sheet of SS316/SS304/Inconel. Arafoil exhibits virtually no creep relaxation which helps to avoid periodical bolt tightening considerably.



### Suitable for

Steam Service  
Chemicals  
Petrochemicals  
Cryogenic Applications  
Refineries  
Reactors  
Chimneys & Exhausters

### Specialties

Low permeability to gas and liquids  
Low diffusion rate and high blow out resistance  
High mechanical strength  
Scratch resistant  
As a good anti-stick agent on all flanges.  
Highly resistant to Chemicals and thermal shock  
Long shelf life

### Operating Conditions

Temperature Range (oxidizing media)	-400°F to 975°F (-240°C to 525°C)
Temperature Range (non oxidizing)	-328°F to 5972°F (-200°C to 3300°C)
Maximum Temp Steam	-328°C to 1202°F (-200°C to 650°C)
Pressure	220 bar/3190psi

## STYLE: ARAFOIL 600T (STEEL TANGED)

### Physical Properties

Density	ASTM C 559	1.1 g/cm <sup>3</sup>
Ash Content (Max)		1%
Total Chlorine (Max)		50ppm
Compressibility (@5000psi load)	ASTM F36A-66	30-38% (1.6mm Thk)
Recovery (@5000psi load)	ASTM F36A-66	18% (1.6mm Thk)
Creep Relaxation		<3%
Tensile Strength	ASTM F152	22 Mpa
Dielectric Strength	F149	250 Volts/mil
"M" Factor		2.0
"y" stress (Max gasket unit load 24000 psi)		2500 psi (17.28Mpa)

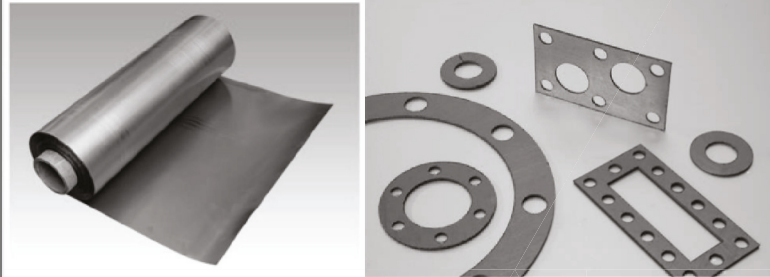
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## ARAFOIL 6000 FLEXIBLE GRAPHITE SHEET

Homogeneous graphite sheet from high carbon content

Arafoil 6000 is a high purity natural graphite gasket sheet does not contain any fillers or resins. Available in pure sheet form, steel tanged inserted, steel foil inserted (1 ply or 2 ply), plane and crinkled tape with or without adhesive. Graphite is well known for its high resistance to corrosion against a wide variety of acids, alkalis, salt solutions, organic compounds and heat transfer fluids at higher temperatures.



### Suitable for

Mild acids and alkalis  
 Chemical plants, refineries & reactors.  
 Steam cycling exhausters and Chimneys  
 Ozone Resistant  
 Natural gas friendly  
 Petroleum and its derivatives  
 Cryogenic applications

### Specialties

Low creep gasket maintain stable bolt load  
 Low permeability to gas and liquids.  
 High resistance to Temperature & pressure  
 Good anti-sticking agent to flange surfaces  
 Scratch resistant  
 Low diffusion rate and high blow out resistance  
 Long shelf life

### Operating Conditions

Temperature Range (oxidizing media)

Maximum Temperature	(°C/°F)	316/600
Maximum Continuous Temp	(°C/°F)	260/500
Pressure	(bar/psi)	124/1800



## STYLE: ARAFOIL 6000 FLEXIBLE GRAPHITE SHEET

### Physical Properties

Specific Gravity	ASTM D 792	0.65 to 0.1 g/cm <sup>3</sup>
Compressibility	ASTM F36J	40-60%
Recovery	ASTM F36J	12%
Creep Relaxation	ASTM F38	30%
Tensile Strength	ASTM F152	22 Mpa
Dielectric Strength	F149	250 Volts/mil
m value	1/8" (3.2mm Thk)	2.0
y value	1/8" (3.2mm Thk)	2200 psi (15Mpa)

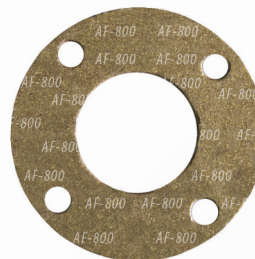
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# ARALITE-V800 VERMICULITE TAPES AND SHEETS

High temperature, high pressure & non-oxidizing

Applications & preparations:



## Suitable

Strong acids  
Caustics, Hydrocarbons  
Cryogenics  
Glass lined equipment  
Low bolt load FRP GRP flanges  
Food Industry  
Refrigerants

