



150 FX Cable

ISO 6722-1 Class D-150°C-Thick-Wall 1000V

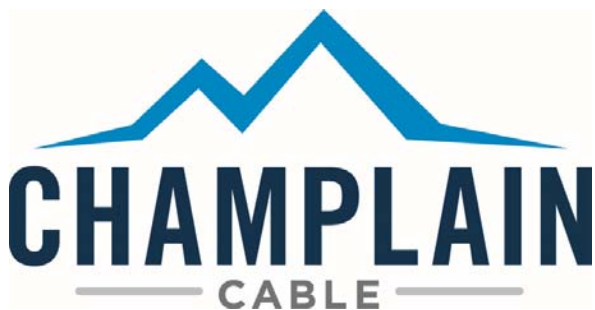
EXRAD FX ISO 6722-1 battery cable is designed specifically to handle the higher voltage and electrical currents required by today's hybrid and battery power vehicles. Our thin wall and high temperature insulations allow for lower weight and less space.

EXRAD FX ISO 6722-1 metric battery cables have an irradiated cross-linked polyolefin insulation able to withstand temperatures of 240°C and higher. The EXRAD high flex conductor and insulation are designed to be thinner and lighter than other high voltage cables. It is extremely flexible for easy routing in the tight confined areas of the car platform, yet tough enough to withstand the roughest environments. EXRAD FX can be routed through twists and turns where other cables can not. Save money and reduce weight by shortening the cable length.

The end result is the EXRAD FX wire is ideally suited to applications, especially conventional, hybrid and electric vehicles where a combination of flexibility, long life and performance is required.



| Product Number | Standard Conductors Bare Copper | Conductor OD Nom. | | Insulation Thickness | | Nom. OD | | Min. Bend Radius Non flex | | Finished Weight (kg/KM) | Conductor Resistance Ω per KM |
|----------------|---------------------------------|-------------------|------|----------------------|------|---------|------|---------------------------|-----|-------------------------|-------------------------------|
| | | mm. | in. | mm. | in. | mm. | in. | mm. | in. | | |
| EXRAD-FXIH-6 | 6mm ² (84/.30) | 2.92 | .115 | 1.06 | .042 | 4.80 | .189 | 24 | 1.0 | 68 | 3.01 |
| EXRAD-FXIH-10 | 10mm ² (80/.40) | 3.99 | .157 | 1.06 | .042 | 6.20 | .244 | 31 | 1.3 | 112 | 1.78 |
| EXRAD-FXIH-12 | 12mm ² (154/.32) | 4.88 | .192 | 1.06 | .042 | 7.00 | .276 | 35 | 1.4 | 134 | 1.47 |
| EXRAD-FXIH-16 | 16mm ² (105/.46) | 5.21 | .205 | 1.24 | .049 | 8.00 | .314 | 40 | 1.6 | 208 | 1.13 |
| EXRAD-FXIH-20 | 20mm ² (247/.32) | 6.17 | .243 | 1.24 | .049 | 8.60 | .339 | 43 | 1.7 | 216 | 0.91 |
| EXRAD-FXIH-25 | 25mm ² (798/.20) | 6.85 | .269 | 1.24 | .049 | 9.90 | .390 | 50 | 2.0 | 261 | 0.72 |
| EXRAD-FXIH-35 | 35mm ² (551/.28) | 8.12 | .320 | 1.24 | .049 | 10.60 | .417 | 53 | 2.1 | 356 | 0.52 |
| EXRAD-FXIH-40 | 40mm ² (494/.32) | 8.89 | .350 | 1.27 | .050 | 11.80 | .464 | 59 | 2.3 | 419 | 0.47 |
| EXRAD-FXIH-50 | 50mm ² (798/.28) | 9.91 | .390 | 1.27 | .050 | 12.50 | .492 | 63 | 2.5 | 509 | 0.36 |
| EXRAD-FXIH-70 | 70mm ² (1140/.28) | 11.83 | .466 | 1.40 | .055 | 14.50 | .571 | 87 | 3.4 | 711 | 0.26 |
| EXRAD-FXIH-95 | 95mm ² (1938/.25) | 13.20 | .521 | 1.90 | .075 | 17.00 | .669 | 102 | 4.1 | 968 | 0.19 |
| EXRAD-FXIH-120 | 120mm ² (2442/.25) | 14.78 | .582 | 1.90 | .075 | 18.70 | .736 | 112 | 4.5 | 1211 | 0.15 |

