

GRAFILIT® SF is an expanded graphite based material that has excellent chemical and thermal resistance. Its high creep resistance and high compressibility make it suitable for highly demanding conditions in the chemical and petrochemical industries, gas supply, compressors and pumps.

## PROPERTIES

	MECHANICAL RESISTANCE	THERMAL RESISTANCE	SEALABILITY PERFORMANCE	CHEMICAL RESISTANCE
SUPERIOR	Full	Full	Full	Full
EXCELLENT	Full	Full	Full	Full
VERY GOOD	Full	Full	Full	Full
GOOD	Full	Full	Full	Full
MODERATE	Full	Full	Full	Full

## APPROPRIATE INDUSTRIES & APPLICATIONS

- WATER SUPPLY
- POTABLE WATER SUPPLY
- STEAM SUPPLY
- GAS SUPPLY
- CHEMICAL INDUSTRY
- PETROCHEMICAL INDUSTRY
- SHIPBUILDING
- POWER PLANT
- REFRIGERATION AND COOLING
- HEATING SYSTEMS
- HIGH TEMP. APPLICATIONS
- VALVES

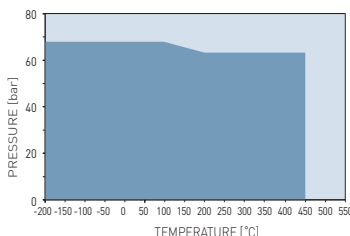
Composition	Expanded natural graphite (>99% graphite purity).
Colour	Black
Approvals	DIN-DVGW DIN 3535-6, DVGW KTW, DVGW VP 401, BAM (Oxygen), Germanischer Lloyd

## TECHNICAL DATA Typical values for a thickness of 1.5 mm

<b>Density</b>	DIN 28090-2	g/cm <sup>3</sup>	1.0
<b>Compressibility</b>	ASTM F36A	%	45
<b>Recovery</b>	ASTM F36A	%	13
<b>Stress resistance</b>	DIN 52913		
16 h, 50 MPa, 300 °C		MPa	49
<b>Specific leak rate</b>	DIN 3535-6	mg/(s·m)	0.05
<b>Leachable chloride content</b>	FSA NMG 202	ppm	20
<b>Leachable fluoride content</b>	FSA NMG 203	ppm	20
<b>Ash content of graphite</b>	DIN 51903	%	<1
<b>Compression modulus</b>	DIN 28090-2		
At room temperature: $\epsilon_{KSW}$		%	40
At elevated temperature: $\epsilon_{WSW/300\text{ °C}}$		%	0.8
<b>Percentage creep relaxation</b>	DIN 28090-2		
At room temperature: $\epsilon_{KRW}$		%	3.9
At elevated temperature: $\epsilon_{WRW/300\text{ °C}}$		%	3.0
<b>Operating conditions</b>			
Minimum temperature		°C/°F	-200/-328
Continuous temperature			
- oxidizing atmosphere		°C/°F	550/1022
- reducing or inert atmosphere		°C/°F	1000/1832
Pressure		bar/psi	80/1160

## P-T DIAGRAM

EN 1514-1, Type IBC, PN 40, DIN 28091-2 / 3.8, 1.5 mm



- General suitability - Appropriate measures ensure maximum performance for joint design and gasket installation.
- Limited suitability - Technical consultation is mandatory.

Dimensions of standard sheets

Sheet size (mm): 1000 x 1000  
 Thickness (mm): 0.5 | 1.0 | 1.5 | 2.0 | 3.0  
 Other dimensions and thicknesses are available on request.

