



EXRAD[®] FX HIGH VOLTAGE

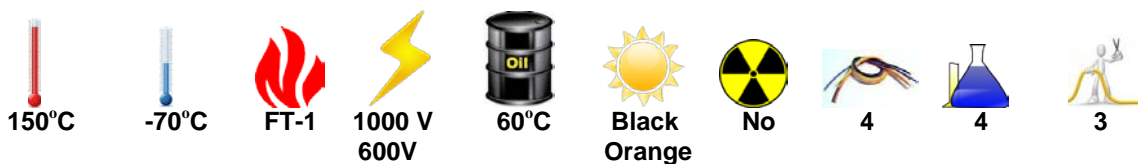
Irradiation Cross-Linked Polymeric Insulation

EXRAD FX 600 - 1000 VOLT CABLE

EXRAD FX high performance battery cable designed specifically for the best flexibility and long life. EXRAD FX 1,000 volt cable is suited to meet the demands of Electric and Hybrid powered vehicles. As engine compartments grow smaller, operating temperatures get hotter and electronics proliferate under the hood. EXRAD FX battery cable fulfills these demands.

EXRAD FX 1,000 volt cable has an irradiated cross-linked polyolefin insulation able to withstand temperatures of 240°C and higher. Thinner and lighter than other conventional battery cables, it is flexible enough for easy routing yet tough enough to withstand the roughest environments.

The end result is an automotive wire ideally suited to applications where a combination of flexibility, long life and performance is required. Save money and reduce weight by shortening the cable length. EXRAD FX can be routed through twists and turns where other battery cables fail.



Product Number	Standard Conductors Bare Copper	Nom. Dia of Conductor		Insulation Thickness		Nom. OD		Volt-Age Rating	Min. Static Bend Radius	Weight (lbs/mft)	Ampacity
		in.	mm.	in.	mm.	in.	mm.				
EXRAD-FX-10XX	10 (105/30)	.112	2.84	.021	.53	.156	3.96	600	20mm	37.6	80
EXRAD-FX-8XX	8 (133/29)	.166	4.22	.030	.76	.224	5.69	1000	28mm	62.0	106
EXRAD-FX-6XX	6 (133/27)	.195	4.95	.030	.76	.252	6.40	1000	32mm	94.0	155
EXRAD-FX-4XX	4 (133/25)	.242	6.15	.030	.76	.302	7.67	1000	38mm	146.0	190
EXRAD-FX-2XX	2 (665/30)	.318	8.08	.034	.86	.393	9.98	1000	50mm	235.0	255
EXRAD-FX-1XX	1 (779/30)	.346	8.79	.050	1.27	.440	11.18	1000	78mm	275.0	293
EXRAD-FX-1/0XX	1/0 (1007/30)	.390	9.91	.050	1.27	.490	12.45	1000	90mm	349.0	339
EXRAD-FX-2/0XX	2/0 (1254/30)	.438	11.13	.055	1.40	.548	13.92	1000	100mm	441.0	390
EXRAD-FX-3/0XX	3/0 (1615/30)	.475	12.07	.055	1.40	.585	14.86	1000	105mm	515.0	451
EXRAD-FX-4/0XX	4/0 (2107/30)	.602	15.29	.055	1.40	.712	18.08	1000	130mm	756.0	529

* Ampacity 150°C rated single-insulated conductor in free air at 40°C ambient air temperature.



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



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Irradiation Cross-Linked Polymeric Insulation

EXRAD FX				
Property / Attribute			SAE J1127 STX Req.	EXRAD FX 6 AWG Typical Performance
Flex Life				
Flex Test	Per Modified ISO 14572		NA	NA
Dielectric Strength				
Dielectric Test	Wet Dielectric after 5 hour soak		1 kV 1 min.	5 kV 30 min.
Flame Resistance				
Flame Test	Maximum time after burn		70 Sec	1 sec
Thermal Performance				
Cold Bend	4 hours at temperature no cracks / breakdown		-40 ^o C	-70 ^o C
Temperature Rating	240 Hours @180 ^o C heat aging		155 ^o C	180 ^o C
Temperature Rating	3000 Hours @150 ^o C		125 ^o C	150 ^o C
Mechanical Properties				
Tensile	Minimum psi		1500	3300
Elongation	Minimum %		150	570
Abrasion	Sand Paper Resistance Length in.		10	21
Abrasion	Scrape Cycles		None	NA
Pinch	Pounds		None	NA
Ozone Resistance				
Ozone Test	192 Hours @ 65 ^o C 100 pphm no cracks		Pass	Pass
Fluids				
Engine Oil	ASTM D471, IRM-902	50 +/-3 ^o C	15% Max.	1.60%
Gasoline	ASTM D471 Ref. Fuel C	23 +/-5 ^o C	15% Max.	<1%
Brake Fluid	SAE-J-1703	50 +/-5 ^o C	None	<1%
Ethanol	85% Ethanol + 15% ASTM D471, Ref. Fuel C	23 +/-5 ^o C	15% Max.	<1%
Diesel Fuel	ASTM D471, 90% IRM-903 + 10% p-xylene	23 +/-5 ^o C	15% Max.	1.80%
Power Steering	ASTM D471, IRM-903	50 +/-3 ^o C	30% Max.	1.20%
Auto Transmission	Citgo #33123 SAE-J311	50 +/-3 ^o C	25% Max.	5.30%
Methanol			25% Max.	<1%
Engine Coolant	50% Ethylene Glyco + 50% distilled Water	50 +/-3 ^o C	15% Max.	0%
Battery Acid	H ₂ SO ₄ Specific Gravity = 1.260 +/- .005	23 +/-5 ^o C	5% Max.	<1%

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