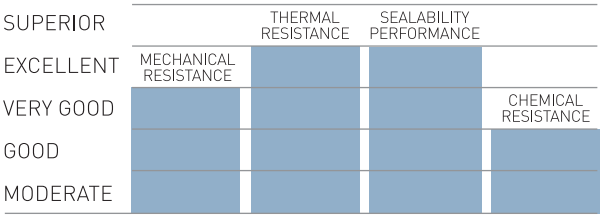
WILHELMSEN A/S | TESNIT® BA-SOFT

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

PROPERTIES



APPROPRIATE INDUSTRIES & APPLICATIONS

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

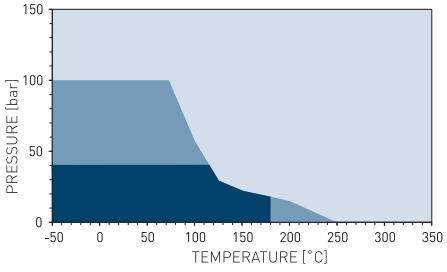
Composition	Synthetic fibers, NBR, special fillers.
Color	Lemon

TECHNICAL DATA Typical values for a thickness of 2 mm

Density	DIN 28090-2	g/cm³	1.5
Compressibility	ASTM F36J	%	25
Recovery	ASTM F36J	%	64
Tensile strength	ASTM F152	MPa	6
Stress resistance	DIN 52913		
16 h, 50 MPa, 175 °C		MPa	30
16 h, 50 MPa, 300 °C		MPa	20
Specific leak rate	DIN 3535-6	mg/(s.m)	0.02
Thickness increase	ASTM F146		
Oil IRM 903, 5 h, 150 °C		%	2
ASTM Fuel B, 5 h, 23 °C		%	6
Compression modulus	DIN 28090-2		
At room temperature: ε_{KSW}		%	18.4
At elevated temperature: $\varepsilon_{WSW/300\ °C}$		%	14.6
Percentage creep relaxation	DIN 28090-2		
At room temperature: ε_{KRW}		%	10
At elevated temperature: $\varepsilon_{WRW/300\ °C}$		%	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

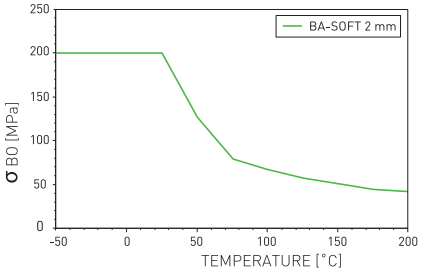
P-T DIAGRAM

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



σ_{BO} DIAGRAM

DIN 28090-1



Turn the page

P-T diagrams indicate the maximum permissible combination of internal pressure and servicetemperature which can be simultaneously applied for a given gasket according 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.

σ_{B0} diagrams represent σ_{B0} 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.

- 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 %

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 depends on operating conditions, - Not recommended.

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

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