Acetamide	+	Dioxane	+	Oleic acid	+
Acetic acid, 10%	+	Diphytl (Dowtherm A)	+	Oleum (Sulfuric acid, fuming)	-
Acetic acid, 100% (Glacial)	+	Esters	+	Oxalic acid	+
Acetone	+	Ethane (gas)	+	Oxygen (gas)	+
Acetonitrile	+	Ethers	+	Palmitic acid	+
Acetylene (gas)	+	Ethyl acetate	+	Paraffin oil	+
Acid chlorides	+	Ethyl alcohol (Ethanol)	+	Pentane	+
Acrylic acid	+	Ethyl cellulose	+	Perchloroethylene	+
Acrylonitrile	+	Ethyl chloride (gas)	+	Petroleum (Crude oil)	+
Adipic acid	+	Ethylene (gas)	+	Phenol (Carbolic acid)	+
Air (gas)	+	Ethylene glycol	+	Phosphoric acid, 40%	+
Alcohols	+	Formaldehyde (Formalin)	+	Phosphoric acid, 85%	+
Aldehydes	+	Formamide	+	Phthalic acid	+
Alum	+	Formic acid, 10%	+	Potassium acetate	+
Aluminium acetate	+	Formic acid, 85%	+	Potassium bicarbonate	+
Aluminium chlorate	+	Formic acid, 100%	+	Potassium carbonate	+
Aluminium chloride	+	Freon-12 (R-12)	+	Potassium chloride	+
Aluminium sulfate	+	Freon-134a (R-134a)	+	Potassium cyanide	+
Amines	+	Freon-22 (R-22)	+	Potassium dichromate	?
Ammonia (gas)	+	Fruit juices	+	Potassium hydroxide	+
Ammonium bicarbonate	+	Fuel oil	+	Potassium iodide	+
Ammonium chloride	+	Gasoline	+	Potassium nitrate	+
Ammonium hydroxide	+	Gelatin	+	Potassium permanganate	?
Amyl acetate	+	Glycerine (Glycerol)	+	Propane (gas)	+
Anhydrides	+	Glycols	+	Propylene (gas)	+
Aniline	+	Helium (gas)	+	Pyridine	+
Anisole	+	Heptane	+	Salicylic acid	+
Argon (gas)	+	Hydraulic oil (Glycol based)	+	Seawater/brine	+
Asphalt	+	Hydraulic oil (Mineral type)	+	Silicones (oil/grease)	+
Barium chloride	+	Hydraulic oil (Phosphate ester based)	+	Soaps	+
Benzaldehyde	+	Hydrazine	+	Sodium aluminate	+
Benzene	+	Hydrocarbons	+	Sodium bicarbonate	+
Benzoic acid	+	Hydrochloric acid, 10%	+	Sodium bisulfite	+
Bio-diesel	+	Hydrochloric acid, 37%	+	Sodium carbonate	+
Bio-ethanol	+	Hydrofluoric acid, 10%	+	Sodium chloride	+
Black liquor	+	Hydrofluoric acid, 48%	+	Sodium cyanide	+
Borax	+	Hydrogen (gas)	+	Sodium hydroxide	+
Boric acid	+	Iron sulfate	+	Sodium hypochlorite (Bleach)	+
Butadiene (gas)	+	Isobutane (gas)	+	Sodium silicate (Water glass)	+
Butane (gas)	+	Isooctane	+	Sodium sulfate	+
Butyl alcohol (Butanol)	+	Isoprene	+	Sodium sulfide	+
Butyric acid	+	Isopropyl alcohol (Isopropanol)	+	Starch	+
Calcium chloride	+	Kerosene	+	Steam	+
Calcium hydroxide	+	Ketones	+	Stearic acid	+
Carbon dioxide (gas)	+	Lactic acid	+	Styrene	+
Carbon monoxide (gas)	+	Lead acetate	+	Sugars	+
Celloseolve	+	Lead arsenate	+	Sulfur	+
Chlorine (gas)	?	Magnesium sulfate	+	Sulfur dioxide (gas)	+
Chlorine (in water)	?	Maleic acid	+	Sulfuric acid, 20%	+
Chlorobenzene	+	Malic acid	+	Sulfuric acid, 98%	-
Chloroform	+	Methane (gas)	+	Sulfuryl chloride	+
Chloroprene	+	Methyl alcohol (Methanol)	+	Tar	+
Chlorosilanes	+	Methyl chloride (gas)	+	Tartaric acid	+
Chromic acid	+	Methylene dichloride	+	Tetrahydrofuran (THF)	+
Citric acid	+	Methyl ethyl ketone (MEK)	+	Titanium tetrachloride	+
Copper acetate	+	N-Methyl-pyrrolidone (NMP)	+	Toluene	+
Copper sulfate	+	Milk	+	2,4-Toluenediacetonate	+
Creosote	+	Mineral oil (ASTM no. 1)	+	Transformer oil (Mineral type)	+
Cresols (Cresylic acid)	+	Motor oil	+	Trichloroethylene	+
Cyclohexane	+	Naphtha	+	Vinegar	+
Cyclohexanol	+	Nitric acid, 10%	+	Vinyl chloride (gas)	+
Cyclohexanone	+	Nitric acid, 65%	?	Vinylidene chloride	+
Decalin	+	Nitrobenzene	+	Water	+
Dextrin	+	Nitrogen (gas)	+	White spirits	+
Dibenzyl ether	+	Nitrous gases (NOx)	?	Xylenes	+
Dibutyl phthalate	+	Octane	+	Xylenol	+
Dimethylacetamide (DMA)	+	Oils (Essential)	+	Zinc sulfate	+
Dimethylformamide (DMF)	+	Oils (Vegetable)	+		

## CHEMICAL RESISTANCE CHART

The recommendations made here are intended to be a guideline for the selection of the suitable gasket quality. Because the function and durability of the products depend upon a number of factors, the data may not be used to support any warranty claims.

- + Recommended
- ? Recommendation depends on operating conditions
- Not recommended



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