

**PAF-GRA SSM** is a gasket made from expanded graphite reinforced with stainless steel wire. This product has extreme sealing characteristics including mechanical and thermal stability in addition to significant chemical resistance. The named features have made this gasket highly applicable in working conditions with elevated temperatures.



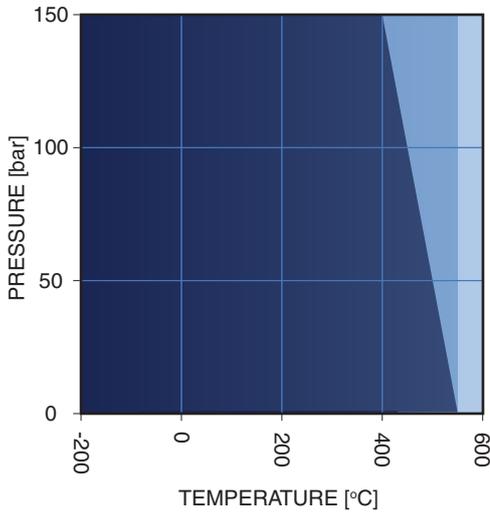
### TECHNICAL DATA:

TYPICAL VALUES FOR A THICKNESS OF 1.5 MM				
<b>Compressibility</b>	ASTM F 36 A	-	%	40
<b>Recovery</b>	ASTM F 36 A	-	%	20
<b>Stress resistance</b>	DIN52913	50 MPa, 16 hours at 300°C	MPa	45
<b>Tensile transversal strength</b>	ASTM F 152	-	MPa	10
<b>Specific leak rate</b>	DIN 5535-6	-	mg/[s.m]	0.01
<b>Compression Modulus</b>	DIN 28090-3	At 23°C At 300°C	% %	35 2.5
<b>Creep relaxation</b>	DIN 28090-2	At 23°C At 300°C	% %	4.5 3.5
<b>Density</b>	DIN 28090-2	-	g/m <sup>3</sup>	1.5
<b>Temperature (Min.)</b>	-	-	°C (°F)	-200 (-330)
<b>Continuous temperature (Max.)</b>	-	In oxidizing atmosphere In reducing or inert atmosphere	°C (°F) °C (°F)	600 (1100) 700 (1300)
<b>Pressure (Max.)</b>	-	For steam or gasses For liquids For aggressive gasses	bar (psi) bar (psi) bar (psi)	150 (2170) 170 (2465) 80 (1160)

## APPLICATIONS:

Chemical and petrochemical industries, Paper and cellulose industries, Steam and gas supply, Heating systems, Automotive and engine building industries.

## 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>	1520*1520 mm   2020*1520 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

PAFGRA SSM		PAFGRA SSM	
Acetamide	?	Black liquor	?
Acetic acid, 10%	✓	Borax	✓
Acetic acid, 100% (Glacial)	?	Boric acid	✓
Acetone	✓	Butadiene (gas)	✓
Acetonitrile	✓	Butane (gas)	✓
Acetylene (gas)	✓	Butyl alcohol (Butanol)	✓
Acid chlorides	?	Butyric acid	✓
Acrylic acid	✓	Calcium chloride	?
Acrylonitrile	✓	Calcium hydroxide	✓
Adipic acid	✓	Carbon dioxide (gas)	✓
Air (gas)	✓	Carbon monoxide (gas)	✓
Alcohols	✓	Cellosolve	✓
Aldehydes	✓	Chlorine (gas)	?
Alum	?	Chlorine (in water)	?
Aluminium acetate	?	Chlorobenzene	✓
Aluminium chlorate	?	Chloroform	✓
Aluminium chloride	✗	Chloroprene	✓
Aluminium sulfate	✓	Chlorosilanes	?
Amines	✓	Chromic acid	✗
Ammonia (gas)	✓	Citric acid	?
Ammonium bicarbonate	✓	Copper acetate	✓
Ammonium chloride	?	Copper sulfate	✓
Ammonium hydroxide	✓	Creosote	✓
Amyl acetate	✓	Cresols (Cresylic acid)	✓
Anhydrides	✓	Cyclohexane	✓
Aniline	✓	Cyclohexanol	✓
Anisole	✓	Cyclohexanone	✓
Argon (gas)	✓	Decalin	✓
Asphalt	✓	Dextrin	✓
Barium chloride	?	Dibenzyl ether	✓
Benzaldehyde	✓	Dibutyl phthalate	✓
Benzene	✓	Dimethylacetamide (DMA)	✓
Benzoic acid	✓	Dimethylformamide (DMF)	✓
Bio-diesel	✓	Dioxane	✓
Bio-ethanol	✓	Diphyl (Dowtherm A)	✓



