



# 150 FX Cable

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

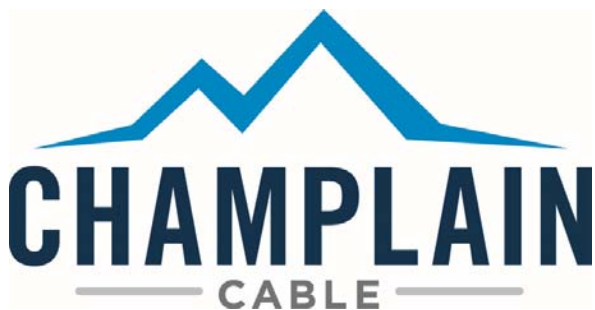
EXRAD FX ISO 6722-1 battery cable is designed specifically to handle the higher voltage and electrical currents required by today's hybrid and battery power vehicles. Our thin wall and high temperature insulations allow for lower weight and less space.

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

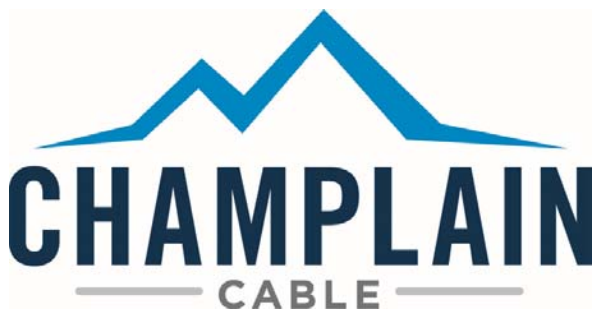




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Section	Description	Requirement	Typical Results (70mm <sup>2</sup> Sample)	
5.1	Outside Cable Diameter	15.50 max.	14.47mm	Pass
5.2	Insulation Thickness	1.204mm min.	1.22mm	Pass
5.3	Conductor Diameter	12.50mm max.	12.09mm	Pass
5.4	Conductor Resistance	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 <sup>9</sup> Ω/mm min.	3.103 X 10 <sup>17</sup> 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 breakdown)	no breakdown,	Pass
5.20	Resistance to hot water	not less than 10-9 Ωm-mm	1.82 X 10 <sup>-16</sup> 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](http://www.champcable.com)