

**Fibrex<sup>AL</sup> PLUS** is a special stainless alloy with excellent corrosion resistance to high temperatures. Based on Iron-Chrome-Aluminum alloys, the corrosion resistance of **Fibrex<sup>AL</sup> PLUS** is further enhanced by the use of aluminum and chromium in the steel chemistry to produce a fiber with a tenacious and durable protective alumina oxide layer to extend the temperature capability and lifetime of the fibers in extreme conditions. They are used in areas where refractory strength is less important whilst still maintaining toughness in the refractory.

The fibers can be supplied in various lengths and diameters in plain or crimped forms. **Fibrex<sup>AL</sup> PLUS** can be used in refractories operating the following conditions:

- Thermal cycling to 3090°F\*
- Continuous soaking to 2460°F
- Moderate mechanical shock
- All atmospheric conditions except chlorine/fluorine/nitriding

\* Dependent on refractory permeability, porosity and corrosion atmosphere

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

C	Si	Mn	P	S	Cr	Al	Others
0.10	1.0	1.0	0.040	0.010	23.0-26.0	4.5-6.5	0.5

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**Melting Temperature:** 2670°F - 2790°F

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#### Critical Oxidation Temperature:

Cyclic Heating: 2370 °F  
 Continuous Service: 2460 °F

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#### Minimum Tensile Strength (68°F):

Annealed Condition: 102 ksi  
 Cold Worked Condition: 174 ksi

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**Modulus of Elasticity:** 50,763 ksi

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**Coefficient of Thermal Expansion (1600°F):** 7.5 x 10<sup>-6</sup>/°F

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**Thermal Conductivity (1000°F):** 7.52 BTU/hr/ft/°F

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#### Typical Dimensions and Aspect Ratios:

Fiber Length <sup>*1</sup>	Typical Equivalent Dia <sup>*2</sup>	Typical Aspect Ratio <sup>*3</sup>	Typical No/kg
3/4"	0.020"	40	34,000
1"	0.020"	50	27,500
1"	0.028"	36	14,000
1 3/8"	0.028"	50	10,000

<sup>\*3</sup> Aspect ratio is calculated as fiber length ÷ diameter  
<sup>\*1</sup> Other fiber lengths can be manufactured on request  
<sup>\*2</sup> Other fiber diameters can be manufactured on request

C  
W  
T  
B  
R