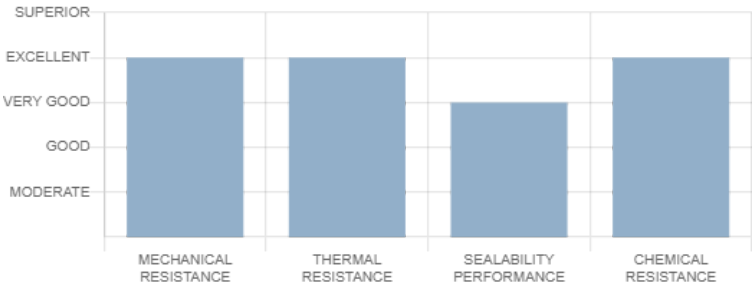
TESNIT® BA-GL

TESNIT® BA-GL combines excellent thermal and chemical resistance with outstanding mechanical properties, especially bolt torque retention. Thus, TESNIT® BA-GL is particularly suited for gas and steam supplies, heating systems, pumps and compressors.

PROPERTIES



APPROPRIATE INDUSTRIES & APPLICATIONS

- GAS SUPPLY
- HEATING SYSTEMS
- HIGH-TEMPERATURE APP.
- POWER PLANT
- SHIPBUILDING
- STEAM SUPPLY

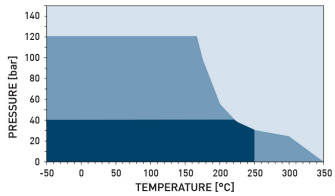
Composition	Glass and aramid fibers, inorganic fillers, NBR binder. Optionally available with carbon steel wire mesh or expanded galvanized steel reinforcement.		
Color	Greenish-blue / Green		
Approvals and compliances	ABS	BAM (oxygen)	BS 7531 Grade X
	DIN EN 16421	DNV GL	DVGW DIN 30653
	DVGW DIN 3535-6	EC 1935/2004	ELL (cold)
	FIRE SAFE ISO 10497	TA Luft (VDI 2440)	WRAS
Sheet dimensions	Size (mm): 1500 x 1500 | 3000 x 1500 | 4500 x 1500 Thickness (mm): 0.5 | 1.0 | 1.5 | 2.0 | 3.0 Other sizes and thicknesses available on request		
Tolerances	On length and width On thickness up to 1.0 mm ± ± 5 % On thickness above 1.0 mm ± 10 %		
Surface finish	Standard: 4AS. Optional: graphite or PTFE.		

TECHNICAL DATA

Typical values for 2 mm thickness

Density	DIN 28090-2	g/cm³	1.8
Compressibility	ASTM F36J	%	7
Recovery	ASTM F36J	%	55
Tensile strength	ASTM F152	MPa	11
Residual stress	DIN 52913		
50 MPa, 175°C, 16 h		MPa	38
50 MPa, 300°C, 16 h		MPa	33
Specific leak rate	DIN 3535-6	mg/(s·m)	0.03
Thickness increase	ASTM F146		
Oil IRM 903, 150°C, 5 h		%	3
ASTM Fuel B, 23°C, 5 h		%	5
Compression modulus	DIN 28090-2		
At room temperature: ε_{KSW}		%	6.9
At elevated temperature: $\varepsilon_{WSW/200°C}$		%	7.9
Creep relaxation	DIN 28090-2		
At room temperature: ε_{KRW}		%	3.3
At elevated temperature: $\varepsilon_{WRW/200°C}$		%	1.2
Maximum operating conditions			
Peak temperature		°C/°F	440/824
Continuous temperature		°C/°F	350/662
Continuous temperature with steam		°C/°F	250/482
Pressure		bar/psi	120/1740
Lechable Chloride	FSA NMG 202	ppm	<100*
• *Applicable only to optionally white core version			

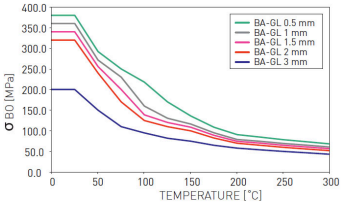
P-T diagram EN 1514-1, Type IBC, PN 40, DIN 28091-2 / 3.8, 2 mm



P-T diagrams indicate the maximum permissible combination of internal pressure and service temperature which can be simultaneously applied to a given gaskets thickness, size and tightness class. Given the wide variety of gasket applications and service conditions, these values should only be regarded as a guidance for the proper gasket assembly. In general, thinner gaskets exhibit better P-T properties.

- General suitability - Under common installation practices and chemical compatibility
- Conditional suitability - Appropriate measures ensure maximum performance for joint design and gasket installation. Technical consultation is recommended
- Limited suitability - Technical consultation is mandatory.

σ_{BO} DIAGRAMS DIN 28090-1



σ_{BO} diagrams represent σ_{BO} values for different gasket material thicknesses. These values indicate the maximum in-service compressive pressures which can be applied on the gasket area involved without destructing or damaging the gasket material.

CHEMICAL RESISTANCE CHART

The recommendations made here are intended as a guideline for the selection of a suitable gasket type. As the function and durability of products are dependent upon a number of factors, the data may not be used to support any warranty claims. If there are specific type-approval regulations, these have to be complied with.

