



AUTOMOTIVE

Inventing *the Future* of Wire and Cable

EXRAD 150UT High Voltage Powertrain Wire 1,000V, -55 - 150°C

EXRAD 150UT is a high performance, high voltage wire built to handle the increasingly brutal environment under the hood. It is an irradiation cross-linked polyolefin with impressive properties. It significantly reduces wire and harness routing headaches because it is more heat resistant, tougher and more fluid resistant than TXL. EXRAD 150UT is rated at 150°C, but it survives temperatures to 240°C and higher, and the 1,000V rating is ideal for use on today's hybrid and plug-in electric vehicles.

EXRAD 150 UT creates opportunities to eliminate unnecessary and expensive convolute tubing, tapes and heat shields that protect inferior wire systems. Given today's longer warranties you need a wire that will last longer than ever before. New standards are now requiring 10,000 hour heat age tests. EXRAD 150UT has a life expectancy over 10,000 hours at 125°C.

EXRAD 150UT processes very well on automated high speed cut and strip equipment. The end result is an automotive wire ideally suited to applications where heat protection, long life and less expensive wiring harnesses are required.

Benefits and Features

- Excellent Cut-Through Resistance
- Excellent Abrasion Resistance
- Very Fluid Resistant
- 55°C to 150°C Temperature Range
- Superior Cut and Strip Processing
- RoHs Compliant
- 1,000V per SAE J1654

Applications

- Including but not limited to:
- Under-hood
- Coil on plug
- Sensors
- Locations near exhaust manifolds or other high temperature areas

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-UT-HV24-XX	24 (7/32)	.024	.61	.016	.41	.054	1.37	2.40	6
EXRAD-UT-HV22-XX	22 (7/30)	.031	.79	.016	.41	.064	1.63	3.28	11
EXRAD-UT-HV20-XX	20 (7/28)	.035	.89	.016	.41	.070	1.78	4.85	15
EXRAD-UT-HV18-XX	18 (19/.0092)	.047	1.19	.020	.51	.088	2.24	6.51	21
EXRAD-UT-HV16-XX	16 (19/29)	.057	1.44	.020	.51	.098	2.49	9.32	28
EXRAD-UT-HV14-XX	14 (19/27)	.071	1.85	.020	.51	.111	2.82	14.15	46
EXRAD-UT-HV12-XX	12 (105/32)	.095	2.41	.020	.51	.135	3.43	23.50	60
EXRAD-UT-HV10-XX	10 (105/30)	.112	2.84	.020	.51	.156	3.96	38.90	80

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

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EXRAD 150UT High Voltage

Property / Attribute		SAE J-1128 TXL Req.	EXRAD 150 UT High Voltage 18 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	9 sec
Thermal Performance			
Cold Bend	4 hours at temperature no cracks / breakdown	-40 ^o C	-55 ^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
Temperature Rating	10000 Hours @125 ^o C	NA	125 ^o C
Mechanical Properties			
Tensile	Minimum psi	1500	3000
Elongation	Minimum %	150	375
Abrasion	Sand Paper Resistance Length in.	10	75
Abrasion	Scrape Cycles	None	NA
Pinch	Pounds	None	10.2
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%
Gasoline	ASTM D471 Ref. Fuel C 23 +/-5 ^o C	15% Max.	2%
Brake Fluid	SAE-J-1703 50 +/-5 ^o C	None	2%
Ethanol	85% Ethanol + 15% ASTM D471, Ref. Fuel C 23 +/-5 ^o C	15% Max.	2%
Diesel Fuel	ASTM D471, 90% IRM-903 + 10% p-xylene 23 +/-5 ^o C	None	2%
Power Steering	ASTM D471, IRM-903 50 +/-3 ^o C	30% Max.	1%
Auto Transmission	Citgo #33123 SAE-J311 50 +/-3 ^o C	25% Max.	3%
Methanol		15% Max.	1%
Engine Coolant	50% Ethylene Glyco + 50% distilled Water 50 +/-3 ^o C	15% Max.	<1%
Battery Acid	H ₂ SO ₄ Specific Gravity = 1.260 +/- .005 23 +/-5 ^o C	5% Max.	<1%

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