| TECHNICAL DATA SHEET | Lite | HVCRC® Lite (AL1) 190 - 28<br>Epsilon Advanced Conductors | EPSILON CABLE |
|---|---|---|---|
| International size | **ROVINJ** | | |
| ASTM Size | - | | |
| Technical designation | ECRC® 190-AL1/28-L0 | | |



*Governing Units: Metric*

| | | |
|---|---|---|
| **CONDUCTOR PROPERTIES** | | |
| Cross Sectional Area - Aluminium | 189.1 | mm² |
| Cross Sectional Area - HVCRC Core | 28.0 | mm² |
| Total Area of Conductor Cross Section | 217.1 | mm² |
| Overall Diameter of Conductor | 17.09 | mm |
| No. & Diameter of the core | 1 x 5.97 | mm |
| Mass per unit length - Annealed Aluminium | 523.1 | kg/km |
| Mass per unit length - Core | 52.6 | kg/km |
| Mass per unit length - Conductor | 575.7 | kg/km |
| Ultimate Tensile Strength of Conductor | 61.7 | kN |
| Core Rated Tensile Strength | 31.4 | kN |
| Coefficient of Linear Expansion **Above** Thermal Kneepoint | 1.6 | $10^{-6}$ $K^{-1}$ |
| Coefficient of Linear Expansion **Below** Thermal Kneepoint | 18.04 | $10^{-6}$ $K^{-1}$ |
| Final Modulus of Elasticity **Above** Thermal Kneepoint | 112 | GPa |
| Final Modulus of Elasticity **Below** Thermal Kneepoint | 62 | GPa |
| **THERMAL SPECIFICATIONS** | | |
| Maximum Continuous Operating Temperature (surface temperature) | 90 | °C |
| Thermal Heat Capacity for Annealed Aluminium Layers | 499.6 | W.s/m.°C |
| Thermal Heat Capacity for Composite Core | 42.1 | W.s/m.°C |
| **ELECTRICAL SPECIFICATIONS** | | |
| Maximum DC Electrical Resistance at 20°C | 0.1529 | Ω.$km^{-1}$ |
| Temperature Coefficient of Resistance | 4.03 | $10^{-3}$ $K^{-1}$ |
| AC Nominal Resistance at 25°C (surface temperature) | 0.1565 | Ω.$km^{-1}$ |
| AC Nominal Resistance at 75°C (surface temperature) | 0.1873 | Ω.$km^{-1}$ |
| AC Nominal Resistance at 90°C (surface temperature) | 0.1965 | Ω.$km^{-1}$ |
| AC Current Rating at 90°C (surface temperature)[1] | 629 | A |
| Geometric Mean Radius (GMR) | 6.98 | mm |

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

*25 °C ambient temperature,* — *0.61 m/s wind velocity with an angle of 90 °,*

*1000 W/m² solar radiation,* — *0.5 solar absorption coefficient,*

*0.6 emissivity coefficient,* — *Resistance AC at 50 Hz current frequency.*

*Conductor continuous operating temperature can be changed in accordance with country specification for hard aluminium.*

*Core properties tested as per methods of ASTM B987/IEC 62818-1*

*Reference standards for electrical specifications: IEC 62219.*

*Reference standards for stranding parameters: ASTM B779/IEC 62219.*

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

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|---|---|
| *Revision* | *00* |
| *Ref. Document* | *ST26-00060* |
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