

# TECHNICAL MATERIAL DATA SHEET

## TESNIT® BA-U2000



### DESCRIPTION

**Tensit® BA-U2000** is a premium-quality general-purpose gasket material adapted for use at elevated pressures, temperatures, and surface stresses. It combines very good mechanical, thermal, and chemical resistance ensuring reliability and operational safety. Its applications include sealing of mineral oils, fuels, lubricants, mildly acidic and alkaline solutions, gases, and the like. Its chemical composition qualifies it for the food industry.

|                       |                                                                            |
|-----------------------|----------------------------------------------------------------------------|
| <b>Composition</b>    | Aramid fibers, Inorganic fillers, NBR binder                               |
| <b>Color</b>          | Blue (both sides)                                                          |
| <b>Surface finish</b> | Standard : 4AS<br>On demand : Graphite, PTFE                               |
| <b>Approvals</b>      | BAM (oxygen) / DVGW DIN 30653 HTB (1bar) / DVGW DIN 3535-6<br>EC 1935/2004 |

### PROPERTIES

|                                |           |
|--------------------------------|-----------|
| <b>Mechanical resistance</b>   | Excellent |
| <b>Thermal resistance</b>      | Excellent |
| <b>Sealability performance</b> | Excellent |
| <b>Chemical resistance</b>     | Very good |

### APPLICATIONS

|            |                                       |
|------------|---------------------------------------|
| Oil        | Mildly acidic<br>& alkaline solutions |
| Fuels      | Gas                                   |
| Lubricants |                                       |

### DIMENSIONS

|                                         |                                                                                                               |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Standard format (mm)</b>             | 1500 x 1500 (+/-5%)                                                                                           |
| <b>Other formats on demand (mm)</b>     | 1000 x 1500 - 1500 x 4500 (+/-5%)                                                                             |
| <b>Thickness (mm)</b>                   | 0.50 - 1.00 - 1.50 - 2.00 - 3.00 (+/-10%)                                                                     |
| <b>Other thicknesses on demand (mm)</b> | 4.00 - 5.00 (+/-10%)                                                                                          |
| <b>Tolerances</b>                       | On length and width : +/-5%<br>On thickness up to 1.00 mm : +/-0.10 mm<br>On thickness above 1.00 mm : +/-10% |

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### TECHNICAL DATA

*Typical value for a thickness of 2mm*

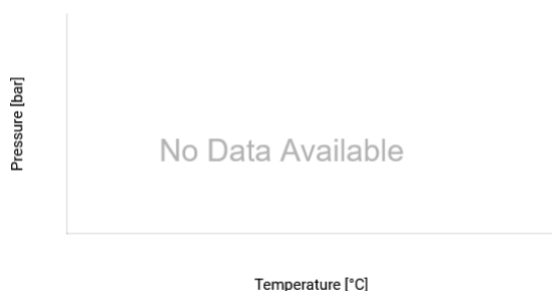
| Test description                                     | Standard    | Unit              | Value    |
|------------------------------------------------------|-------------|-------------------|----------|
| <b>Density</b>                                       | DIN 28090-2 | g/cm <sup>3</sup> | 1.70     |
| <b>Compressibility</b>                               | ASTM F36J   | %                 | 8        |
| <b>Recovery</b>                                      | ASTM F36J   | %                 | 55       |
| <b>Tensile strength</b>                              | ASTM F152   | MPa               | 18       |
| <b>Stress resistance</b>                             | DIN 52913   |                   |          |
| 16h, 50 MPa, 175°C                                   |             | MPa               | 35       |
| 16h, 50 MPa, 300°C                                   |             | MPa               | 25       |
| <b>Specific leak rate</b>                            | DIN 3535-6  |                   | 0.02     |
| <b>Thickness increase</b>                            | ASTM F146   |                   |          |
| Oil IRM 903, 5h, 150°C                               |             | %                 | 3        |
| ASTM Fuel B, 5h, 23°C                                |             | %                 | 5        |
| <b>Compression modulus</b>                           | DIN 28090-2 |                   |          |
| At room temperature $\epsilon_{KSW}$                 |             | %                 | 8        |
| At elevated temperature $\epsilon_{WSW/200^\circ C}$ |             | %                 | 9        |
| <b>Percentage creep relaxation</b>                   | DIN 28090-2 |                   |          |
| At room temperature $\epsilon_{KRW}$                 |             | %                 | 2.5      |
| At elevated temperature $\epsilon_{WRW/200^\circ C}$ |             | %                 | 1.5      |
| <b>Max. operating conditions</b>                     |             |                   |          |
| Peak temperature                                     |             | °C/°F             | 400/752  |
| Continuous temperature                               |             | °C/°F             | 280/536  |
| - with steam                                         |             | °C/°F             | 200/392  |
| <b>Pressure</b>                                      |             | bar/psi           | 140/2030 |