Legend: + Recommended ○ Recommendation depends on operating conditions, − Not recommended

Acetamide	+	Calcium chloride	+	Freon-12 (R-12)	+	Motor oil	+	Sodium bisulfite	+
Acetic acid, 10%	+	Calcium hydroxide	+	Freon-134a (R-134a)	+	Naphtha	+	Sodium carbonate	+
Acetic acid, 100% (Glacial)	−	Carbon dioxide (gas)	+	Freon-22 (R-22)	○	Nitric acid, 10%	−	Sodium chloride	+
Acetone	○	Carbon monoxide (gas)	+	Fruit juices	+	Nitric acid, 65%	−	Sodium cyanide	+
Acetonitrile	−	Cellosolve	○	Fuel oil	+	Nitrobenzene	−	Sodium hydroxide	○
Acetylene (gas)	+	Chlorine (gas)	−	Gasoline	+	Nitrogen (Gas)	+	Sodium hypochlorite (Bleach)	○
Acid chlorides	−	Chlorine (in water)	+	Gelatin	+	Nitrous gases (NOx)	○	Sodium silicate (Water glass)	+
Acrylic acid	○	Chlorobenzene	○	Glycerine (Glycerol)	+	Octane	+	Sodium sulfate	+
Acrylonitrile	−	Chloroform	−	Glycols	+	Oils (Essential)	+	Sodium sulfide	+
Adipic acid	+	Chloroprene	○	Helium (gas)	+	Oils (Vegetable)	+	Starch	+
Air (gas)	+	Chlorosilanes	−	Heptane	+	Oleic acid	+	Steam	+
Alcohols	+	Chromic acid	−	Hydraulic oil (Mineral)	+	Oleum (Sulfuric acid, fuming)	−	Stearic acid	+
Aldehydes	○	Citric acid	○	Hydraulic oil (Glycol based)	+	Oxalic acid	○	Styrene	○
Alum	+	Copper acetate	+	Hydraulic oil (Phosphate ester-based)	○	Oxygen (gas)	+	Sugars	+
Aluminium acetate	+	Copper sulfate	+	Hydrazine	−	Palmitic acid	+	Sulfur	○
Aluminium chlorate	○	Creosote	○	Hydrocarbons	+	Paraffin oil	+	Sulfur dioxide (Gas)	○
Aluminium chloride	○	Cresols (Cresylic acid)	−	Hydrochloric acid, 10%	○	Pentane	+	Sulfuric acid, 20%	−
Aluminium sulfate	○	Cyclohexane	+	Hydrochloric acid, 37%	−	Perchloroethylene	−	Sulfuric acid, 98%	−
Amines	−	Cyclohexanol	+	Hydrofluoric acid, 10%	−	Petroleum (Crude oil)	+	Sulfuryl chloride	−
Ammonia (Gas)	○	Cyclohexanone	○	Hydrofluoric acid, 48%	−	Phenol (Carbolic acid)	−	Tar	+
Ammonium bicarbonate	+	Decalin	+	Hydrogen (gas)	+	Phosphoric acid, 40%	○	Tartaric acid	○
Ammonium chloride	+	Dextrin	+	Iron sulfate	+	Phosphoric acid, 85%	−	Tetrahydrofuran (THF)	−
Ammonium hydroxide	+	Dibenzyl ether	○	Isobutane (Gas)	+	Phthalic acid	+	Titanium tetrachloride	−
Amyl acetate	○	Dibutyl phthalate	○	Isooctane	+	Potassium acetate	+	Toluene	+
Anhydrides	○	Dimethylacetamide (DMA)	○	Isoprene	+	Potassium bicarbonate	+	2,4-Toluenediisocyanate	○
Aniline	−	Dimethylformamide (DMF)	○	Isopropyl alcohol (Isopropanol)	+	Potassium carbonate	+	Transformer oil (Mineral type)	+
Anisole	○	Dioxane	−	Kerosene	+	Potassium chloride	+	Trichloroethylene	−
Argon (gas)	+	Diphyl (Dowtherm A)	+	Ketones	○	Potassium cyanide	+	Vinegar	+
Asphalt	+	Esters	○	Lactic acid	○	Potassium dichromate	○	Vinyl chloride (gas)	−
Barium chloride	+	Ethane (Gas)	+	Lead acetate	+	Potassium hydroxide	○	Vinylidene chloride	−
Benzaldehyde	−	Ethers	○	Lead arsenate	+	Potassium iodide	+	Water	+
Benzene	+	Ethyl acetate	○	Magnesium sulfate	+	Potassium nitrate	+	White spirits	+
Benzoic acid	○	Ethyl alcohol (Ethanol)	+	Maleic acid	○	Potassium permanganate	○	Xylenes	+
Bio-diesel	+	Ethyl cellulose	○	Malic acid	○	Propane (gas)	+	Xylenol	−
Bio-ethanol	+	Ethyl chloride (gas)	−	Methane (Gas)	+	Propylene (gas)	+	Zinc sulfate	+
Black liquor	○	Ethylene (gas)	+	Methyl alcohol (Methanol)	+	Pyridine	−		
Borax	+	Ethylene glycol	+	Methyl chloride (Gas)	○	Salicylic acid	○		
Boric acid	+	Formaldehyde (Formalin)	○	Methylene dichloride	○	Seawater/brine	+		
Butadiene (gas)	+	Formamide	○	Methyl ethyl ketone (MEK)	○	Silicones (oil/grease)	+		
Butane (gas)	+	Formic acid, 10%	+	N-Methyl-pyrrolidone (NMP)	○	Soaps	+		
Butyl alcohol (Butanol)	+	Formic acid, 85%	○	Milk	+	Sodium aluminate	+		
Butyric acid	+	Formic acid, 100%	−	Mineral oil type ASTM 1	+	Sodium bicarbonate	+		

All information and data quoted are based upon decades of experience in the production and operation of sealing elements. This data may not be used to support any warranty claims. With its publication this latest edition supersedes all previous issues and is subject to change without further notice.

DONIT TESNIT, d.o.o.
Cesta komandanta Staneta 38
1215 Medvode, Slovenia
Phone: +386 (0)1 582 33 00
Fax: +386 (0)1 582 32 06
+386 (0)1 582 32 08
Web: www.donit.eu
E-mail: info@donit.eu

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