## Specialties

Highly compressible  
Can fill flange surface irregularities  
Low creep and cold flow  
High bolt torque retention property  
Easily compressed under lower loads  
Chemically inert  
Long shelf life

## Operating Conditions

Minimum Temperature	(°C/°F)	268/-450
Maximum Temperature	(°C/°F)	316/600
Maximum Continuous Temp	(°C/°F)	260/500
Pressure	(bar/psi)	85/1232

## Physical Properties

Specific Gravity	ASTM D 792	0.65 to 0.1 g/cm <sup>3</sup>
Compressibility	ASTM F36	70-80%
Recovery	ASTM F36	8%
Creep Relaxation	ASTM F38	10%
Gas permeability (cc/min)		<0.015
Dielectric Strength	F149	250 Volts/mil
m value 1/8" (3.2mm Thk)		3.0
y value 1/8" (3.2mm Thk)		2200 psi (15Mpa)

The data we are herewith providing are all based on laboratory testing and are proposed to technical designers as possible and useful advice.

Deviations from the values hereabove indicated may occur, but they do not constitute themselves either detriment of quality or reason for rejection.

# ARABOND 2000 EPOXY NEMA G10 BONDED STEEL

High strength dielectric sheet with steel bonding-heavy duty



## Applications & preparations:

Industrial and electrical conductivity arrestor used between high pressure rating flanges and electrical equipment to prevent electrolytic and electrical current flow, supports corrosion resistance and equipment safety. High quality Glass Fiber Epoxy (NEMA G10 or G11 grade) fiber layers are precisely warmed, glued and bonded on stainless steel plates of any grades to form a sandwich panel. This panel give high electric resistivity and high strength at the same time. Various colors and surface finishing's can be achieved as per requirements and codes of applications.

G10 / G11 Recommended for	Not Recommended for
Aliphatic and Aromatic Hydrocarbons	Anhydrous Liquid Ammonia
Transformer Oils	Conc. H <sub>2</sub> SO <sub>4</sub>
Sodium Hydroxide 15%	20% HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , NaOH
Sulphuric Acid 3% (G11)	
Sulphuric Acid 30% (G11)-Fairly at room Temp.	
Alcohol, Ketons, Benxol, Toluol	
Cryogenics	

## Operating Conditions Pure G10

Minimum Temperature (°C/°F)  
Maximum Temperature (°C/°F)

## Color: Light Green, Black, Brown

-156/-250  
140/284

**Table 1. Physical Properties of NEMA G10**

Specific Gravity	ASTM D 792	1.8 g/cc
Water Absorption (max)	ASTM D 570 (24 hrs)	0.1%
Hardness Rockwell M	ASTM D 785	110
Compressive Strength	ASTM D 695	60000 psi
Tensile Strength	ASTM D 638 (LW)	50000 psi
Flexural Strength	ASTM D 790	65000 psi
IZOD Impact Strength LW	ASTM D 256	12 ft-lb/in
Shear Strength	ASTM D 732	21755 psi
Cold recovery	ASTM F 36	50-70%
Chemical Resistance		pH 0-14
Dielectric Strength (1.6mm Thk)	ASTM D 149	960 volts/mil
Volume resistivity		6 x 10 <sup>6</sup> Mega ohm-cm

# ARABOND 2000 EPOXY NEMA G10 BONDED STEEL

## Stainless Steel Core Material Typical Properties

Values of steel properties and composition are shown here are typical only, each supply lot will accompany separate MTC and compliance certificate showing PMI values, mechanical and physical test results.

**Table 2. Composition ranges for 316L stainless steel sheets.**

GRADE		C	Mn	Si	P	S	Cr	Mo	Ni	N
316L	Min	–	–	–	–	–	16.0	2.00	10.0	–
	Max	0.03	2.0	0.75	0.045	0.03	18.0	3.00	14.0	0.10

**Table 3. Mechanical properties of 316L stainless steel sheets.**

Grade	Tensile Str (MPa) min	Yield Str 0.2% Proof (MPa) min	Elong (%in50mm)min	Hardness	
				Rockwell B (HR B) max	Brinell (HB) max
316L	485	170	40	95	217

**Table 4. Physical properties for 316L grade stainless steel sheet.**

Grade	Density (kg/m <sup>3</sup> )	Elastic Modulus (GPa)	Mean Co-eff of Thermal Expansion (µm/m/°C)			Thermal Conductivity (W/m.K)		Specific Heat 0-100 °C (J/kg.K)	Elec Resistivity (nΩ.m)
			0-100 °C	0-315 °C	0-538 °C	At 100 °C	At 500 °C		
316/L/H	8000	193	15.9	16.2	17.5	16.3	21.5	500	740

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Deviations from the values hereabove indicated may occur, but they do not constitute themselves either detriment of quality or reason for rejection.

