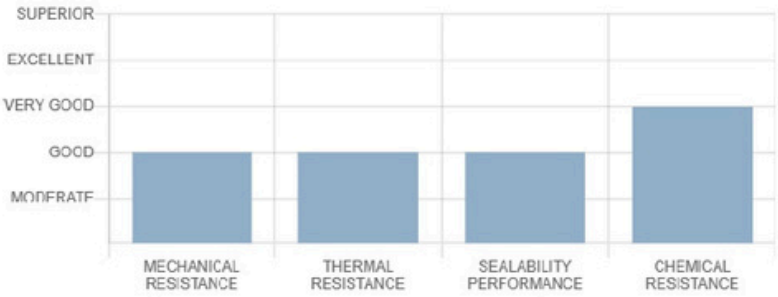
TESNIT® BA-50

TT GASKETS

TESNIT® BA-50 has good thermal and chemical resistance, which makes it appropriate for use in a wide range of applications. TESNIT® BA-50 is well suited for use with potable water supply and shipbuilding.

PROPERTIES



APPROPRIATE INDUSTRIES & APPLICATIONS

- AUTOMOTIVE AND ENGINE BUILDING INDUSTRIES
- FOOD INDUSTRY
- GAS SUPPLY
- GENERAL PURPOSE
- POTABLE WATER SUPPLY
- WATER SUPPLY

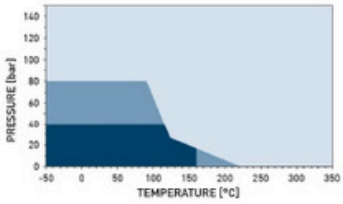
Composition	Aramid & cellulose fibers, inorganic fillers, NBR binder. Optional steel wire mesh reinforcement.		
Color	Light green		
Approvals and compliances	DNV GL	DVGW DIN 3535-6	EC 1935/2004
	ELL (hot)	SVGW DIN 3535-6	TA Luft (VDI 2440)
	TZW W270	WRAS	
Sheet dimensions	Size (mm): 1500 x 1500 | 3000 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	± 5 % on length and width On thickness up to 1.0 mm ± 0.1 mm 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	%	9
Recovery	ASTM F36J	%	55
Tensile strength	ASTM F152	MPa	11
Residual stress	DIN 52913		
50 MPa, 175°C, 16 h		MPa	25
50 MPa, 300°C, 16 h		MPa	/
Specific leak rate	DIN 3535-6	mg/(s·m)	0.07
Thickness increase	ASTM F146		
Oil IRM 903, 150°C, 5 h		%	8
ASTM Fuel B, 23°C, 5 h		%	10
Compression modulus	DIN 28090-2		
At room temperature: ε_{KSW}		%	8.5
At elevated temperature: $\varepsilon_{WSW/200°C}$		%	25
Creep relaxation	DIN 28090-2		
At room temperature: ε_{KRW}		%	5.1
At elevated temperature: $\varepsilon_{WRW/200°C}$		%	1.2
Maximum operating conditions			
Peak temperature		°C/°F	280/536
Continuous temperature		°C/°F	220/428
Continuous temperature with steam		°C/°F	180/356
Pressure		bar/psi	80/1160

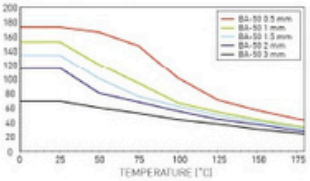
P-T diagram EN 1514-1, Type IBC, PN 40, DIN 28091-2 / 3.8, 2 mm



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

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.

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