

Gaskets

Fibre sealings

thoenes® BA 130



The gasket material sheet has been specially developed for demanding applications where only low bolt loads 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.

Basis:	Synthetic fibre, special fillers, NBR		
Colour:	Red		
Surface coating:	Standard - without non-stick coating On request - graphite, PTFE and non-stick coating		
Certifications:	DVGW DIN 3535-6, ELL, EC 1935/2004		
Applications:	It can be used for sealing mineral oils, fuels, lubricants refrigerants, steam, air and many other media.		

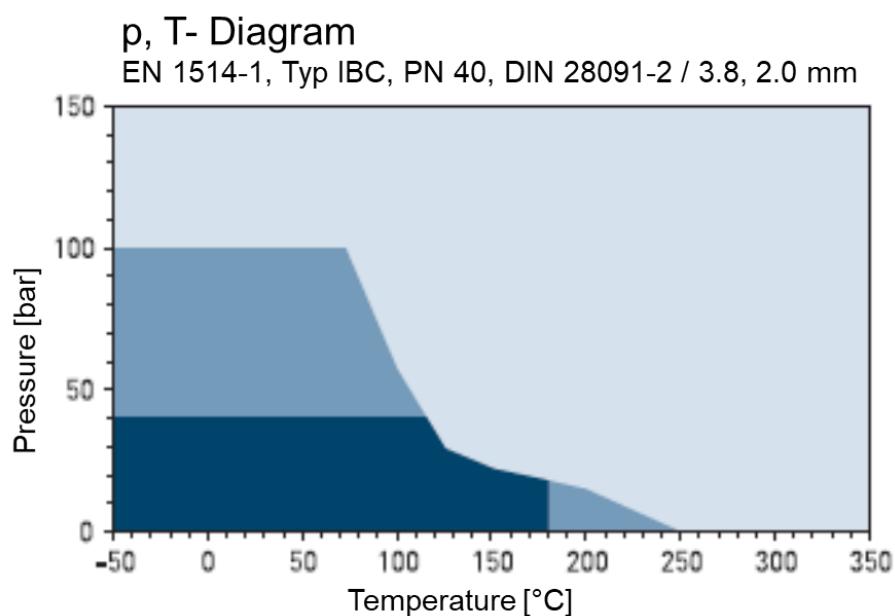
Technical specifications (typical values at 2 mm thickness)

Density	DIN 28090-2	g/cm³	1.5
Compressibility	ASTM F 36/J	%	25
Resilience	ASTM F 36/J	%	64
Tensile Strength	DIN 52910	MPa	6
Pressure resistance	DIN 52913		
50 MPa, T= 175°C, 16 h		MPa	30
50 MPa, T= 300°C, 16 h		MPa	20
Media resistance in Oil IRM 903, 5 h, 150 °C	ASTM F 146		
Thickness increase		%	2
Media resistance in ASTM fuel B, 5 h, 23 °C	ASTM F 146		
Thickness increase		%	6
Specific leakage rate	DIN 3535/6	mg/m*s	0.009
Max. operating conditions			
Maximum temperature		°C	350
Continuous temperature		°C	250
Continuous temperature at steam		°C	200
Pressure		bar	100
Cold compression value ϵ ksw	DIN 28090-2	%	18.4
Cold rebound value ϵ krw	DIN 28090-2	%	10
Warm setting value ϵ wsw/200 °C	DIN 28090-2	%	14.6
Warm rebound value ϵ wrw/200°C	DIN 28090-2	%	1.6

Dimensions:	Plate sizes *	1500 mm x 1500 mm; 3000 mm x 1500 mm; 4500 mm x 1500 mm
Thickness *	0.5 mm; 1.0 mm; 1.5 mm; 2.0 mm; 3.0 mm	
Thickness tolerance	< 1mm ±0.1mm respectively ≥ 1 mm ±10%	
Length tolerance	± 5 %	
Width tolerance	± 5 %	
Thickness above 1 mm	± 10 %	

* Different sizes and thicknesses on request

Recommendations for use



- 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.

The indicated temperatures and pressures are peak values and should not be used simultaneously. The information can only serve as a guideline, as these are not only dependent on the sealing material, but also on the installation conditions. Very important influencing factors are: seal thickness, type of medium, flange type and surface stress. Special care should be taken with steam applications. In case of doubt, our experts are always ready to find the optimal sealing solution for the application.

Chemical resistance chart

Legend
 Resistant
 Resistance/ recommendation depends on operation conditions
 Not resistant

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

The recommendations made here serve only as a guideline for the selection of a suitable gasket. Since the function and durability of a gasket depends on a large number of factors, the information provided cannot be used to substantiate warranty claims. If there are special approval regulations, these must be observed.