

TESNIT® BA-SOFT gasket material sheet has been specially developed for demanding applications where only low bolt loads are permissible and flange irregularities need to be compensated. It offers a high compressibility and an increased recovery in addition to improved mechanical and thermal performances. It can be used for sealing mineral oils, fuels, lubricants, refrigerants, steam, air and many other media.



PROPERTIES

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

APPROPRIATE INDUSTRIES & APPLICATIONS

- AUTOMOTIVE AND ENGINE BUILDING INDUSTRIES
- SHIPBUILDING
- REFRIGERATION & COOLING
- HEATING SYSTEMS
- COMPRESSORS & PUMPS
- VALVES

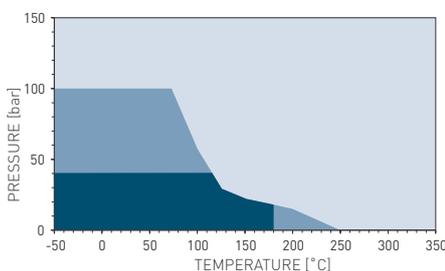
Composition	Synthetic fibers, special fillers, NBR
Color	Lemon
Approvals and compliances	DVGW DIN 3535-6; ELL; EC 1935/2004

TECHNICAL DATA Typical values for a thickness of 2 mm

Density	DIN 28090-2	g/cm ³	1.5
Compressibility	ASTM F36J	%	25
Recovery	ASTM F36J	%	64
Tensile strength	ASTM F152	MPa	6
Stress resistance	DIN 52913		
50 MPa, 175°C, 16 h		MPa	30
50 MPa, 300°C, 16 h		MPa	20
Specific leak rate	DIN 3535-6	mg/(s·m)	0.009
Thickness increase	ASTM F146		
Oil IRM 903, 150°C, 5 h		%	2
ASTM Fuel B, 23°C, 5 h		%	6
Compression modulus	DIN 28090-2		
At room temperature: ϵ_{KSW}		%	18.4
At elevated temperature: $\epsilon_{WSW/200\text{ °C}}$		%	14.6
Creep relaxation	DIN 28090-2		
At room temperature: ϵ_{KRW}		%	10
At elevated temperature: $\epsilon_{WRW/200\text{ °C}}$		%	1.6
Max. operating conditions			
Peak temperature		°C/°F	350/662
Continuous temperature		°C/°F	250/482
- with steam		°C/°F	200/392
Pressure		bar/psi	100/1450

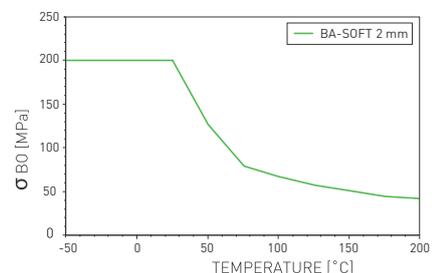
P-T DIAGRAM

EN 1514-1, Type IBC, PN 40, DIN 28091-2 / 3.8, 2.0 mm



σ_{BO} DIAGRAM

DIN 28090-1



P-T diagram indicates the maximum permissible combination of internal pressure and service temperature which can be simultaneously applied for a given gasket's 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.

σ_{BO} diagram represents σ_{BO} values for 2 mm thickness. These values indicate the maximum in-service compressive pressures which can be applied on the gasket without risking destruction or damage to the gasket.

- 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.

Surface finish	Standard: 4AS. Optional: graphite or PTFE on request.
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: $\pm 5\%$ On thickness up to 1.0 mm: ± 0.1 mm On thickness above 1.0 mm: $\pm 10\%$

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.

Legend: + Recommended, ○ Recommendation dependent on operating conditions, - Not recommended.

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

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.

Head office:
DONIT TESNIT, d.o.o.

Cesta komandanta Staneta 38
1215 Medvode, Slovenia, EU

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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