

PAF-BLACK 410 is a sheet gasket constructed out of compressed carbon fiber bonded with Nitrile Butadiene Rubber (NBR). This extremely high-quality sealing system stems from their superior torque retention which makes them appropriate for applications with elevated pressure and temperature fluctuations. Carbon fiber gaskets are also laboratory-tested and fire-safe.



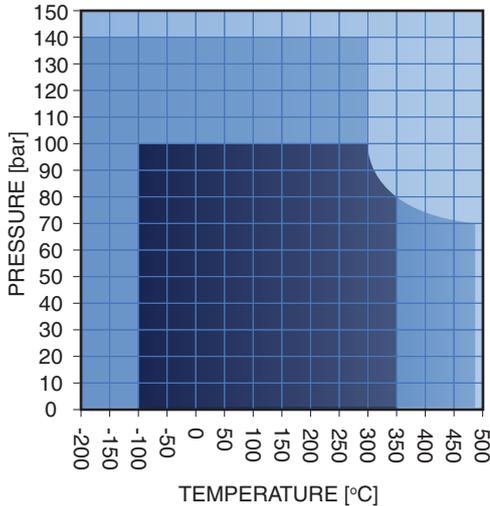
TECHNICAL DATA:

TYPICAL VALUES FOR A THICKNESS OF 2.0 MM				
Compressibility	ASTM F 36 J	-	%	12
Recovery	ASTM F 36 J	-	%	40
Stress relaxation	DIN52913	50 MPa, 16 hours at 175°C 50 MPa, 16 hours at 300°C	MPa MPa	36 32
Tensile Strength	ASTM 152	-	MPa (psi)	12 (1800)
Creep Relaxtion	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	% %	5 7
Density	-	-	g/cm ³	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 x T	-	For 1/32" and 1/16" For 1/8"	bar x °C bar x °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, aliphatic hydrocarbons, oils, gasoline, Saturated steam, refrigerants.

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

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

CHEMICAL RESISTANCE CHART

PAFGREEN 410		PAFGREEN 410	
Acetaldehyde	?	Brine	✓
Acetamide	✓	Butane	✓
Acetic acid 10%	✓	Butanol (butyl alcohol)	✓
Acetic acid 100% (glacial acetic acid)	✓	Butanone (2) (M.E.K.)	?
Acetic acid ester	?	Butyl acetates	✓
Acetone	✓	Butyl alcohol	✓
Acetylene	✓	Butylamine	✗
Adipic acid	✓	Butyric acid	✓
Air	✓	Calcium chloride	✓
Aliphatic hydrocarbons	i	Calcium hydroxide	✓
Alcohol (see under specific name)	i	Calcium hypochlorite	✓
Alum	✓	Calcium sulfate	✓
Aluminum acetate	✓	Carbolic acid 100% (phenol)	✗
Aluminum chlorate	✓	Carbon dioxide	✓
Aluminum chloride	✓	Carbon disulfide	✓
Ammonia	✓	Carbon tetrachloride	?
Ammonium carbonate	✓	Castor oil	✓
Ammonium chloride	✓	Chlorine (dry)	✓
Ammonium hydrogenphosphate	✓	Chlorine (wet)	?
Ammonium hydroxide	✓	Chlorine water (circa 0,5%)	✓
Amyl acetate	?	Chloroform	?
Aniline	✗	Chromic acid	?
Anon (Cyclohexanone)	✗	Citric acid	✓
Arcton 12 (Frigen or Freon 12)	✓	Clophen T 64	✓
Arcton 22 (Frigen or Freon 22)	✓	Coagulating baths (up to 10%)	✓
Aromatic hydrocarbons	i	Condensation water	✓
Asphalt (tar)	✓	Copper acetate	✓
Barium chloride	✓	Copper sulfate	✓
Benzene	✓	Cresol	✗
Benzoic acid	✓	Cyclohexanol	✓
Blast furnace gas	✓	Cyclohexanone (see anon)	i
Bleaching liquor (chloride of lime)	✓	Decaline	✓
Boiler feed water and boiler water (alkaline)	✓	Dibenzyl ether	✗
Borax	✓	Dibutyl phthalate	✓
Boric acid	✓	Diesel oil	✓

 Suitable
  Depends on operating conditions
  Unsuitable
  No data or insufficient evidence

