



# AUTOMOTIVE

Inventing *the Future* of Wire and Cable

## EXRAD FX 600 Volt Cable -70 - 150°C

EXRAD FX high performance cable designed specifically for flexibility and long life. EXRAD FX 600 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 600 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

### Benefits and Features

- Thin, uses up to 40% less space
- Very Flexible
- Standard Dimensions of SAE J1127 STX
- 600 Volt rating in accordance to SAE 1654
- Fluid Resistant
- 70°C to 150°C Temperature Range
- Superior Processing

### Applications

- Including but not limited to:
- Batteries
  - Starters
  - Power Distribution
  - Ground Wire
  - Hybrid Vehicles
  - Electric Vehicles



Part Number	Standard Conductors Bare Copper	Nom. Dia of Conductor		Insulation Thickness		Nom. OD		Finished Weight (lbs/mft)	Ampacity
		in.	mm.	in.	mm.	in.	mm.		
EXRAD-FX6-10XX	10 (105/30)	.112	2.84	.021	.53	.156	3.96	37.6	80
EXRAD-FX6-8XX	8 (133/29)	.166	4.22	.030	.76	.224	5.69	62.0	106
EXRAD-FX6-6XX	6 (133/27)	.195	4.95	.030	.76	.252	6.40	94.0	155
EXRAD-FX6-4XX	4 (133/25)	.242	6.15	.030	.76	.302	7.67	146.0	190
EXRAD-FX6-2XX	2 (665/30)	.318	8.08	.034	.86	.393	9.98	235.0	255
EXRAD-FX6-1XX	1 (779/30)	.346	8.79	.050	1.27	.440	11.18	275.0	293
EXRAD-FX6-1/0XX	1/0 (1007/30)	.390	9.91	.050	1.27	.490	12.45	349.0	339
EXRAD-FX6-2/0XX	2/0 (1254/30)	.438	11.13	.055	1.40	.548	13.92	441.0	390
EXRAD-FX6-3/0XX	3/0 (1568/30)	.520	13.21	.055	1.40	.640	16.26	515.0	451
EXRAD-FX6-4/0XX	4/0 (2107/30)	.602	15.29	.055	1.40	.712	18.08	756.0	529

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

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## EXRAD FX

Property / Attribute			SAE J-1127 STX Req.	EXRAD FX 6 AWG Typical Performance
<b>Flex Life</b>				
Flex Test	Per Modified ISO 14572		NA	NA
<b>Dielectric Strength</b>				
Dielectric Test	Wet Dielectric after 5 hour soak		1 kV 1 min.	5 kV 30 min.
<b>Flame Resistance</b>				
Flame Test	Maximum time after burn		70 Sec	1 sec
<b>Thermal Performance</b>				
Cold Bend	4 hours at temperature no cracks / breakdown		-40°C	-70°C
Temperature Rating	240 Hours @180°C heat aging		155°C	180°C
Temperature Rating	3000 Hours @150°C		125°C	150°C
<b>Mechanical Properties</b>				
Tensile	Minimum psi		1500	4270
Elongation	Minimum %		150	570
Abrasion	Sand Paper Resistance Length in.		10	21
Abrasion	Scrape Cycles		None	NA
Pinch	Pounds		None	NA
<b>Ozone Resistance</b>				
Ozone Test	192 Hours @ 65°C 100 pphm no cracks		Pass	Pass
<b>Fluids</b>				
Engine Oil	ASTM D471, IRM-902	50 +/-3 °C	15% Max.	1.60%
Gasoline	ASTM D471 Ref. Fuel C	23 +/-5 °C	15% Max.	<1%
Brake Fluid	SAE-J-1703	50 +/-5 °C	None	<1%
Ethanol	85% Ethanol + 15% ASTM D471, Ref. Fuel C	23 +/-5 °C	15% Max.	<1%
Diesel Fuel	ASTM D471, 90% IRM-903 + 10% p-xylene	23 +/-5 °C	15% Max.	1.80%
Power Steering	ASTM D471, IRM-903	50 +/-3 °C	30% Max.	1.20%
Auto Transmission	Citgo #33123 SAE-J311	50 +/-3 °C	25% Max.	5.30%
Methanol			25% Max.	<1%
Engine Coolant	50% Ethylene Glyco + 50% distilled Water	50 +/-3 °C	15% Max.	0%
Battery Acid	H <sub>2</sub> SO <sub>4</sub> Specific Gravity = 1.260 +/- .005	23 +/-5 °C	5% Max.	<1%

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