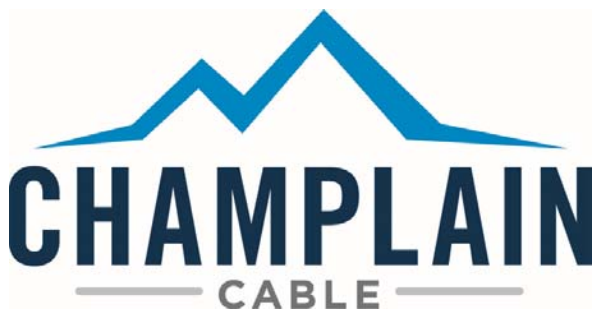




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| Section | Description | Requirement | Typical Results (70mm ² Sample) | |
|----------|----------------------------------|---|--|------|
| 5.1 | Outside Cable Diameter | 15.50 max. | 14.47mm | Pass |
| 5.2 | Insulation Thickness | 1.204mm min. | 1.22mm | Pass |
| 5.3 | Conductor Diameter | 12.50mm max. | 12.09mm | Pass |
| 5.4 | Conductor Resistance | 0.259 mΩ/m @20°C max. | 0.242 mΩ/m | Pass |
| 5.5 | Withstand Voltage | 1000V 5kV | no dielectric breakdown | Pass |
| 5.6 | Insulation Faults | Sparktest @ 12.5V | no faults | Pass |
| 5.7 | Insulation Volume Resistivity | 10 ⁹ Ω/mm min. | 3.103 X 10 ¹⁷ Ω /mm | Pass |
| 5.8 | Pressure at High Temperature | 'under load @150°C no dielectric breakdown | No breakdown | Pass |
| 5.9 | Strip Force / Adhesion | Per customer agreement | NA | NA |
| 5.10 | Low Temperature Winding | 3 tns 30kgm - 40°C no breakdown | no dielectric breakdown, | Pass |
| 5.11 | Impact | 400gm @-40°C no breakdown | no breakdown, | Pass |
| 5.12.4.1 | Sandpaper Abrasion | NA | NA | Pass |
| 5.12.4.2 | Scrape Abrasion | NA | NA | Pass |
| 5.13 | Long-Term Heat Aging | 150°C 3000 hours | no breakdown, no cracks | Pass |
| 5.15 | Thermal Overload | 200°C 6 hours | no breakdown, no cracks | Pass |
| 5.16 | Shrinkage by heat | 2mm max. 150°C | no shrinkage, | Pass |
| 5.17 | Fluid Compatibility | Gasoline 15% max. | 7.5% | Pass |
| | | Diesel Fuel 15% max. | 2.7% | Pass |
| | | Engine Oil 15% max. | 3.2% | Pass |
| | | Ethanol 15% max. | 4.7% | Pass |
| | | Power Steering 30% max | 4.1% | Pass |
| | | Automatic Transmission 25% max | 3.2% | Pass |
| | | Engine Coolant 15% max | 0.4% | Pass |
| | | Battery Acid no breakdown | no breakdown, | Pass |
| 5.19 | Ozone Resistance | 45°C 85% Relative Humidity, 70 hours, Ozone 50 +/- 5 pphm 1kV 1 min. (no break- down) | no breakdown, | Pass |
| 5.20 | Resistance to hot water | not less than 10-9 Ωm-mm | 1.82 X 10 ⁻¹⁶ Ωhm-mm | Pass |
| 5.21 | Temperature and Humidity Cycling | 40 - 8 hours cycles -40°C and 125°C 80 - 100% relative humidity | no dielectric breakdown, no cracking | Pass |
| 5.22 | Resistance to Flame | 70 sec. max. 50mm unburned | 0 - 1 sec. after burn | Pass |

We cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product combination for their own purpose. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss and damage arising from the handling and use of our products whether used alone or in combination with other products



Manufacturing Locations

Colchester, Vermont

El Paso, Texas

www.champcable.com