



EXRAD[®] 150 FX

Thin Wall Battery Cable

Irradiation Cross-Linked Polymeric Insulation

ISO 6722-1 Class D Thin Wall 150°C 600V ROHS and CE Compliant

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	Nom. Dia of Conductor		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--FXT-5	5mm ² (37/.40)	2.69	.106	0.66	.026	4.01	.158	20	.79	48	3.94
EXRAD--FXT-6	6mm ² (84/.30)	2.92	.115	0.61	.024	4.15	.163	20	0.8	61	3.01
EXRAD--FXT-8	8mm ² (98/.312)	3.66	.144	0.57	.0225	4.80	.189	24	.95	77	2.38
EXRAD--FXT-10	10mm ² (63/.46)	4.36	.172	0.61	.024	5.65	.222	28	1.1	105	1.78
EXRAD--FXT-12	12mm ² (154/.32)	4.88	.192	0.61	.024	6.15	.242	30	1.2	126	1.47
EXRAD--FXT-16	16mm ² (105/.46)	5.21	.205	0.76	.030	6.80	.267	34	1.4	193	1.13
EXRAD--FXT-20	20mm ² (247/.32)	6.17	.243	0.76	.030	7.40	.291	37	1.5	201	0.91
EXRAD--FXT-25	25mm ² (154/.46)	6.98	.270	0.76	.030	8.30	.326	42	1.6	243	0.72
EXRAD--FXT-35	35mm ² (551/.28)	8.12	.320	0.86	.034	9.90	.390	59	2.3	343	0.52
EXRAD--FXT-40	40mm ² (494/.32)	8.89	.350	0.86	.034	10.55	.415	63	2.5	395	0.47
EXRAD--FXT-50	50mm ² (798/.28)	9.91	.390	1.00	.040	11.90	.457	71	2.9	487	0.36
EXRAD--FXT-70	70mm ² (1140/.28)	11.83	.466	1.10	.043	14.10	.555	85	3.4	699	0.26
EXRAD--FXT-95	95mm ² (1957/.25)	13.20	.521	1.60	.054	16.40	.646	99	3.9	1170	0.19

** Other conductor stranding options as well as Tinned Copper conductors are available



Manufacturing Locations:
Colchester, Vermont
El Paso, Texas
Leeds, Massachusetts



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Section	Description	Requirement	Typical Results (35mm ² Sample)
5.1	Outside Cable Diameter	10.40 max.	9.98mm Pass
5.2	Insulation Thickness	0.64mm min.	0.84mm Pass
5.3	Conductor Diameter	8.50mm max.	8.08mm Pass
5.4	Conductor Resistance	0.527 mohms/m @20°C max.	0.521 mohms/m Pass
5.5	Withstand Voltage	600V 5kV for 5 minutes	no dielectric breakdown Pass
5.6	Insulation Faults	Sparktest @ 12.5kV	no faults Pass
5.7	Insulation Volume Resistivity	10 ⁹ Ω /mm min.	1.66 10 ¹⁶ Ω /mm Pass
5.8	Pressure at High Temperature	0.8N @ 150°C no dielectric breakdown	no breakdown Pass
5.9	Strip Force / Adhesion	Per customer agreement	NA Pass
5.10	Low Temperature Winding	3 tns 2.5kg - 40°C no dielectric breakdown	no dielectric breakdown, no cracking, Pass
5.11	Impact	300gm @-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 10-5 ohm-mm	10-14 ohm-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	1 sec. after burn Pass

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