



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

## PROPERTIES

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

## APPROPRIATE INDUSTRIES & APPLICATIONS

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

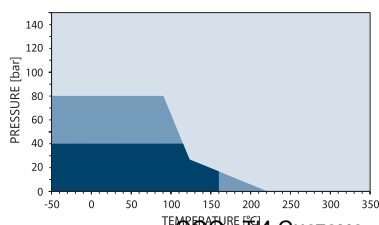
Composition	Aramid fibers, inorganic fillers, NBR binder.		
	Optional steel wire mesh insert on request.		
Color	Light green		
Approvals	DIN-DVGW DIN 3535-6	SVGW DIN 3535-6	DVGW W270
	TA-Luft (VDI 2440)	WRAS	Germanischer Lloyd
	TZW ELL	EC 1935/2004	

## TECHNICAL DATA Typical values for a thickness of 2 mm

<b>Density</b>	DIN 28090-2	g/cm <sup>3</sup>	1.8
<b>Compressibility</b>	ASTM F36J	%	9
<b>Recovery</b>	ASTM F36J	%	55
<b>Tensile strength</b>	ASTM F152	MPa	11
<b>Stress resistance</b>	DIN 52913		
16 h, 50 MPa, 175 °C		MPa	25
16 h, 50 MPa, 300 °C		MPa	/
<b>Specific leak rate</b>	DIN 3535-6	mg/(s·m)	0.07
<b>Thickness increase</b>	ASTM F146		
Oil IRM 903, 5 h, 150 °C		%	8
ASTM Fuel B, 5 h, 23 °C		%	10
<b>Compression modulus</b>	DIN 28090-2		
At room temperature: $\epsilon_{KSW}$		%	8.5
At elevated temperature: $\epsilon_{WSW/200\text{ °C}}$		%	25
<b>Percentage creep relaxation</b>	DIN 28090-2		
At room temperature: $\epsilon_{KRW}$		%	5.1
At elevated temperature: $\epsilon_{WRW/200\text{ °C}}$		%	1.2
<b>Max. operating conditions</b>			
Peak temperature		°C/°F	280/536
Continuous temperature		°C/°F	220/428
- 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, 2.0 mm



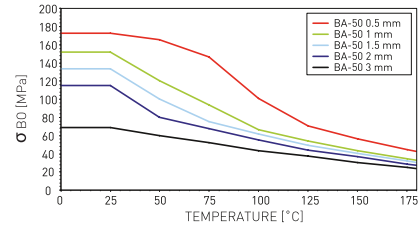
- General suitability - Under common installation practices and chemical compatibility.
- Conditional suitability - Appropriate measures ensure maximum performance for joint design and gasket installation. Technical consultation is recommended.
- Limited suitability - Technical consultation is mandatory.

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

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	?
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)	+		

## σ<sub>BO</sub> DIAGRAM

DIN 28090-1



σ<sub>BO</sub> diagrams represent σ<sub>BO</sub> 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.

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

## 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.

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



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.