NEXTEL® 440

Properties:

Nextel 440 are continuous polycrystalline metal oxide fibers suitable for producing textiles without the aid of other fiber of metal inserts. The basic composition by weight is 70% aluminum oxide (Al2O,), 28% boron oxide (B2O,) and 2% silicon dioxide..

Physical Properties:

Color:	*Coral
Color at Temp	White
Length:	Continuous
Fiber Density	3.0 gm/cc:
Fiber Diameter	10 -12 micron

Thermal Properties

Continuous Use Temperature	1371°C-2500°F
Short Use Temperature	1649°C-3000°F
Lineal Shrinkage (2000°F-1093°C)	<1%
Melting Point	1800°C-3272°F
Thermal Expansion Coefficient	
25-500 °C	$4.8\ x\ 10^{-9}\ \Delta t/L/°C$
25-1000 °C	$4.99\ x\ 10^{-9}\ \Delta t/L/°C$

Mechanical Properties:

Tensile Strength	1725 MPa (250,000 psi)
Tensile Modulus	$138\ GPa\ (20\ x\ 10^6\ \ psi)$

Electrical Properties:

Dielectric Constant 5.2@9.375 $x\ 10^9$ hertz

The above data is based on averages

Note: Nextel® 440 fibers are color coded in the sizing to distinguish them from the Nextel® 312 fibers. Nextel Ceramic yarn is coated with organic polymer sizing that may be heat cleaned

Effect of heat:

Mechanical performance maintain up to 2500°F. High resistance thermal shock.

Effect of Acids and Alkalis:

Resistant to virtually all fluids.

Dyes Used:

non-Dyeable.

Resistance to Mildew, aging, Sunlight and Abrasion:

Resistance to Mildew and sunlight. Abrasion resistance is poor.

Suggested Uses:

Braided sleeve, tapes, cordages and specialty gaskets for higher temperature applications specifications. Uses may also include thermocouple and other high temperature wire applications

Specifications:

N/A - In use in the U.S. Military and Aero and Space industry