

**PAF-BLACK 420** is a sheet gasket constructed out of compressed carbon fiber bonded with Styrene Butadiene Rubber (NBR). Similar to other carbon fiber gaskets, **PAF-BLACK 420** has superior performance during intensified working conditions including high pressure, saturated steam, hot oil, and temperature variation.



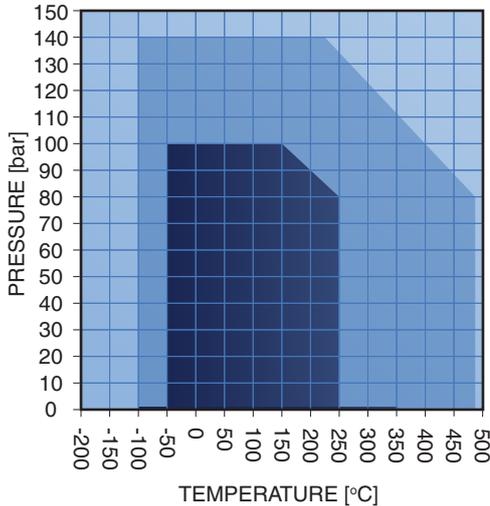
### TECHNICAL DATA:

TYPICAL VALUES FOR A THICKNESS OF 2.0 MM				
Compressibility	ASTM F 36 J	-	%	10
Recovery	ASTM F 36 J	-	%	60
Stress relaxation	DIN 52913	50 MPa, 16 hours at 175°C 50 MPa, 16 hours at 300°C	MPa MPa	35 32
Tensile Strength	ASTM 152	-	MPa (psi)	10(1450)
Creep Relaxation	ASTM F 38 B	For 1/32"	%	15
Thickness increase after fluid immersion	ASTM F 146 ASTM F 146	Oil IRM 903: 5 hours at 150°C Fuel B: 5 hours at 23°C	% %	4 6
Density	-	-	g/cm <sup>3</sup>	1.65
Temperature (Max.)	-	-	°C (°F)	+480 (+900)
Temperature (Min.)	-	-	°C (°F)	-100 (-150)
Continuous temperature (Max.)	-	-	°C (°F)	+340 (+650)
Pressure (Max.)	-	-	bar (psi)	140 (2030)
P × T	-	For 1/32" and 1/16" For 1/8"	bar×°C bar×°C	25000 12000
Gas leak rate	-	At internal pressure of 40 bar (580 psi) and gasket load equal to 32 MPa (4640 psi)	cc/min	0.015

## APPLICATIONS:

Water, Saturated steam, Inert gases.

## P-T DIAGRAM



■ In the darker shaded region (dark blue) the gasket is generally applicable for different chemical substances and is highly able to offer chemical compatibility.

■ In workplaces with the conditions this area, technical assessment of gasket material is recommended.

■ In the light blue region, installation of gasket without technical assessment should not be carried out.

## DIMENSIONS

<b>Size (mm):</b>	1000*1500 mm   1500*1500 mm   2000*1500 mm   3000*1500 mm
<b>Thickness (mm):</b>	0.5, 0.8, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0
<b>Tolerances (mm):</b>	Up to 1.0 mm thickness: $\pm 0.1$ mm Above 1.0 mm thickness: $\pm 10\%$ Length & Width: $\pm 5\%$
<b>Surface finish:</b>	Color: Black

