Fibrex 446 Data Sheet

MELT EXTRACT

Fibrex 446 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 1200°C 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	0.030	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 720 MPa

870 °C 53 MPa

Modulus of Elasticity (870°C): 97 GPa

Coefficient of Thermal Expansion (870°C): 13.1 x 10^{-6} /°C

Thermal Conductivity (540°C): 24.8 W/m^2K

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

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