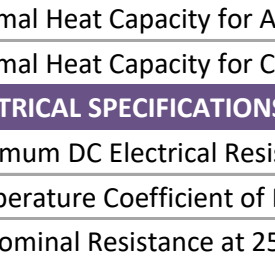
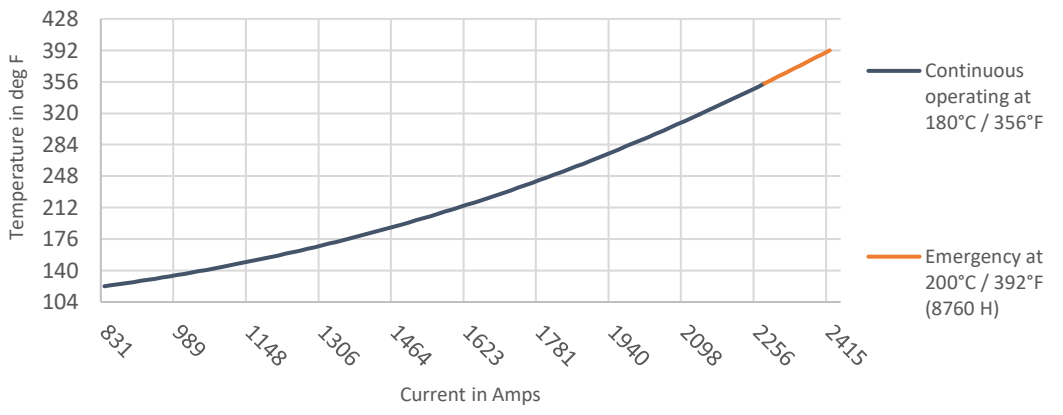
| TECHNICAL DATA SHEET | Ultra Low Sag (ULS) | **ECRC® ULS 740 - 71**<br>Epsilon Advanced Conductors | EPSILON CABLE |
|---|---|---|---|
| International size | **MUNICH** | | |
| ASTM Size | **BEAUMONT** | | |
| Technical designation | ECRC® 740-AL0/71-X1 | | |



*Governing Units: Metric to US Customary (Unit conversion)*

| STRANDING CONFIGURATION | | Metric | | US Customary | |
|---|---|---|---|---|---|
|  | *No. & Diameter of the core* | 1 x 9.53 | mm | 1 x 0.375 | in. |
| | *Aluminium layers construction / Height* | 36 TW x 3.89 | mm | 0.153 | in. |
| | *1st layer composition and Øeq* | 8 x 5.00 | mm | 0.197 | in. |
| | *2nd layer composition and Øeq* | 12 x 5.11 | mm | 0.201 | in. |
| | *3st layer composition and Øeq* | 16 x 5.16 | mm | 0.203 | in. |
| | | | | | |
| | *Lay Direction of outer layer* | Right Hand (Z) | | | |

| CONDUCTOR PROPERTIES | | | | |
|---|---|---|---|---|
| Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS) | 737.6 | mm² | 1455.7 | kcmil |
| Cross Sectional Area - Composite Core | 71.3 | mm² | 0.1106 | in.² |
| Total Area of Conductor Cross Section | 808.9 | mm² | 1.2538 | in.² |
| Nominal equivalent Aluminum Area (1350-H19 at 61%IACS) | 761.8 | mm² | 1503.4 | kcmil |
| Overall Diameter of Conductor | 32.87 | mm | 1.294 | in. |
| Mass per unit length - Annealed Aluminum | 2,042.0 | kg/km | 1,372.2 | lb/kft |
| Mass per unit length - Core | 131.2 | kg/km | 88.2 | lb/kft |
| Mass per unit length - Conductor | 2,173.2 | kg/km | 1,460.4 | lb/kft |
| Ultimate Tensile Strength of Conductor | 228.8 | kN | 51.4 | kips |
| Core Rated Tensile Strength | 184.5 | kN | 41.5 | kips |
| Coefficient of Linear Expansion Above Thermal Kneepoint | 0.75 | $10^{-6}$ $K^{-1}$ | 0.417 | $10^{-6}$ $F^{-1}$ |
| Coefficient of Linear Expansion Below Thermal Kneepoint | 18.45 | $10^{-6}$ $K^{-1}$ | 10.25 | $10^{-6}$ $F^{-1}$ |
| Final Modulus of Elasticity Above Thermal Kneepoint | 146 | GPa | 21.18 | Msi |
| Final Modulus of Elasticity Below Thermal Kneepoint | 63 | GPa | 9.14 | Msi |
| **THERMAL SPECIFICATIONS** | | | | |
| Maximum Continuous Operating Temperature[2] (surface temperature) | 180 | °C | 356 | °F |
| Maximum Emergency Temperature / 8760 Hours[2] (surface temperature) | 200 | °C | 392 | °F |
| Thermal Heat Capacity for Annealed Aluminum Layers | 1,950.1 | W-s/m-°C | 330.1 | W-s/ft-°F |
| Thermal Heat Capacity for Composite Core | 105.0 | W-s/m-°C | 17.8 | W-s/ft-°F |
| **ELECTRICAL SPECIFICATIONS** | | | | |
| Maximum DC Electrical Resistance at 20°C / 68°F *(1370-O at 63%IACS)* | 0.0380 | ohm/km | 0.0612 | ohm/mile |
| Temperature Coefficient of Resistance | 4.03 | $10^{-3}$ $K^{-1}$ | 2.089 | $10^{-3}$ $F^{-1}$ |
| AC Nominal Resistance at 25°C / 77°F (surface temperature) | 0.0416 | ohm/km | 0.0670 | ohm/mile |
| AC Nominal Resistance at 75°C / 167°F (surface temperature) | 0.0489 | ohm/km | 0.0786 | ohm/mile |
| AC Nominal Resistance at 180°C / 356°F (surface temperature) | 0.0644 | ohm/km | 0.1036 | ohm/mile |
| AC Nominal Resistance at 200°C / 392°F (surface temperature) | 0.0673 | ohm/km | 0.1084 | ohm/mile |
| AC Current Rating at 180°C / 356°F (surface temperature) [1] | 2,280 A | | | |
| AC Current Rating at 200°C / 392°F (surface temperature) [1] | 2,415 A | | | |




| Geometric Mean Radius (GMR) | | | |
|---|---|---|---|
| 13.22 | mm | 0.0434 | ft. |
| **Inductive Reactance Ø0.3m (Ø0.98ft) radius** | | | |
| 0.197 | Ω.km-1 | 0.3170 | ohm/mile |
| **Capacitive Reactance Ø0.3m (Ø0.98ft) radius** | | | |
| 0.167 | MΩ.km | 0.1038 | Mohm-mile |

*(1) Ampacity calculations based on IEEE Standard 738-2012, according to the following data:*

*25 °C / 77 °F ambient temperature, 0.61 m/s (2 ft/s) wind velocity with an angle of 90 °,*

*1000 W/m² (92.9 W/ft²) solar radiation, 0.5 solar absorption coefficient,*

*0.6 emissivity coefficient, Resistance AC at 60 Hz current frequency.*

*(2) Temperatures defined according to ASTM B987.*

*Reference standards for core properties: ASTM B987.*

*Reference standards for electrical specifications: IEC 62219.*

*Reference standards for stranding parameters: ASTM B857-14/IEC 62219.*

*Depending on conductor manufacturer rated specifications may slightly change.*

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