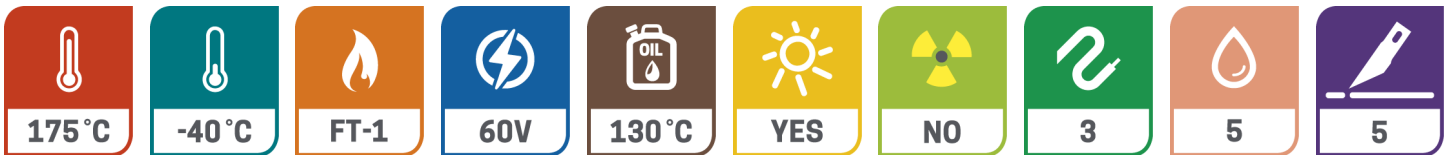




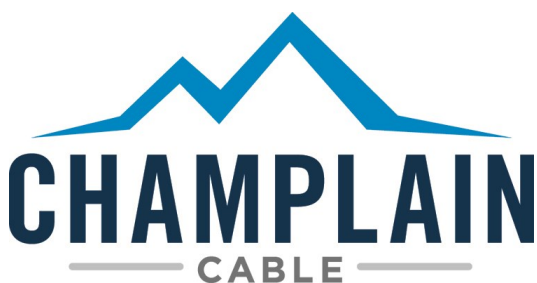
# 180 ISO Thin-Wall

ISO 6722-1, Class E, 175°C, Thin Wall, 60V

- Highly Engineered EXTRAD® 180 Irradiation Crosslinked Fluoroelastomer
- Processes Very Well on Automated High Speed Cut and Strip Equipment
- Survives Temperature Spikes of 250°C and Higher
- Opportunity to Eliminate Convolute Tubing, Tapes and Heat Shields
- More Robust Performance for Today's Longer Vehicle Warranties
- Extremely Oil and Fluid Resistant



Product Number	Standard Conductors Bare Copper	Nominal Conductor Diameter (mm)	Nominal Insulation Thickness (mm)	Nominal Final Diameter mm	Finished Weight (kg/100m)
EXRAD-180TW-0.22	0.22mm <sup>2</sup> 7/.20mm	0.61	0.26	1.15 +/- .05	0.3
EXRAD-180TW-0.35	0.35mm <sup>2</sup> 7/.27mm	0.76	0.27	1.2 +/- .05	0.5
EXRAD-180TW-0.50	0.50mm <sup>2</sup> 19/.18mm	0.89	0.28	1.5 +/- .1	0.8
EXRAD-180TW -0.75	0.75mm <sup>2</sup> 19/.22mm	1.08	0.30	1.8 +/- .1	1.1
EXRAD-180TW -1.00	1.00mm <sup>2</sup> 19/.25mm	1.22	0.30	2.0 +/- .1	1.3
EXRAD-180TW -1.50	1.50mm <sup>2</sup> 19/.32mm	1.57	0.30	2.3 +/- .1	1.8
EXRAD-180TW -2.50	2.50mm <sup>2</sup> 37/.29mm	1.98	0.35	2.85 +/- .15	2.9
EXRAD-180TW -4.00	4.00mm <sup>2</sup> 37/.37mm	2.50	0.40	3.55 +/- .15	4.3





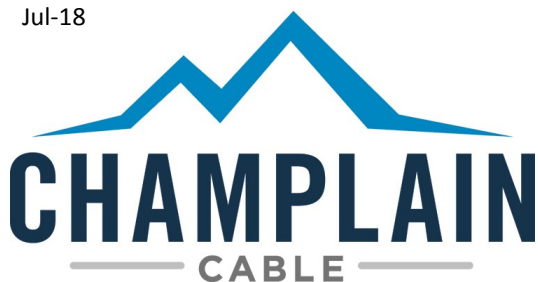
# 180

## ISO Thin-Wall

		ISO 6722-1 Class E Thin Wall	Exrad 180	
		Requirement	Typical Results (2.5mm <sup>2</sup> Sample)	Results
5.7	Insulation Volume Resistivity	10 <sup>9</sup> Ω/mm min.	4.1 x 10 <sup>13</sup> Ω/mm	Pass
5.8	Pressure at High Temperature	1.1N @ 175°C no dielectric breakdown	No breakdown	Pass
5.9	Strip Force / Adhesion	Per customer agreement	49N	N/A
5.10	Low Temperature Winding	3 tns 2.5kg - 40°C no dielectric breakdown	No dielectric breakdown, No cracking	Pass
5.11	Impact	100gm @ -40°C no breakdown	No breakdown,	Pass
5.12.4.1	Sandpaper Abrasion	.5kg 250mm min.	790mm	Pass
5.12.4.2	Scrape Abrasion	Per Customer Agreement	2072	Pass
5.13	Long-Term Heat Aging	175°C 3000 hours	No breakdown, no cracks	Pass
5.15	Thermal Overload	225°C 6 hours	No breakdown, no cracks	Pass
5.16	Shrinkage by heat	2mm max. 150°C	No shrinkage,	Pass
5.17	Fluid Compatibility	Gasoline 15% max.	0%	Pass
		Diesel Fuel 15% max.	0%	Pass
		Engine Oil 15% max.	0%	Pass
		Ethanol 15% max.	0%	Pass
		Power Steering 30% max	0%	Pass
		Automatic Transmission 25% max	0%	Pass
		Engine Coolant 15% max	0%	Pass
		Battery Acid no breakdown	No breakdown,	Pass
5.19	Ozone Resistance	45°C 85% Relative Humidity, 70 hours, Ozone 50 +/- 5 ppm 1kV 1 min. (no breakdown)	No breakdown,	Pass
5.20	Resistance to hot water	not less than 10 <sup>5</sup> Ω-mm	1X 10 <sup>11</sup> Ω-mm	Pass
5.21	Temperature and Humidity Cycling	40 - 8 hours cycles -40°C and 125°C 80 -100% relative humidity	No dielectric breakdown, no cracks	Pass
5.22	Resistance to Flame	70 sec. max. 50mm unburned	8 sec. after burn	Pass

We cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product combination for their own purpose. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss and damage arising from the handling and use of our products whether used alone or in combination with other products

Jul-18



**Manufacturing Locations:**  
**Colchester, Vermont**  
**El Paso, Texas**  
[www.champcable.com](http://www.champcable.com)