CHEMICAL RESISTANCE CHART

PAFGREEN 410		PAFGREEN 410	
Diethyl ether	✓	Hydrogen	✓
Dimethyl formamide	✗	Hydrogen chloride (dry)	✓
Diphyl (Dowtherm A)	✓	Hydrogen peroxide (up to 6% by weight)	✓
Dye baths (alkaline, neutral, acidic)	✓	Isooctane (2, 2, 4 –trimethylpentan)	✓
Ethane	✓	Isopropyl alcohol	✓
Ethanol (ethyl alcohol)	✓	Kerosene	✓
Ethyl acetate (acetic ethylester)	?	Lactic acid 50%	✓
Ethyl alcohol	✓	Lead acetate (sugar of lead)	✓
Ethyl chloride	?	Lead arsenate	✓
Ethylene	✓	Lime water	✓
Ethylene chloride	✗	Linseed oil	✓
Ethylenediamine	✗	Lubricating oil (see mineral oils)	?
Ethylene glycol	✓	Magnesium sulfate	✓
Fatty acids from C 6 upwards (see palmitic, stearic and oelic acids)	?	Malic acid	✓
Fluorosilicic acid	✓	M.E.K. (2-butanone)	?
Formaldehyde	✓	Methane	✓
Formamide	?	Methyl alcohol (methanol)	✓
Formic acid 10%	✓	Methyl chloride	?
Formic acid 85%	✓	Methylene chloride	✗
Freon 12, Frigen 12, Arcton 12	✓	Mineral oil - ASTM Oil No. 1	✓
Freon 22, Frigen 22, Arcton 22	✓	Mineral oil - ASTM Oil No. 3	✓
Fuel oil	✓	Monochlormethane	?
Generator gas	✓	Naphtha	✓
Glacial acetic acid	✓	Natural gas	✓
Glycerol	✓	Nitric acid 20%	?
Heating oil	✓	Nitric acid 40%	✗
Heptane	✓	Nitric acid 96%	✗
Hydraulic oil (mineral)	✓	Nitrobenzene	✗
Hydraulic oil (phosphate ester type)	?	Nitrogen	✓
Hydraulic oil (glycol based)	✓	Octane	✓
Hydrazine hydrate	✓	Oleic acid	✓
Hydrochloric acid 20%	✓	Oleum (fuming sulfuric acid))	✗
Hydrochloric acid 37%	?	Oxalic acid	✓
Hydrofluoric acid 10%	?	Oxygen (check local regulations for use)	✓
Hydrofluoric acid 40%	✗	Palmitic acid	✓



Suitable



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Unsuitable



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CHEMICAL RESISTANCE CHART

PAFGREEN 410		PAFGREEN 410	
Paraffin (kerosene)	✓	Sodium hydrogensulfite	✓
Pentane	✓	Sodium chloride (Salt)	✓
Perchloroethylene	?	Sodium cyanide	✓
Petrol (fuel)	✓	Sodium hydroxide	✓
Petroleum	✓	Sodium silicate (water-glass)	✓
Petroleum ether	✓	Sodium sulfate	✓
Phenol	✗	Sodium sulfide	✓
Phosphoric acid (all concentrations)	✓	Spirit	✓
Phthalic acid	✓	Starch	✓
Potassium acetate	✓	Steam	✓
Potassium carbonate	✓	Stearic acid	✓
Potassium chlorate	✓	Sugar	✓
Potassium chloride	✓	Sulfur dioxide	?
Potassium chromium sulfate	✓	Sulfuric acid 20 %	?
Potassium cyanide	✓	Sulfuric acid 50 %	?
Potassium dichromate	✓	Sulfuric acid 96 %	?
Potassium hydroxide	✓	Sulfurous acid	✓
Potassium hypochlorite	✓	Tannic acid	✓
Potassium iodide	✓	Tar (asphalt)	✓
Potassium nitrate (salpetre)	✓	Tartaric acid	✓
Potassium permanganate	✓	Tetrachlorethane	?
Propane	✓	Tetralin (1, 2, 3, 4 -tetrahydronaphtalene)	✓
Pyridine	✗	Toluene	✓
Rapeseed oil	✓	Town gas	✓
R134a	✓	Transformer oil	✓
Salicylic acid	✓	Trichlorethylene	?
Salt (rock salt)	✓	Triethanolamine	✓
Sea water	✓	Turpentine	✓
Silicone oil	✓	Urea	✓
Skydrol 500	✗	Vinyl acetate	✓
Soap	✓	Water	✓
Soda (sodium carbonate)	✓	Water-glass	✓
Sodium aluminate	✓	White Spirit	✓
Sodium hydrogencarbonate	✓	Xylene	✓



Suitable



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Unsuitable



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