

 **DONIT**[®]
Made in EU

 **DONIT**[®]
A perfect fit

TESNIT[®]

DONIFLEX[®]

GRAFILIT[®]

DONIFLON[®]

MICALIT[®]

WE ARE
A TRUE
PARTNER
FOR YOUR
SUCCESS

DONIT® Sealing technologies

As a leader in gaskets, gasket sheets, and advanced sealing technologies, we offer the optimum solution with a perfect fit for your most challenging sealing requirements. Backed by decades of excellence in understanding of sealing problems, extensive know how in application engineering, and consistent manufacturing of reliable high quality products, we are in position to respond quickly and efficiently to your inquiry.

WE ARE A TRUE PARTNER FOR YOUR SUCCESS

With a wide experience in problem-solving and unshaken commitment to high quality standards, we are dedicated to provide you the best service and products. In addition, through customer-driven innovation, our strong R&D team is qualified to successfully design the adequate sealing solution.

Our customer satisfaction rests upon four pillars:

- Complete production chain and international sales network
- Quality assurance and safety
- Application engineering
- Technical training courses and seminars

THE DONIT® PHILOSOPHY

Our philosophy is based on building long-term business relationship with our customers that extends across many sectors of industries. Customer satisfaction is our driving-force which is attained through the constant supply of reliable and high quality products embracing product improvement and support.

DONIT® gasket sheets and sealing solutions are high quality products which have received several industrial quality approvals. Our products support the environmental legislation without compromising their sealing performance.

EMPLOYEES

Over 200 employees dedicated to you:

We strive for permanent professional and personal growth. We promote teamwork and diversity.

Our international team supports you regardless your geographical location.

80% - Secondary school / technical school or lower

18% - Bachelor or equivalent

2% - Doctoral or equivalent

CERTIFIED QUALITY

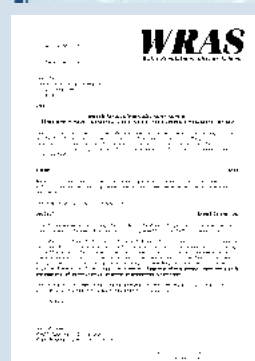
We assure high quality, environmentally friendly products to our customers. Quality and care for the environment is embedded in both our minds and our organization.

Care for the environment is embedded in our tradition. DONIT TESNIT d.o.o. is certified by international ISO 9001 and ISO 14001 standards.



We also ensure that product quality and safety is in accordance with a number of widely recognized international standards such as:

DVGW (DIN 3535-6, VP 401), SVGW (DIN 3535-6), DVGW KTW, DVGW W270, BAM, WRAS, TA-Luft (VDI 2440), API 6FA / API 607, ABS, Germanischer Lloyd





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				
EXCELLENT				
VERY GOOD				
GOOD				
MODERATE				

APPROPRIATE INDUSTRIES & APPLICATIONS

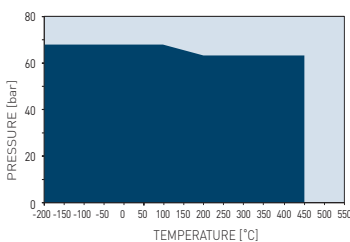
- WATER SUPPLY
- SHIPBUILDING
- POTABLE WATER SUPPLY
- POWER PLANT
- STEAM SUPPLY
- REFRIGERATION AND COOLING
- GAS SUPPLY
- HEATING SYSTEMS
- CHEMICAL INDUSTRY
- HIGH TEMP. APPLICATIONS
- PETROCHEMICAL INDUSTRY
- VALVES

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

TECHNICAL DATA Typical values for a thickness of 1.5 mm

Density	DIN 28090-2	g/cm ³	1.0
Compressibility	ASTM F36A	%	45
Recovery	ASTM F36A	%	13
Stress resistance	DIN 52913		
16 h, 50 MPa, 300 °C		MPa	49
Specific leak rate	DIN 3535-6	mg/(s·m)	0.05
Leachable chloride content	FSA NMG 202	ppm	20
Leachable fluoride content	FSA NMG 203	ppm	20
Ash content of graphite	DIN 51903	%	<1
Compression modulus	DIN 28090-2		
At room temperature: ϵ_{KSW}		%	41
At elevated temperature: $\epsilon_{WSW/300\text{ °C}}$		%	0.9
Percentage creep relaxation	DIN 28090-2		
At room temperature: ϵ_{KRW}		%	5.0
At elevated temperature: $\epsilon_{WRW/300\text{ °C}}$		%	4.0
Operating conditions			
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



- 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%	+	Diphyt (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	+
Cellulosolve	+	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-Toluenediisocyanate	+
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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GRAFILIT[®] SL is an expanded graphite based material with stainless steel foil insert, thus facilitating its handling and enhances the surface load. GRAFILIT[®] SL 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.

