



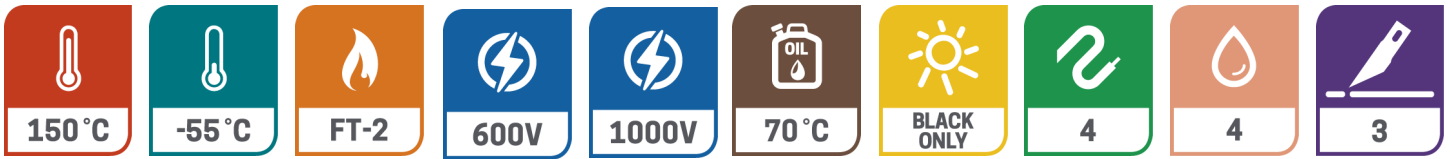
# 150 HVFX

## High-Voltage

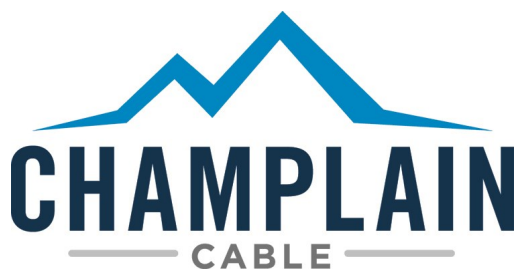
### ISO Battery Cable

600V/1000V, 150°C, ISO 6722-1, Class D, Thin Wall

- Highly Engineered EXRAD® 150HVFX Irradiation Crosslinked Polyolefin
- Meets or Exceeds ISO-6722-1 Requirements
- Enhanced Flexibility, Thin, Fluid Resistant and Tough
- Performs at Higher Temperatures for Longer Periods of Time.
- Withstands Thermal Excursions to 240°C and higher.
- Excellent Low-Temperature Performance



Product Number	Std. Conductors Bare Copper	Nom. Conductor Diameter		Nom. Insulation Thickness		Nom. Finished Diameter		Min. Static Bend Radius		Finished Weight KG/KM	Conductor Resistance Ω per KM at 20°C
		mm.	in.	mm.	in.	mm.	in.	mm.	in.		
<b>600V</b>											
EXRAD--HVFX-5	5.0mm <sup>2</sup> (37/.40)	2.69	.106	0.57	.022	3.83	.151	20	0.79	48	3.94
EXRAD--HVFX-6	6.0mm <sup>2</sup> (84/.30)	2.92	.115	0.57	.022	4.06	.160	20	0.79	61	3.01
EXRAD--HVFX-8	8.0mm <sup>2</sup> (98/.312)	3.66	.144	0.57	.022	4.80	.189	24	0.95	77	2.38
EXRAD--HVFX-10	10mm <sup>2</sup> (63/.46)	4.36	.172	0.61	.024	5.65	.222	28	1.1	105	1.78
EXRAD--HVFX-12	12mm <sup>2</sup> (154/.32)	4.88	.192	0.61	.024	6.15	.242	30	1.2	126	1.47
<b>1000V</b>											
EXRAD--HVFX-16	16mm <sup>2</sup> (105/.46)	5.21	.205	0.76	.030	6.80	.267	34	1.4	193	1.13
EXRAD--HVFX-20	20mm <sup>2</sup> (247/.32)	6.17	.243	0.76	.030	7.49	.295	37	1.5	201	0.91
EXRAD--HVFX-25	25mm <sup>2</sup> (154/.46)	6.98	.270	0.76	.030	8.30	.326	42	1.6	243	0.72
EXRAD--HVFX-35	35mm <sup>2</sup> (551/.28)	8.12	.320	0.86	.034	9.90	.390	59	2.3	343	0.52
EXRAD--HVFX-40	40mm <sup>2</sup> (494/.32)	8.89	.350	0.86	.034	10.55	.415	63	2.5	395	0.47
EXRAD--HVFX-50	50mm <sup>2</sup> (798/.28)	9.91	.390	1.00	.040	11.90	.457	71	2.9	487	0.36
EXRAD--HVFX-70	70mm <sup>2</sup> (1140/.28)	11.56	.455	1.10	.043	13.70	.539	85	3.4	699	0.26
EXRAD--HVFX-95	95mm <sup>2</sup> (1957/.25)	13.20	.521	1.60	.054	16.40	.646	99	3.9	1170	0.19





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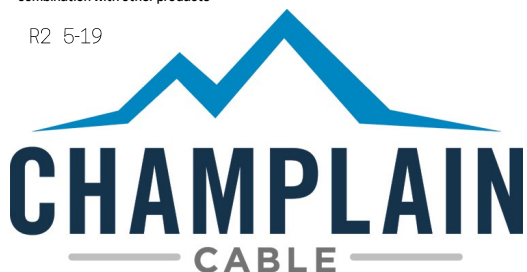
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### ISO Battery Cable

Section	Description	Requirement	Typical Results	(35mm <sup>2</sup> Sample)
5.1	Outside Cable Diameter	10.40 max.	9.98mm	Pass
5.2	Insulation Thickness	0.64mm min.	0.84mm	Pass
5.3	Conductor Diameter	8.50mm max.	8.08mm	Pass
5.4	Conductor Resistance	0.527 mohms/m @20°C max.	0.521 mohms/m	Pass
5.5	Withstand Voltage	600V 5kV for 5 minutes	No Dielectric Breakdown	Pass
5.6	Insulation Faults	Sparktest @ 12.5kV	No Faults	Pass
5.7	Insulation Volume Resistivity	10 <sup>9</sup> Ω /mm min.	1.66 10 <sup>16</sup> Ω /mm	Pass
5.8	Pressure at High Temperature	0.8N @150°C no dielectric breakdown	No Breakdown	Pass
5.9	Strip Force / Adhesion	Per customer agreement	NA	Pass
5.1	Low Temperature Winding	3 tns 2.5kg - 40°C no dielectric breakdown	No Dielectric Breakdown, No Cracking	Pass
5.11	Impact	300gm @-40°C no breakdown	No Breakdown	Pass
5.12.4.1	Sandpaper Abrasion	NA	NA	Pass
5.12.4.2	Scrape Abrasion	NA	NA	Pass
5.13	Long-Term Heat Aging	150°C 3000 hours	No Breakdown, No Cracks	Pass
5.15	Thermal Overload	200°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.	7.50%	Pass
		Diesel Fuel 15% max.	2.70%	Pass
		Engine Oil 15% max.	3.20%	Pass
		Ethanol 15% max.	4.70%	Pass
		Power Steering 30% max	4.10%	Pass
		Automatic Transmission 25% max	3.20%	Pass
		Engine Coolant 15% max	0.40%	Pass
		Battery Acid no breakdown	No Breakdown	Pass
5.19	Ozone Resistance	45°C 85% Relative Humidity 70 hours, Ozone 50 +/- 5 pphm, 1kV 1 min. (no breakdown)	No Breakdown	Pass
5.2	Resistance to hot water	not less than 10-5 ohm-mm	10-14 ohm-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 Cracking	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

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**Manufacturing Locations:**

**Colchester, Vermont**

**El Paso, Texas**

**[www.champcable.com](http://www.champcable.com)**