



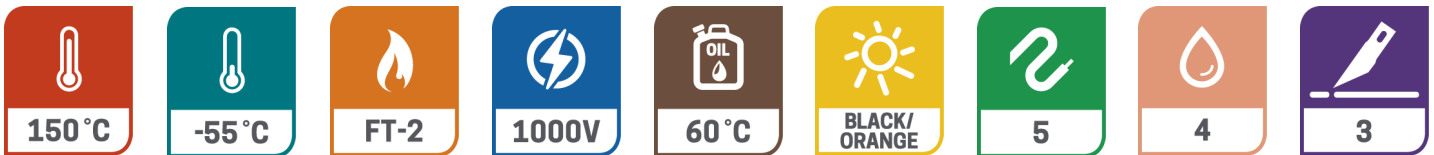
# EXRAD ERGO FLEX™

## ISO Thin Wall

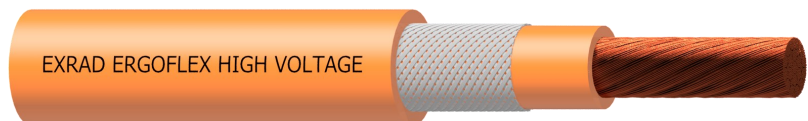
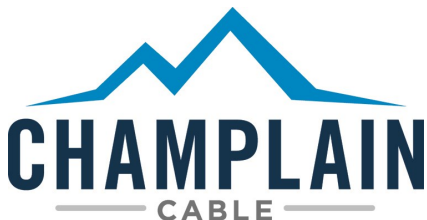
### Shielded High-Voltage Cable

1,000VAC / 1,500VDC, 150°C, ISO-19642-9, Class D

- Revolutionary EXRAD ERGO FLEX™ Irradiation Crosslinked Polyolefin (XLPO)
- Enhanced Flexibility for Tight Spaces Ergonomics, and Easy Routing
- Tougher than Silicone and EPDM alternatives
- Performs at Higher Temperatures for Longer Periods of Time
- Excellent Compression Set Properties for Connector Sealing: 92% Retention
- Designed to Improve Ergonomics and Reduce Operator Fatigue



| Product Number    | Conductor Bare Copper | Conductor Diameter mm / nom | Primary Diameter mm / nom | Shield Diameter mm / nom | Shield Coverage min | Finished Diameter mm / nom | Static Bend Radius mm / min | Finished Weight kg/KM, nom | Max Conductor Resistance 20°C MΩ per M |
|-------------------|-----------------------|-----------------------------|---------------------------|--------------------------|---------------------|----------------------------|-----------------------------|----------------------------|--|
| EXRAD-EF/EF-TW-3  | 3.0mm² (44/.29)       | 2.16                        | 3.2                       | 3.57                     | 95%                 | 4.6                        | 11                          | 58                         | 6.15                                   |
| EXRAD-EF/EF-TW-5  | 5.0mm² (70/.29)       | 2.72                        | 4.05                      | 4.42                     | 95%                 | 5.8                        | 14                          | 74                         | 3.94                                   |
| EXRAD-EF/EF-TW-6  | 6.0mm² (84/.30)       | 2.92                        | 4.15                      | 4.66                     | 95%                 | 5.9                        | 14                          | 90                         | 3.14                                   |
| EXRAD-EF/EF-TW-12 | 12mm² (175/.29)       | 4.72                        | 6.15                      | 6.7                      | 95%                 | 8.3                        | 21                          | 177                        | 1.52                                   |
| EXRAD-EF/EF-TW-16 | 16mm² (224/.30)       | 5.59                        | 6.8                       | 7.3                      | 95%                 | 9.3                        | 23                          | 226                        | 1.16                                   |
| EXRAD-EF/EF-TW-20 | 20mm² (273/.30)       | 6.02                        | 7.4                       | 8.6                      | 95%                 | 9.9                        | 25                          | 261                        | 0.96                                   |
| EXRAD-EF/EF-TW-25 | 25mm² (364/.29)       | 6.86                        | 8.3                       | 8.8                      | 95%                 | 11                         | 27                          | 321                        | 0.74                                   |
| EXRAD-EF/EF-TW-35 | 35mm² (1083/.20)      | 7.87                        | 9.9                       | 10.4                     | 95%                 | 12.9                       | 39                          | 439                        | 0.53                                   |
| EXRAD-EF/EF-TW-50 | 50mm² (1615/.20)      | 9.91                        | 11.6                      | 12.2                     | 95%                 | 14.9                       | 45                          | 615                        | 0.37                                   |
| EXRAD-EF/EF-TW-70 | 70mm² (2128/.20)      | 11.94                       | 14.0                      | 14.7                     | 95%                 | 17.0                       | 56                          | 900                        | 0.26                                   |
| EXRAD-EF/EF-TW-95 | 95mm² (2926/.20)      | 13.97                       | 16.0                      | 16.7                     | 95%                 | 19.5                       | 64                          | 1,081                      | 0.19                                   |





