



TESNIT[®] BA-R302 has superior thermal resistance coupled with excellent mechanical properties and blowout safety. TESNIT[®] BA-R302 is designed for the most demanding high temperature applications like those within ships' engines.

PROPERTIES

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

APPROPRIATE INDUSTRIES & APPLICATIONS

-  STEAM SUPPLY
-  POWER PLANT
-  AUTOMOTIVE AND ENGINE BUILDING INDUSTRY
-  HIGH TEMP. APPLICATIONS
-  SHIPBUILDING

Composition	Tanged carbon steel sheet sandwiched with BA-R300.
Colour	Black
Approvals	Germanischer Lloyd

TECHNICAL DATA Typical values for a thickness of 2 mm

Density	DIN 28090-2	g/cm ³	3.7
Compressibility	ASTM F36J	%	8
Recovery	ASTM F36J	%	45
Tensile strength	ASTM F152	MPa	/
Stress resistance	DIN 52913		
16 h, 50 MPa, 175 °C		MPa	48
16 h, 50 MPa, 300 °C		MPa	45
Specific leak rate	DIN 3535-6	mg/(s·m)	/
Thickness increase	ASTM F146		
Oil IRM 903, 5 h, 150 °C		%	5
ASTM Fuel B, 5 h, 23 °C		%	/
Compression modulus	DIN 28090-2		
At room temperature: ϵ_{KSW}		%	7.1
At elevated temperature: $\epsilon_{WSW/200\text{ °C}}$		%	6.3
Percentage creep relaxation	DIN 28090-2		
At room temperature: ϵ_{KRW}		%	2.2
At elevated temperature: $\epsilon_{WRW/200\text{ °C}}$		%	0.5
Max. operating conditions			
Peak temperature		°C/°F	650/1202
Continuous temperature		°C/°F	600/1112
- with steam		°C/°F	/
Pressure		bar/psi	/

Surface finish	Standard: 2G. Optional: graphite or PTFE on request.
Standard dimension of sheets	Size [mm]: 500 x 1400 Thickness [mm]: 1.4 1.6 Other dimensions 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: $\pm 10\%$

Acetamide	+	Dioxane	-	Oleic acid	-
Acetic acid, 10%	-	Diphytl (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	+	Vinagar	-
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)	+		

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.

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



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Date of issue: 09.2017 / TDS-BAR302-05-2015