PROPERTIES

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

APPROPRIATE INDUSTRIES & APPLICATIONS

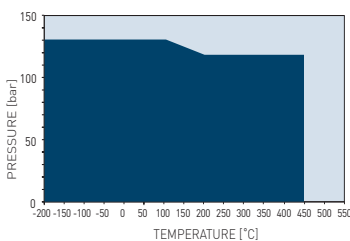
WATER SUPPLY	POWER PLANT
POTABLE WATER SUPPLY	REFRIGERATION AND COOLING
STEAM SUPPLY	HEATING SYSTEMS
GAS SUPPLY	HIGH TEMP. APPLICATIONS
CHEMICAL INDUSTRY	COMPRESSORS AND PUMPS
PETROCHEMICAL INDUSTRY	VALVES

Composition	Expanded natural graphite (>99% graphite purity), stainless steel foil insert (AISI 316; 0.05 mm)
Colour	Black
Approvals	BAM (Oxygen)

TECHNICAL DATA Typical values for a thickness of 1.5 mm

Density	DIN 28090-2	g/cm ³	1.3
Compressibility	ASTM F36A	%	42
Recovery	ASTM F36A	%	15
Stress resistance	DIN 52913		
16 h, 50 MPa, 300 °C		MPa	49
Specific leak rate	DIN 3535-6	mg/(s·m)	0.05
Leachable chloride content	FSA NMG 202	ppm	20
Leachable fluoride content	FSA NMG 203	ppm	20
Ash content of graphite	DIN 51903	%	<1
Compression modulus	DIN 28090-2		
At room temperature: ϵ_{KSW}		%	38
At elevated temperature: $\epsilon_{WSW/300\text{ °C}}$		%	1.2
Percentage creep relaxation	DIN 28090-2		
At room temperature: ϵ_{KRW}		%	4.3
At elevated temperature: $\epsilon_{WRW/300\text{ °C}}$		%	3.6
Operating conditions			
Minimum temperature		°C/°F	-200/-328
Continuous temperature			
- oxidizing atmosphere		°C/°F	550/1022
- reducing or inert atmosphere		°C/°F	700/1292
Pressure		bar/psi	100/1450

P-T DIAGRAM



- 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 | 1500 x 1500

Thickness (mm): 0.5 | 1.0 | 1.5 | 2.0 | 3.0

Other dimensions and thicknesses are available on request.

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

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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GRAFILIT® SP is an expanded graphite based material with tanged stainless steel insert, thus enhances the surface load and blowout safety. GRAFILIT® SP has excellent chemical, thermal, and mechanical resistance. GRAFILIT® SP is gasket material used in wide range of industries, as gas and steam supply, chemical and petrochemical industry.

PROPERTIES

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

APPROPRIATE INDUSTRIES & APPLICATIONS

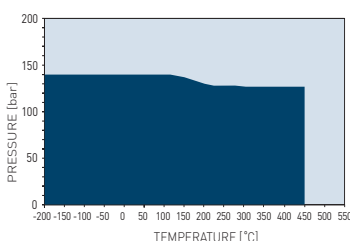
- GENERAL PURPOSE
- WATER SUPPLY
- POTABLE WATER SUPPLY
- STEAM SUPPLY
- GAS SUPPLY
- CHEMICAL INDUSTRY
- PETROCHEMICAL INDUSTRY
- PAPER AND CELLULOSE INDUSTRY
- AUTOMOTIVE AND ENGINE BUILDING INDUSTRY
- SHIPBUILDING
- POWER PLANT
- REFRIGERATION AND COOLING
- HEATING SYSTEMS
- HIGH TEMP. APPLICATIONS
- COMPRESSORS AND PUMPS
- VALVES

Composition	Expanded natural graphite (>99% graphite purity), tanged stainless steel sheet insert (AISI 316; 0.1 mm)
Colour	Black
Approvals	DIN-DVGW DIN 3535-6, DVGW VP 401 (5 bar), API 607, BAM (Oxygen), Germanischer Lloyd