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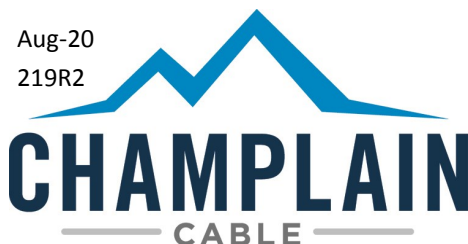
## ISO Thin Wall

### Shielded High-Voltage Cable

| ISO 19642 Section | Description                                | Requirement  | Typical Results (35mm <sup>2</sup> Sample) |      |
|-------------------|--|--|--|------|
| 6.1.1             | Outside Cable Diameter                     | 13.2mm max.  | 12.97mm                                    | Pass |
| 6.1.2             | Ovality of Sheath                          | 10% max  | 3.4%                                       | Pass |
| 5.1.1             | Inner Core Diameter                        | 10.4mm max.  | 9.91mm                                     | Pass |
| 5.1.2             | Insulation Thickness                       | 0.64mm min.  | 0.99mm                                     | Pass |
| 5.1.3             | Conductor Diameter                         | 9.0mm max.   | 7.87mm                                     | Pass |
| 5.2.1             | Conductor Resistance                       | 0.527 mΩ/m max.  | 0.450 mΩ/m                                 | Pass |
| 5.2.2             | Withstand Voltage                          | 10kV for 5min  | No dielectric breakdown                    | Pass |
| 5.2.4             | Insulation Faults                          | Sparktest @ 8.0kV  | No breakdown                               | Pass |
| 5.2.5             | Insulation Volume Resistivity              | 10 <sup>12</sup> Ω /mm min.  | 1.25 x 10 <sup>15</sup> Ω /mm              | Pass |
| 6.2.3.2           | DC Resistance of Screen                    | Per customer agreement   | 3.95mΩ/m                                   | NA   |
| 6.2.3.3           | Surface Transfer Imp. - Tri Axial          | Per customer agreement   | Inquire                                    | NA   |
| 6.3.3             | Flexibility Test                           | Customer-Defined   | 101.4 N                                    | NA   |
| 5.4.2<br>6.4.2    | Long-Term Heat Aging                       | 150°C, 3000 hrs, 3kV, no breakdown                                 | No cracks, No breakdown                    | Pass |
| 5.4.3<br>6.4.3    | Short-Term Heat Aging                      | 175°C, 240hrs, 3kV, no breakdown                                   | No cracks, No breakdown                    | Pass |
| 5.4.4<br>6.4.4    | Thermal Overload                           | 200°C, 6 hrs, 5kV  | No cracks, No breakdown                    | Pass |
| 5.4.5             | Pressure at High Temperature               | Under load @150°C, 5kV 5min, no breakdown                          | No cracks, No breakdown                    | Pass |
| 6.4.5             | Pressure at High Temperature               | Thickness of insulation to be ≥ 40%                                | 92%  | Pass |
| 5.4.6<br>6.4.6    | Shrinkage by heat<br>Insulation and Sheath | 2mm max. @ 150°C   | 0.0 mm                                     | Pass |
| 6.4.7             | Low Temperature Winding                    | 4 hrs @ -40°C, 3kV, no breakdown                                   | No cracks, No breakdown                    | Pass |
| 6.4.8             | Cold Impact                                | 16 hrs @ -15°C, 1kV, no breakdown                                  | No cracks, No breakdown                    | Pass |
| 6.4.9             | Temperature and Humidity Cycling           | 40 x 8 hour cycles -40°C to 150°C, relative humidity 80 -100%, 3kV | No cracks, No breakdown                    | Pass |
| 5.4.10            | Resistance to hot water                    | 35 days in 85C water, IR not less than 10 <sup>12</sup> Ω/mm       | 4.46 x 10 <sup>14</sup> Ω/mm, no breakdown | Pass |
| 6.4.10            | Resistance to liquid chemicals             | Groups 1 and 2, no breakdown.                                      | All fluids: no crack/damage/breakdown      | Pass |
| 5.4.14            | Ozone Resistance                           | 65°C, 192 hours, Ozone (1+/- 0.05) x 10 <sup>-6</sup>              | No cracks                                  | Pass |
| 6.4.14            | Resistance to Flame Propagation            | Must extinguish within 30 sec. max. and a min of 50mm unburned     | 5.2 sec.                                   | 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:**  
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