



## Xtreme plus

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### Xtreme plus

#### Technical Data Sheet 180 (previously TDS)

Edition: 08/2020, supersedes all prior editions.

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#### Material

**Xtreme plus** consists of a tanged stainless steel core with a layer of fiber-reinforced mica material applied to both sides. The core is made of a 0.20 mm thick stainless steel sheet (material 1.4828). Apart from expanded mica, the coating contains high-temperature-resistant fibers and a small amount of high-quality elastomers as binding agents.

#### Properties

Due to the use of mica and the heat-resistant 1.4828 stainless steel core, **Xtreme plus** withstands high temperatures up to 950 °C.

This combination gives **Xtreme plus** an excellent sealing potential over the full temperature range. Its high compressibility and elasticity gives it good adaptability, allows it to compensate optimally for component distortions (macro-adaptation), and it also displays constant material behaviour under alternating operating conditions. The tanged steel core lends the material a high resistance to pressure, i.e. low setting tendency.

**Xtreme plus** is resistant to media such as oils, fuels, exhaust gases, antifreeze, and many others.

#### Application

- As a material for the exhaust system in any IC engine (e.g. truck engines, marine diesel engines, gas engines) for fitting between the cylinder head and manifold, and in the downstream flanged joints of exhaust systems, for turbocharger seals or EGR (exhaust gas recycling) gaskets, especially for the purpose of complying with stringent emission limits.
- It may also be used for sealed joints on burners in heating systems, high-temperature heat exchangers, gas turbines, and other applications.

For extreme mechanical loads and sealing requirements, we recommend the use of a stainless steel inner bead. In addition to increased internal pressure loading capability, cross-sectional sealing, and blow-out safety, it also provides improved resistance to chemicals.

#### Approvals

**Germanischer Lloyd (DNV GL)**  
Approval for shipbuilding



**Xtreme plus**

**Technical Data**

**Core**

Stainless steel sheet 1.4828  
 Sheet thickness mm 0.20

**Ignition loss** of the soft material; 1 h, 950 °C % < 10

**Tensile strength**

acc. to DIN 52 910 / ASTM F152  
 across grain N/ mm<sup>2</sup> > 50  
 with grain N/ mm<sup>2</sup> > 50

**Stress resistance**

acc. to DIN 52 913; 16 hours, 300 °C  
 Nominal thickness 1.2 mm N/ mm<sup>2</sup> ≈ 42  
 Nominal thickness 1.6 mm N/ mm<sup>2</sup> ≈ 38

**Compressibility and recovery**

according to ASTM F 36, procedure J  
 compressibility % 5 - 15  
 recovery % > 40

**Sealability** against nitrogen  
 acc. to DIN 3535, part 6 at 50 N/ mm<sup>2</sup> mg/ (s·m) ≈ 0,5

**Swelling** according to ASTM F 146:

**in IRM 903 Oil** (replaces ASTM Oil No. 3)  
 5 h, 150 °C  
 increase in thickness % < 5  
 increase in weight % < 15

**in ASTM Fuel B**  
 5 h, room temp.  
 increase in thickness % < 5  
 increase in weight % < 10

**in water/ antifreeze (50:50)**  
 5 h, 100 °C  
 increase in thickness % < 20  
 increase in weight % < 20

**Thermal conductivity** W/ (m·K) ≈ 0.6

**Maximum continuous temperature** °C 950



The data quoted above are valid for the material "as delivered" without any additional treatment. In view of the countless possible installation and operating conditions, definitive conclusions cannot be drawn for all applications regarding the behaviour in a sealed joint. Therefore, we do not give any warranty for technical data, as they do not represent assured characteristics. If you have any doubt, please contact us and specify the exact operating conditions.

**Form of delivery**

**Gaskets** according to a drawing, dimensions supplied, or other arrangement.

**Rolls** 500 mm wide  
 Additional delivery forms as agreed.

**Nominal thicknesses and tolerances (mm)**

1.20 ±0.10  
 1.60 ±0.10

**Length of roll (m)**  
 170 (thickness 1.2 mm)  
 130 (thickness 1.6 mm)

**Inner metal bead**

For critical applications, an inner metal bead is recommended.