Suitable



Depends on operating conditions



Unsuitable



No data or insufficient evidence

## CHEMICAL RESISTANCE CHART

PAFGRA SSM		PAFGRA SSM	
Esters	✓	Iron sulfate	✓
Ethane (gas)	✓	Isobutane (gas)	✓
Ethers	✓	Isooctane	✓
Ethyl acetate	✓	Isoprene	✓
Ethyl alcohol (Ethanol)	✓	Isopropyl alcohol (Isopropanol)	✓
Ethyl cellulose	✓	Kerosene	✓
Ethyl chloride (gas)	✓	Ketones	✓
Ethylene (gas)	✓	Lactic acid	?
Ethylene glycol	✓	Lead acetate	✓
Formaldehyde (Formalin)	✓	Lead arsenate	✓
Formamide	✓	Magnesium sulfate	✓
Formic acid, 10%	?	Maleic acid	✓
Formic acid, 85%	?	Malic acid	?
Formic acid, 100%	?	Methane (gas)	✓
Freon-12 (R-12)	✓	Methyl alcohol (Methanol)	✓
Freon-134a (R-134a)	✓	Methyl chloride (gas)	✓
Freon-22 (R-22)	✓	Methylene dichloride	✓
Fruit juices	✓	Methyl ethyl ketone (MEK)	✓
Fuel oil	✓	N-Methyl-pyrrolidone (NMP)	✓
Gasoline	✓	Milk	✓
Gelatin	✓	Mineral oil (ASTM no.1)	✓
Glycerine (Glycerol)	✓	Motor oil	✓
Glycols	✓	Naphtha	✓
Helium (gas)	✓	Nitric acid, 10%	?
Heptane	✓	Nitric acid, 65%	?
Hydraulic oil (Glycol based)	✓	Nitrobenzene	✓
Hydraulic oil (Mineral type)	✓	Nitrogen (gas)	✓
Hydraulic oil (Phosphate ester based)	✓	Nitrous gases (NOx)	?
Hydrazine	✓	Octane	✓
Hydrocarbons	✓	Oils (Essential)	✓
Hydrochloric acid, 10%	?	Oils (Vegetable)	✓
Hydrochloric acid, 37%	?	Oleic acid	✓
Hydrofluoric acid, 10%	✗	Oleum (Sulfuric acid, fuming) -	✗
Hydrofluoric acid, 48%	✗	Oxalic acid	?
Hydrogen (gas)	✓	Oxygen (gas)	✓



Suitable



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Unsuitable



No data or insufficient evidence

## CHEMICAL RESISTANCE CHART

PAFGRA SSM		PAFGRA SSM	
Palmitic acid	✓	Sodium hydroxide	✓
Parafin oil	✓	Sodium hypochlorite (Bleach)	✗
Pentane	✓	Sodium silicate (Water glass)	✓
Perchloroethylene	✓	Sodium sulfate	✓
Petroleum (Crude oil)	✓	Sodium sulfide	?
Phenol (Carbolic acid)	✓	Starch	✓
Phosphoric acid, 40%	?	Steam	✓
Phosphoric acid, 85%	?	Stearic acid	✓
Phthalic acid	✓	Styrene	✓
Potassium acetate	✓	Sugars	✓
Potassium bicarbonate	✓	Sulfur	?
Potassium carbonate	✓	Sulfur dioxide (gas)	?
Potassium chloride	✓	Sulfuric acid, 20%	?
Potassium cyanide	✓	Sulfuric acid, 98%	✗
Potassium dichromate	?	Sulfuryl chloride	✗
Potassium hydroxide	✓	Tar	✓
Potassium iodide	✓	Tartaric acid	?
Potassium nitrate	✓	Tetrahydrofuran (THF)	✓
Potassium permanganate	?	Titanium tetrachloride	✗
Propane (gas)	✓	Toluene	✓
Propylene (gas)	✓	2,4-Toluenediisocyanate	✓
Pyridine	✓	Transformer oil (Mineral type)	✓
Salicylic acid	✓	Trichloroethylene	✓
Seawater/brine	?	Vinegar	✓
Silicones (oil/grease)	✓	Vinyl chloride (gas)	✓
Soaps	✓	Vinylidene chloride	✓
Sodium aluminate	✓	Water	✓
Sodium bicarbonate	✓	White spirits	✓
Sodium bisulfite	✓	Xylenes	✓
Sodium carbonate	✓	Xylenol	✓
Sodium chloride	✓	Zinc sulfate	✓
Sodium cyanide	✓		



Suitable



Depends on operating conditions



Unsuitable



No data or insufficient evidence