# ME446™ Data Sheet

**ME446 Stainless Steel Fibres reinforce monolithic refractories against thermal and mechanical shock by reducing cracking and spalling susceptibility. The fibres can be used in refractory operating conditions of:**

- **High thermal cycling, or**
- **Continuous fibre soaking temperature up to 1200ºC in refractory**
- **Moderate mechanical shock**
- **High temperature oxidation resistance**

**Chemical Composition (maximum unless stated):**

| C | Si | Mn | P | S | Cr | Ni | others |
|---|---|---|---|---|---|---|---|
| 0.40 | 3.5 | 2.0 | 0.050 | 0.10 | 23.0-27.0 | 0.5 | - |

**Melting Temperature:** 1425-1510°C

**Critical Oxidation Temperature:**

Cyclic Heating: 1100 °C

Continuous Service: 1200 °C

**Tensile Strength:**

20 °C 900 MPa

870 °C 53 MPa

**Modulus of Elasticity (870ºC):** 97 GPa

**Coefficient of Thermal Expansion (870ºC):** 13.1 @$10^{-6}$ /ºC

**Thermal Conductivity (540ºC):** 24.8 W/$m^2$K

**ME Fibre – Typical Dimensions and Aspect Ratios**

| Fibre *1 Length | Typical Equivalent Dia*2 | Typical Aspect *3 Ratio | Typical No/kg |
|---|---|---|---|
| 12mm | 0.30mm | 40 | 151,000 |
| 20mm | 0.40mm | 50 | 51,000 |
| 25mm | 0.50mm | 50 | 26,000 |
| 25mm | 0.60mm | 42 | 18,100 |
| 35mm | 0.60mm | 58 | 13,000 |
| 35mm | 0.70mm | 50 | 9,500 |

*3 Aspect ratio is calculated as fibre length ÷ diameter
*1 Other fibre lengths can be manufactured on request
*2 Other fibre diameters can be manufactured on request

FIBRETECH

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