FG2000
For Use In Extreme Heat Conditions

FG2000 is a registered TM
Applications:
Control, Instrument, Lighting, Power and Signal Circuits where exposed to continuous heat. FG2000® is UL Listed and specifically designed for use in extreme heat conditions of 450°C/843°F (UL) and will tolerate extreme heat conditions up to 538°C/1000°F (non-UL). FG2000® remains flexible even when quick-frozen to -160°C/-320°F. FG2000® is uniquely engineered to withstand the effects of acids, alkalis, chemicals, oils and physical or mechanical abuse. Unlike competing products, FG2000® incorporates a fused PTFE layer under the glass braid that imparts a high-degree of moisture protection resulting in extended cable life and increased cost savings. 600 Volt FG2000® cable assures continuity in extreme heat environments such as: aerospace, utility and power generation and steel mills.

Characteristics:
Conventional lay-up of FG2000® makes for easy stripping and installation. Its unique construction and materials provide extraordinary resistance to shock and continuous heat conditions. Cable USA’s FG2000® is constructed of mica, fiberglass and other inorganic materials. Conductors are 27% Nickel-Clad Stranded Copper wrapped with Mica Tape. Color-Coded Impregnated Glass Braid conductors are cabled with Heat-Resistant Fillers in the interstices and double-wrapped with Mica Tape with a Fluid Barrier fused to an Impregnated Overall Glass Braid. For those applications which are likely to experience abnormal physical or mechanical abuse, an optional Stainless Steel Braid can be applied over the Impregnated Glass Braid.

FG2000® offers these important Features:
▲ Unsurpassed electrical properties such as high insulation resistance, high dielectric strength and low dissipation factor.
▲ High tensile strength, tear and impact resistance.
▲ Retains up to 50% of its room temperature tensile strength even at 650°C/1200°F.
▲ Smokeless and odorless at elevated temperatures.
▲ Provides flexibility required when wrapping even the smallest conductors.
▲ Outstanding flexibility and durability are maintained at extremes of heat and cold.
▲ Impervious to moisture to 260°C.
▲ Will not become brittle due to aging under normal conditions.
▲ Highly resistant to radiation.
Mica, a mineral noted for its superior ability to resist heat, is used to make FG2000®. Mica is a complex aluminum silicate which contains a high concentration of magnesium. Mica’s extraordinary heat resistance, up to 1200°C/2192°F, is enabled by its magnesium content.

**Cabling**

**Conductors:** 27% nickel-clad copper per ASTM B355, stranded per ASTM B174 (Class H) or ASTM B173 (Class K)*. Solid conductors optional.

**Tape Wrap:** Mica tape

**Insulation:** Color-coded braided glass, impregnated for resistance to moisture and high-temperatures.

**Construction:** Conductors are cabled with inert heat-resistant fillers in the interstices for roundness and structural integrity, double-wrapped with Mica tape, fused PTFE tape moisture barrier and covered with impregnated glass braid overall.

**Jacket:** Impregnated glass braid for structural strength, flexibility, and resistance to moisture and high-temperatures.

**Options:**
- Electrical Shielding: Nickel-coated copper braid overall, over pairs or triads.
- Armor: Stainless Steel Braid
- Fluoropolymer Jacket: For additional moisture, and chemical resistance. Also facilitates pulling through conduit.

**Temperature Ratings:** -160°C/-320°F to 450°C/843°F (UL) and will tolerate extreme heat conditions up to 538°C/1000°F (non-UL).

**Color Code of Conductors:**
- 1/C—Red
- 2/C—Red, White
- 3/C—Red, White, Blue
- 4/C—Red, White, Blue, Green
- 5/C—Red, White, Blue, Green, Orange
- 6/C—Red, White, Blue, Green, Orange, Yellow

* All examples unshielded except as noted.

**Cable Specifications**

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Other constructions and sizes through #500 MCM are also available. Consult factory.

* Grade-A nickel or thermocouple alloys are available.
Facility History
Business Established: 1984
Present Building Constructed: 1987
First Expansion: 1989
Second Expansion: 1994

Facility Size
Land Area: 3.37 Acres
Total Size of Facility: 66,000 Square Feet
Office Space: 6,000 Square Feet
Factory / Production: 57,000 Square Feet
Distribution / Warehouse: 3,000 Square Feet

Primary Processes
Cable USA is an integrated facility which houses all engineering, manufacturing, quality control and administrative operations under one roof.

Product Types and Processes
- Thermoplastic Fluoropolymer Extrusion – Specializing in FEP, ETFE, and PFA
- Textile Braiding
- Stainless Steel Braiding
- Short-Run / Specialty Cables
- Miniature Multi-Conductor Cables
- Extreme-Temperature Applications
- Composite Cable Design
- Coiled / Retractable Wire and Cable

Materials Used
- FEP
- ETFE
- PFA
- Polyurethane
- Silicon Rubber
- Polyester Elastomer
- E-CTFE
- Polyethylene
- Polypropylene
- PVC
- PVDF
- And many others...

Extrusion Capabilities
- (9) Hot-Melt Extrusion Lines
- (2) Silicone (HAV) Extrusion Lines

Conductors and Additional Materials
- All types & platings of copper conductors
- Copper-alloy high performance conductors
- Thermocouple alloys
- PET tape
- Mica tape
- Ceramic tape
- Fiberglass tape
- Fluoropolymer tape (sintered, un-sintered, conductive, colored)
- Shielding Braids (copper, NPC, alloy)
- Armoring Braids (SS302, 304, 316)
- Textile Braids (glass, K-fiber)

Product Size Range
Minimum
- #32 AWG / .002 wall thermoplastic
- #24 AWG / .015 wall silicone

Maximum
- 1100 MCM
- 3.000” O.D. (braided jacket)
- 2.000” O.D. (high-temperature jacket)
- 1.750” O.D. silicone rubber

Maximum Reel Size: 84.00”

Some of our Specialty Cable Types
- High-Temperature Wire & Cables
- Coil Cords
- Very Large Cables
- Flat Festoon Cables
- Vented Cables
- Pump Cables
- Custom Products per Customer Specifications

Synergizing Technology
Cable USA has the unique ability to provide a comprehensive family of high-temperature wire and cable products to address the specialized needs of industry. With over 50-years of combined experience in solutions for the Wire and Cable industry, our World Class team of polymer scientists and engineers are uniquely qualified to develop solutions to new technology challenges.