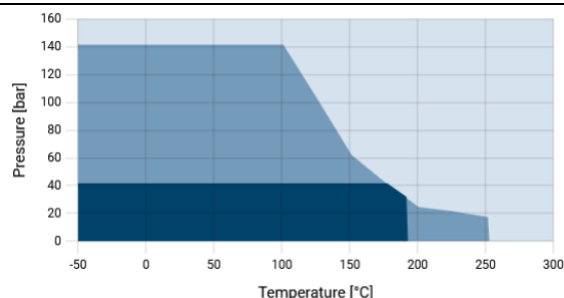
### P-T DIAGRAM

EN 1514-1, Type IBC, PN40, DIN 28091-2 / 3.8, 2.0mm

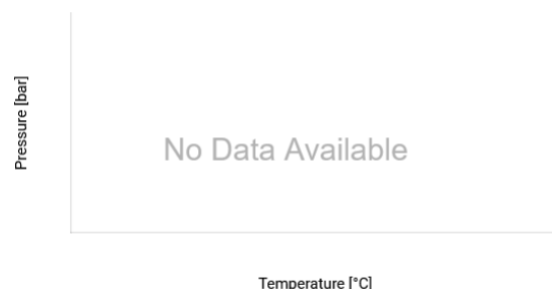
#### Agressive gasses



#### Steam & Gas



#### Liquids



**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.



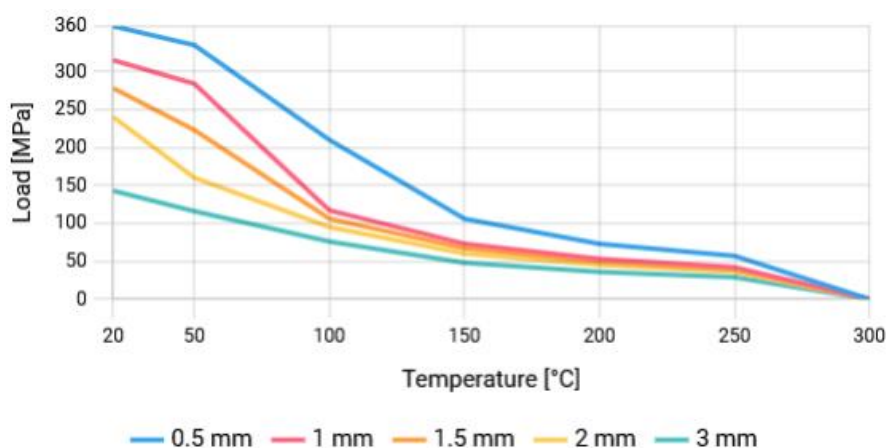
**Limited suitability** – Technical consultation is mandatory.

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



### $\sigma_{BO}$ DIAGRAM

DIN 28090-1



$\sigma_{BO}$  diagrams represent  $\sigma_{BO}$  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.

*The technical specifications mentioned above are typical average values obtained using the test methods indicated and may therefore be subject to normal manufacturing variations.*

*They are provided for guidance only. They do not constitute a guarantee, and we recommend that you carry out a test before final implementation.*