



# AUTOMOTIVE

Inventing *the Future* of Wire and Cable

## EXRAD FX 600 VOLT Shielded Cable -70 - 150°C

EXRAD FX 600 volt shielded battery cable designed specifically to handle the higher voltage and current required by today's hybrid and electric power vehicles. These cables significantly reduce the effects of EMI and RFI. The jacket insulation isolates any stray currents making this cable very safe. Our thin wall and high temperature insulations allow for lower weight and less space.

EXRAD FX 600 volt shielded battery cable has an irradiated cross-linked polyolefin insulation able to withstand temperatures of 240°C and higher. Thinner and lighter than other shielded 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 600 volt shielded battery cable can be routed through twists and turns where other battery cables fail.

### Benefits and Features

RFI and EMI Protection  
SAE J1654 600 Volt Rating  
Very Flexible  
Fluid Resistant  
Lower Weight  
-70°C to 150°C Temperature Range

### Applications

Including but not limited to:  
Battery Packs                      Electric Vehicles  
Motors                                      Hybrid Vehicles  
Inverters  
Generators



Part Number	Standard Conductors Bare Copper	Nom. Dia Conductor		Nom. Dia. Primary insulation		Nom. Dia Shield		Nom. Dia. Outside		Shield Coverage	Finished Weight (lbs/mft)	Ampacity
		in.	mm.	in.	mm.	in.	mm.	in.	mm.			
EXRAD-FSX16X	16 (19/29)	.055	1.40	.087	2.21	.105	2.67	.145	3.68	95%	17.8	31
EXRAD-FSX14X	14 (105/34)	.070	1.78	.100	2.54	.118	3.00	.168	4.27	95%	26.1	46
EXRAD-FSX12X	12 (105/32)	.095	2.40	.127	3.22	.150	3.80	.190	4.83	95%	41.0	60
EXRAD-FSX10X	10 (105/30)	.114	2.89	.156	3.96	.178	4.52	.218	5.54	95%	58.0	80
EXRAD-FSX8X	8 (133/29)	.166	4.22	.224	5.69	.252	6.40	.303	7.70	95%	92.0	106
EXRAD-FSX6X	6 (133/27)	.195	4.95	.252	6.40	.280	7.11	.330	8.37	95%	126.0	155
EXRAD-FSX4X	4 (133/25)	.242	6.15	.302	7.67	.326	8.28	.386	9.80	95%	187.0	190
EXRAD-FSX2X	2 (665/30)	.318	8.08	.393	9.98	.421	10.69	.481	12.21	95%	295.0	255
EXRAD-FSX1X	1 (779/30)	.346	8.79	.440	11.18	.468	11.89	.528	13.41	95%	334.0	293
EXRAD-FSX1/0X	1/0 (1007/30)	.390	9.91	.490	12.45	.518	13.57	.598	15.19	95%	412.0	339
EXRAD-FSX2/0X	2/0 (1254/30)	.438	11.13	.548	13.92	.571	14.50	.651	16.54	95%	523.0	390
EXRAD-FSX3/0X	3/0 (1615/30)	.475	12.07	.585	14.86	.613	15.57	.693	17.60	95%	620.0	451
EXRAD-FSX4/0X	4/0 (2107/30)	.602	15.29	.712	18.08	.748	19.00	.828	21.03	95%	876.0	529

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

## EXRAD FX 600 Volt Cable

Property / Attribute			SAE J-1127 STX Req.	EXRAD FX 6 AWG Typical Performance
<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	-40°C
Temperature Rating	240 Hours @ 180°C heat aging		155°C	180°C
Temperature Rating	3000 Hours @ 150°C		125°C	180°C
<b>Mechanical Properties</b>				
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
<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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