# ARANOLIC 2200 PHENOLIC LAMINATE SHEET

High strength canvas/linen based industrial laminate dielectric sheet

## Applications & preparations:

Aranolic 2200 is produced with a fine weave of cotton cloth fabrics which are mixed with phenolic resins to provide better machinability, mechanical and electrical properties. The sheets are produced by polymerization process which cannot be soften again. So, these materials are also called Thermosets. Variety of resin types and cloth materials can be used to manufacture thermoset laminates with a range of mechanical, thermal and electrical properties.



This is highly recommended for Power Electrical Industry for high voltage applications at power frequencies. High electric strength under oil, air and normal humidity. Sheets are supplied in natural color, but can supplied in black color upon

## Technical Properties

### Operating Conditions of Aranolic-2200

Maximum Temperature (°C/°F)

Color: Dark Brown, Black

125/257

## Table 1. Physical Properties of Aranolic 2200

Specific Gravity	ASTM D 792	1.37 g/cc
Water Absorption (max)	ASTM D 570 (24 hrs)	2.5%
Hardness Rockwell M	ASTM D 785	100
Compressive Strength	ASTM D 695	37000 psi
Tensile Strength	ASTM D 638 (LW)	11000 psi
Flexural Strength	ASTM D 790	17500 psi
IZOD Impact Strength LW	ASTM D 256	1.7 ft-lb/in
Dielectric Strength (3mm Thk)	ASTM D 149	550 volts/mil
Arc Resistance (sec)	ASTM D 495	15

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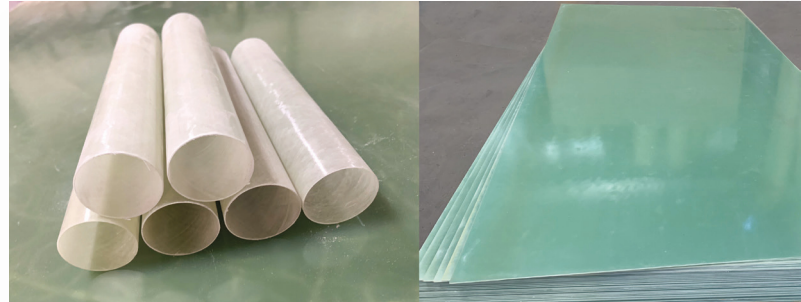
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# AF 2500 EPOXY NEMA G10 INSULATION SHEETS

High dielectric insulating laminate sheet glass fiber epoxy NEMA std.

## Applications & preparations:

Industrial and electrical conductivity arrestor used between high pressure rating flanges and electrical equipment to prevent electrolytic and electrical current flow, supports corrosion resistance and equipment safety. High quality Glass Fiber Epoxy (NEMA G10 or G11 grade) fiber layers are precisely warmed, glued and bonded on stainless steel plates of any grades to form a sandwich panel.



This panel give high electric resistivity and high strength at the same time.

Various colors and surface finishing's can be achieved as per requirements and codes of applications.

### G10 / G11 Recommended for

Aliphatic and Aromatic Hydrocarbons  
 Transformer Oils  
 Sodium Hydroxide 15%  
 Sulphuric Acid 3% (G11)  
 Sulphuric Acid 30% (G11)-Fairly at room Temp.  
 Alcohol, Ketons, Benxol, Toluol  
 cryogenics

### Not Recommended for

Anhydrous Liquid Ammonia  
 Conc. H2SO4  
 20% HNO3, H2SO4, NaOH

### Operating Conditions Pure G10

Minimum Temperature	(°C/°F)	-156/-250
Maximum Temperature	(°C/°F)	140/284

### Color: Light Green, Black, Brown

# AF 2500 EPOXY NEMA G10 INSULATION SHEETS

**Table 1. Physical Properties of NEMA G10**

Specific Gravity	ASTM D 792	1.8 g/cc
Water Absorption (max)	ASTM D 570 (24 hrs)	0.1%
Hardness Rockwell M	ASTM D 785	110
Compressive Strength	ASTM D 695	60000 psi
Tensile Strength	ASTM D 638 (LW)	50000 psi
Flexural Strength	ASTM D 790	65000 psi
IZOD Impact Strength LW	ASTM D 256	12 ft-lb/in
Shear Strength	ASTM D 732	21755 psi
Cold recovery	ASTM F 36	50-70%
Chemical Resistance		pH 0-14
Dielectric Strength (1.6mm Thk)	ASTM D 149	960 volts/mil
Volume resistivity		6 x 10 <sup>6</sup> Mega ohm-cm

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