## CHEMICAL RESISTANCE CHART

PAFBLACK 420		PAFBLACK 420	
Acetaldehyde	✗	Calcium Hypochlorite	?
Acetamide	✗	Carbolic Acid, Phenol	✗
Acetic Acid (Crude, Glacial, Pure)	?	Carbon Dioxide, Dry	✓
Acetone	?	Wet	✓
Acetylene	?	Carbon Disulfide	✗
Air	✓	Carbon Monoxide	?
Aluminum Chloride	✓	Carbon Tetrachloride	✗
Aluminum Fluoride	✗	Carbonic Acid	✓
Aluminum Hydroxide (Solid)	✓	Castor Oil	✗
Aluminum Nitrate	?	Chlorine, Dry	i
Aluminum Sulfate	✓	Wet	✗
Alums	✓	Chloroform	✗
Ammonium Chloride	✓	Chromic Acid	✗
Ammonium Hydroxide	✓	Citric Acid	✓
Ammonium Phosphate, Monobasic	✓	Copper Sulfate	✓
Amyl Acetate	✗	Cresols, Cresylic Acid	✗
Aniline, Aniline Oil	✗	Cyclohexane	✗
Aniline Dyes	?	Cyclohexanone	✗
Asphalt	✗	Dibenzylether	✗
Barium Chloride	✓	Dibutyl Phthalate	✗
Benzene, Benzol	✗	Diesel Oil	?
Benzoic Acid	?	Dimethyl Ether	✗
Bleach (Sodium Hypochlorite)	i	Dimethylformamide	✗
Boiler Feed Water	✓	Diphyl DT	✗
Borax	✓	Ethane	?
Boric Acid	✓	Ethyl Acetate	✗
Brine (Sodium Chloride)	✓	Ethyl Alcohol10	✓
Butane	✗	Ethyl Chloride	✗
2-Butanone	✗	Ethylene	?
Butyl Acetate	✗	Ethylene Glycol	✓
Butyl Alcohol, Butanol	✓	Ethylidine Chloride	✗
n-Butyl Amine	i	Formaldehyde	?
Butyric Acid	✓	Formic Acid	i
Calcium Chloride	✓	Fuel Oil	?
Calcium Hydroxide	✓	Glycerine, Glycerol	✓



Suitable



Depends on operating conditions



Unsuitable



No data or insufficient evidence

## CHEMICAL RESISTANCE CHART

PAFBLACK 420		PAFBLACK 420	
Heptane	✗	Paraffin	?
Hydraulic Oil, Mineral	?	Pentane	✗
Synthetic	✗	Perchloroethylene	✗
Hydrazine	?	Petroleum Oils, Crude	?
Hydrogen	✓	Refined	?
Isooctane	✗	Phenol	✗
Isopropyl Alcohol	✓	Phosphoric Acid, Crude	✗
Kerosene	✗	Pure, Less than 45%	✗
Lactic Acid, 150°F and below	✓	Pure, Above 45%, 150°F and below	✗
Above 150°F	i	Pure, Above 45%, Above 150°F	✗
Lime Saltpeter (Calcium Nitrates)	?	Phthalic Acid	i
Lindane	✗	Potash, Potassium Carbonate	✓
Linseed Oil	?	Potassium Acetate	✓
Lubricating Oils, Mineral or Petroleum Types	?	Potassium Cyanide	✓
Magnesium Sulfate	✓	Potassium Hydroxide	✗
Maleic Acid	?	Potassium Nitrate	?
Methane	?	Potassium Permanganate	i
Methanol, Methyl Alcohol	✓	Propane	✗
Methyl Alcohol	✓	Pyridine	✗
Methyl Chloride	✗	Refrigerants 134a	✓
Methylene Chloride	✗	Salt Water	✓
Mineral Oils	?	Saltpeter, Potassium Nitrate	?
Naphtha	✗	2,4-D Salts and Esters	✗
Nitric Acid, Less than 30%	✗	Soap Solutions	✓
Above 30%	✗	Soda Ash, Sodium Carbonate	✓
Crude	✗	Sodium Chloride	✓
Red Fuming	✗	Sodium Cyanide	✗
Nitrobenzene	✗	Sodium Hydroxide	✗
Nitrogen	✓	Sodium Silicate	?
Octane	✗	Sodium Sulfate	✓
Oleic Acid	i	Sodium Sulfide	✓
Oleum	✗	Stearic Acid	✓
Oxalic Acid	i	Sulfur Dioxide	✗
Oxygen, Gas	✗	Sulfuric Acid, 10%, 150°F and below	✗
Palmitic Acid	?	10%, Above 150°F	✗

 Suitable
  Depends on operating conditions
  Unsuitable
  No data or insufficient evidence

## CHEMICAL RESISTANCE CHART

PAFBLACK 420		PAFBLACK 420	
10-75%, 500°F and below	✗	Triethanolamine	?
75-98%, 150°F and below	✗	Turpentine	✗
75-98%, 150°F to 500°F	✗	Urea, 150°F and below	i
Sulfurous Acid	?	Above 150°F	i
Tannic Acid	✓	Varnish	✗
Tar	✗	Water, Acid Mine, with Oxidizing Salt	i
Tartaric Acid	✓	Tap	✓
Tetrachlorethane	✗	Xylene	✗
Toluene	✗	Zinc Chloride	✓
Transformer Oil (Mineral Type)	✗	Zinc Sulfate	✓
Trichloroethylene	✗		

 Suitable
  Depends on operating conditions
  Unsuitable
  No data or insufficient evidence