



AUTOMOTIVE

Inventing *the Future* of Wire and Cable

RADXL Metric FX High Voltage Cable 600V HEV Single Core cables -70 to 150°C

RADXL metric FX is a high performance battery cable designed specifically for flexibility, high temperatures and long life. The future of battery cables will have to answer the demand for an abundance of electronics and components that will proliferate under the hood of the hybrid electric vehicles. RADXL metric FX battery cable fulfills these demands.

RADXL metric FX battery cable has an irradiated cross-linked polyolefin insulation (IRXLPE) able to withstand temperatures of 240°C and higher and is thinner and lighter than other conventional battery cables. In addition the high strand conductor allows for extra flexibility for easy routing yet tough enough to withstand the roughest environments. RADXL metric FX has the flexible of welding cables but our IRXLPE insulation system has a higher temperature rating allowing the use of smaller gage wires without sacrificing ampacity.

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. RADXL FX can be routed through twists and turns where other battery cables fail. Perfect choice for use in HEV vehicles.

Benefits and Features

Thin, uses up to 40% less space.
Very Flexible.
Meets requirements of SAE J-1654, SAE J-2183
SAE/USCAR-23
Fluid Resistant.
-70°C to 150°C Temperature Range
Superior Processing.

Applications

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



Part Number	Standard Conductors Bare Copper	Nom. Dia of Conductor		Insulation Thickness		Nom. OD		Finished Weight (kg/KM)	Conductor Resistance Ω per KM *
		mm.	in.	mm.	in.	mm.	in.		
RADXL-EFX-3	3mm ² (238/.13)	2.34	.092	.41	.016	3.15	.124	31.41	6.02
RADXL-EFX-4	4mm ² (322/.13)	2.72	.107	.41	.016	3.53	.139	41.65	4.45
RADXL-EFX-5	5mm ² (399/.13)	3.02	.119	.53	.021	4.09	.161	52.77	3.59
RADXL-EFX-6	6mm ² (476/.13)	3.30	.130	.76	.030	4.83	.190	65.93	3.01
RADXL-EFX-10	10mm ² (805/.13)	4.29	.169	.76	.030	5.82	.229	106.54	1.78
RADXL-EFX-16	16mm ² (1273/.13)	5.49	.216	.76	.030	7.01	.276	163.83	1.13
RADXL-EFX-25	25mm ² (1995/.13)	6.27	.247	.76	.030	7.80	.307	249.04	0.72
RADXL-EFX-35	35mm ² (2774/.13)	8.30	.330	.86	.034	10.10	.398	347.29	0.52
RADXL-EFX-50	50mm ² (4018/.13)	9.60	.378	1.27	.050	12.14	.478	512.35	0.36
RADXL-EFX-70	70mm ² (5537/.13)	11.28	.444	1.40	.055	14.07	.554	701.32	0.26
RADXL-EFX-95	95mm ² (7448/.13)	14.12	.556	1.40	.055	16.92	.666	935.71	0.19

*Conductor resistance measured at 20°C

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RADXL Metric FX

Property / Attribute			SAE J-1127 STX Req.	RADXL FX 6 AWG (ref 13.4mm ²) 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
Minimum Bend Radius	3 x cable diameter for fixed installation		None	3X
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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