



FG2000[®]

For Use In Extreme Heat Conditions

CABLE USA

MANUFACTURERS OF
HIGH TEMPERATURE CUSTOM
ENGINEERED CABLES

FG2000 is a registered TM



MANUFACTURERS OF HIGH



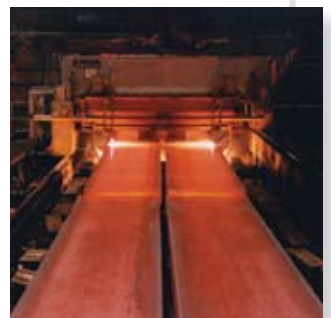
FG2000

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.

CONTROLS ▲ INSTRUMENT ▲ LIGHTING ▲ POWER AND SIGNAL CIRCUITS ▲

TEMPERATURE CUSTOM ENGINEERED CABLES



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
- Outer jacket is red.
All examples unshielded except as noted.

CABLE SPECIFICATIONS

Part Number	AWG Size	No. of Conds.	NOM O.D. (inches)	NET WGT. LBS/M FT.
492202C6	22	2	.240	32
492204C6	22	4	.285	52
492206C6	22	6	.355	79
492002C6	20	2	.285	40
492004C6	20	4	.315	65
492006C6	20	6	.375	93
491801C6	18	1	.160	20
491803C6	18	3	.316	68
491803S3 (shielded)	18	3	.350	78
491804C6	18	4	.350	74
491806C6	18	6	.420	108
49182PS0 (2/PR I/S)	18	2/P	.510	142
491601C6	16	1	.170	24
491602C6	16	2	.320	56
491603C6	16	3	.340	81
491603S3.1 (shielded)	16	3	.370	97
491604C6	16	4	.380	95
491606C6	16	6	.450	140
49162PS2.0 (2/PR I/S)	16	2/P	.560	180
491401C6	14	1	.190	30
491402C6	14	2	.340	72
491403C6	14	3	.380	97
491404C6	14	4	.410	122
491406C6	14	6	.490	183
491201C6	12	1	.208	42
491202C6	12	2	.385	108
491203C6	12	3	.416	138
491204C6	12	4	.445	173
491206C6	12	6	.550	248
491001C6	10	1	.255	63
491002C6	10	2	.465	138
491003C6	10	3	.500	190
491004C6	10	4	.550	256
491006C6	10	6	.670	372
490801C6	8	1	.300	84
490601C6	6	1	.345	122
490401C6	4	1	.415	180
490201C6	2	1	.490	273

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

▲ WHERE EXPOSURE TO HEAT IS A RISK

* 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 | ▲ E-CTFE |
| ▲ ETFE | ▲ Polyethylene |
| ▲ PFA | ▲ Polypropylene |
| ▲ Polyurethane | ▲ PVC |
| ▲ Silicone Rubber | ▲ PVDF |
| ▲ Polyester Elastomer | ▲ 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.



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A member of The Marmon Group of companies