



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

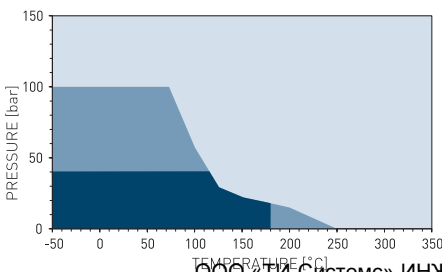
| | |
|---------------------------|--|
| Composition | Synthetic fibers, special fillers, NBR |
| Color | Lemon |
| Approvals and compliances | DVGW DIN 3535-6, ELL, TA Luft (VDI 2440), EC 1935/2004 |

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) | 0.02 |
| 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: $\epsilon_{WSW/200\text{ }^\circ\text{C}}$ | | % | 14.6 |
| Creep relaxation | DIN 28090-2 | | |
| At room temperature: ϵ_{KRW} | | % | 10 |
| At elevated temperature: $\epsilon_{WRW/200\text{ }^\circ\text{C}}$ | | % | 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 |

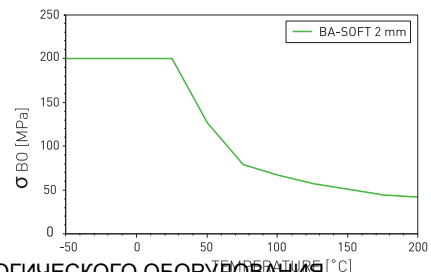
P-T DIAGRAM

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. |
| Standard dimensions 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: $\pm 5\%$ 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, 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 dioxide (gas) | + | Freon-22 (R-22) | ○ | Naphtha | + | Sodium bisulfite | + |
| 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 sulfide | + |
| 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% | ○ | Paraffin oil | + | Sulfur | ○ |
| Ammonia (gas) | ○ | Cyclohexanol | + | Hydrochloric acid, 37% | - | Pentane | + | Sulfur dioxide (gas) | ○ |
| Ammonium bicarbonate | + | Cyclohexanone | ○ | Hydrofluoric acid, 10% | - | Perchloroethylene | - | Sulfuric acid, 20% | - |
| Ammonium chloride | + | Decalin | + | Hydrofluoric 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 | + | | |

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.

