

# **3M™ Nextel™ Continuous Filament Ceramic Oxide Fibers 312, 440, 550, 610, and 720**

## **Introduction**

3M™ Nextel™ Continuous Filament Ceramic Oxide Fibers 312, 440, 550, 610, and 720 represent a major advancement in refractory fiber technology. These metal oxide fibers can be readily converted into textiles which meet demanding performance requirements in high temperature operating environments. Fabrics, paper, tapes, sleeveings and yarn are typical products.

Additionally, the fibers have low elongation and shrinkage at operating temperatures, which allow for a dimensionally stable product to be made. These novel fibers also offer good chemical resistance, low thermal conductivity, thermal shock resistance, low porosity and unique electrical properties.

Because the filaments are continuous and strong, ceramic oxide textiles can be produced without the aid of other fibers or wire inserts.

## **Industrial Fibers**

Nextel Ceramic Fibers 312 and 440, when converted to fabrics, tapes, sleeveings, and paper are used in the aerospace, industrial, automotive, electrical and petrochemical markets as heat shields, curtains, linings, insulation, blankets and seals. Nextel Flame Stopping Dot Paper, engineered with Nextel Fiber 312, is ideal in applications where both flame barrier properties and light weight are critical.

Nextel Ceramic Fiber 550 is used in the electronic market for both insulation and seals.

## **Composite Fibers**

Nextel Ceramic Fibers 610 and 720 are used in ceramic and metal matrix composites. Nextel Ceramic Fiber 610 is noted for its outstanding single filament tensile properties. Nextel Ceramic Fiber 720 finds applications in ceramic matrix composites because of its high creep resistance.

*Special Note: Throughout this notebook we have used data based on typical properties of the products. If you need to develop a specification, please consult a 3M Representative. Application data has been collected from a variety of sources and may be of use for special applications.*