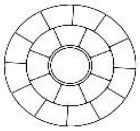
| TECHNICAL DATA SHEET | Ultra Low Sag (ULS) | **ECRC® ULS 470 - 60**<br>Epsilon Advanced Conductors | EPSILON CABLE |
|---|---|---|---|

| | |
|---|---|
| International size | **STOCKHOLM** |
| ASTM Size | **LUBBOCK** |
| Technical designation | ECRC® 470-AL0/60-X1 |



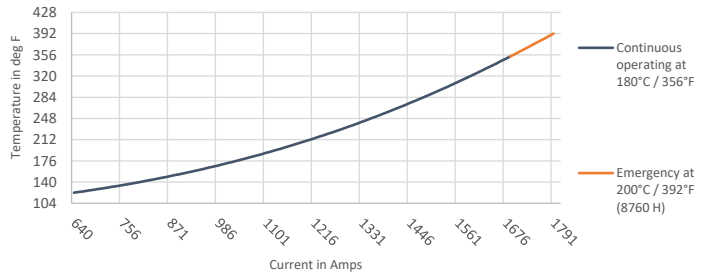
*Governing Units: Metric to US Customary (Unit conversion)*

| STRANDING CONFIGURATION | | Metric | | US Customary | |
|---|---|---|---|---|---|
|  | *No. & Diameter of the core* | | 1 x 8.76 mm | 1 x 0.345 | in. |
| | *Aluminium layers construction / Height* | 20 TW x | 4.41 mm | 0.174 | in. |
| | *1st layer composition and Øeq* | 8 x | 5.27 mm | 0.207 | in. |
| | *2nd layer composition and Øeq* | 12 x | 5.54 mm | 0.218 | in. |
| | | | | | |
| | | | | | |
| | *Lay Direction of outer layer* | Right Hand (Z) | | | |

| CONDUCTOR PROPERTIES | | | | |
|---|---|---|---|---|
| Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS) | 463.4 | mm² | 914.5 | kcmil |
| Cross Sectional Area - Composite Core | 60.3 | mm² | 0.0934 | in.² |
| Total Area of Conductor Cross Section | 523.6 | mm² | 0.8116 | in.² |
| Nominal equivalent Aluminum Area (1350-H19 at 61%IACS) | 478.6 | mm² | 944.5 | kcmil |
| Overall Diameter of Conductor | 26.4 | mm | 1.039 | in. |
| Mass per unit length - Annealed Aluminum | 1,281.0 | kg/km | 860.8 | lb/kft |
| Mass per unit length - Core | 110.9 | kg/km | 74.5 | lb/kft |
| Mass per unit length - Conductor | 1,391.9 | kg/km | 935.3 | lb/kft |
| Ultimate Tensile Strength of Conductor | 183.7 | kN | 41.3 | kips |
| Core Rated Tensile Strength | 155.9 | kN | 35.0 | 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 | 17.29 | $10^{-6}$ K$^{-1}$ | 9.60 | $10^{-6}$ F$^{-1}$ |
| Final Modulus of Elasticity Above Thermal Kneepoint | 146 | GPa | 21.18 | Msi |
| Final Modulus of Elasticity Below Thermal Kneepoint | 65 | GPa | 9.50 | 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 | 1,223.4 | W-s/m-°C | 207.1 | W-s/ft-°F |
| Thermal Heat Capacity for Composite Core | 88.7 | W-s/m-°C | 15.0 | W-s/ft-°F |

| ELECTRICAL SPECIFICATIONS | | | | |
|---|---|---|---|---|
| Maximum DC Electrical Resistance at 20°C / 68°F *(1370-O at 63%IACS)* | 0.0604 | ohm/km | 0.0972 | 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) | 0.0635 | ohm/km | 0.1022 | ohm/mile |
| AC Nominal Resistance at 75°C / 167°F (surface temperature) | 0.0754 | ohm/km | 0.1213 | ohm/mile |
| AC Nominal Resistance at 180°C / 356°F (surface temperature) | 0.1005 | ohm/km | 0.1618 | ohm/mile |
| AC Nominal Resistance at 200°C / 392°F (surface temperature) | 0.1053 | ohm/km | 0.1695 | ohm/mile |
| AC Current Rating at 180°C / 356°F (surface temperature) [1] | 1,695 A | | | |
| AC Current Rating at 200°C / 392°F (surface temperature) [1] | 1,791 A | | | |




| | | | | |
|---|---|---|---|---|
| Geometric Mean Radius (GMR) | | | | |
| | 10.73 | mm | 0.0352 | ft. |
| Inductive Reactance Ø0.3m (Ø0.98ft) radius | | | | |
| | 0.21 | Ω.km-1 | 0.3380 | ohm/mile |
| Capacitive Reactance Ø0.3m (Ø0.98ft) radius | | | | |
| | 0.18 | MΩ.km | 0.1118 | 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.*

*Revision 00*

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contact@epsilon-cable.com

www.epsilon-cable.com