TECHNICAL DATA Typical values for a thickness of 1.5 mm

Density	DIN 28090-2	g/cm ³	1.5
Compressibility	ASTM F36A	%	35
Recovery	ASTM F36A	%	17
Stress resistance	DIN 52913		
16 h, 50 MPa, 300 °C		MPa	49
Specific leak rate	DIN 3535-6	mg/(s·m)	0.05
Leachable chloride content	FSA NMG 202	ppm	20
Leachable fluoride content	FSA NMG 203	ppm	20
Ash content of graphite	DIN 51903	%	<1
Compression modulus	DIN 28090-2		
At room temperature: ϵ_{KSW}		%	34
At elevated temperature: $\epsilon_{WSW/300\text{ °C}}$		%	1.2
Percentage creep relaxation	DIN 28090-2		
At room temperature: ϵ_{KRW}		%	4.2
At elevated temperature: $\epsilon_{WRW/300\text{ °C}}$		%	3.3
Operating conditions			
Minimum temperature		°C/°F	-200/-328
Continuous temperature			
- oxidizing atmosphere		°C/°F	550/1022
- reducing or inert atmosphere		°C/°F	700/1292
Pressure		bar/psi	200/2900

P-T DIAGRAM



- 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 | 1500 x 1500

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%	+	Diphyl (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	+
Cellosolve	+	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-Toluenediisocyanate	+
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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Date of issue: 06.2017 / TDS-GSP-05-2015



GRAFILIT® EM is an expanded graphite based material with expanded stainless steel insert, which enables applications with high operation pressures, including cycling operations. Even surface pressure distribution on gasket provides excellent thermomechanical properties and sealing characteristics, and increase blowout resistance. Therefore material is particularly suitable for high temperature applications in petrochemical industry and steam supply.

PROPERTIES

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

APPROPRIATE INDUSTRIES & APPLICATIONS

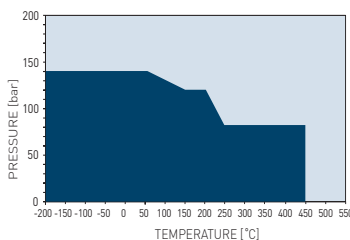
- GENERAL PURPOSE
- SHIPBUILDING
- STEAM SUPPLY
- POWER PLANT
- GAS SUPPLY
- REFRIGERATION AND COOLING
- CHEMICAL INDUSTRY
- HEATING SYSTEMS
- PETROCHEMICAL INDUSTRY
- HIGH TEMP. APPLICATIONS
- PAPER AND CELLULOSE INDUSTRY
- COMPRESSORS AND PUMPS
- AUTOMOTIVE AND ENGINE BUILDING INDUSTRY
- VALVES

Composition	Expanded natural graphite (>99% graphite purity), expanded stainless steel sheet insert (AISI 316L; 0.15 mm)
Colour	Black
Approvals	DIN-DVGW DIN 3535-6, ISO 10497, TA-Luft (VDI 2440)

TECHNICAL DATA Typical values for a thickness of 1.5 mm

Density	DIN 28090-2	g/cm ³	1.4
Compressibility	ASTM F36A	%	35
Recovery	ASTM F36A	%	20
Stress resistance	DIN 52913		
16 h, 50 MPa, 300 °C		MPa	49
Specific leak rate	DIN 3535-6	mg/(s.m)	0.05
Leachable chloride content	FSA NMG 202	ppm	20
Leachable fluoride content	FSA NMG 203	ppm	20
Ash content of graphite	DIN 51903	%	<1
Compression modulus	DIN 28090-2		
At room temperature: ϵ_{KSW}		%	32
At elevated temperature: $\epsilon_{WSW/300\text{ °C}}$		%	2.5
Percentage creep relaxation	DIN 28090-2		
At room temperature: ϵ_{KRW}		%	4.5
At elevated temperature: $\epsilon_{WRW/300\text{ °C}}$		%	3.5
Operating conditions			
Minimum temperature		°C/°F	-200/-328
Continuous temperature			
- oxidizing atmosphere		°C/°F	550/1022
- reducing or inert atmosphere		°C/°F	700/1292
Pressure		bar/psi	200/2900

P-T DIAGRAM



- 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 | 1500 x 1500

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%	+	Diphtyl (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	+
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A perfect fit
of **TRUST**
COMMITMENT
POSSIBILITIES

Customer and challenge
driven innovation

High level of flexibility

Adapt to new changes

Broad portfolio of gasket materials and products

BEST PRACTICE
SOLUTIONS

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