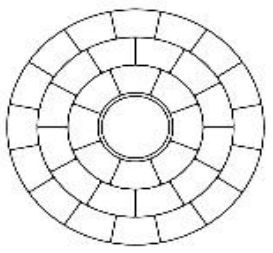
TECHNICAL DATA SHEET	Ultra Low Sag (ULS)	HVCRC® ULS 770 - 75 Epsilon Advanced Conductors	EPSILON CABLE

International size	**LONDON**
ASTM Size	**SAN ANTONIO**
Technical designation	ECRC® 770-AL0/75-X1



Governing Units: Metric

STRANDING CONFIGURATION



No. & Diameter of the core		1 x 9.78	mm
Aluminium layers construction / Height	36 TW x	3.94	mm
1st layer composition and Øeq	8 x	5.09	mm
2nd layer composition and Øeq	12 x	5.20	mm
3st layer composition and Øeq	16 x	5.24	mm
Lay Direction of outer layer		Right Hand (Z)	

CONDUCTOR PROPERTIES

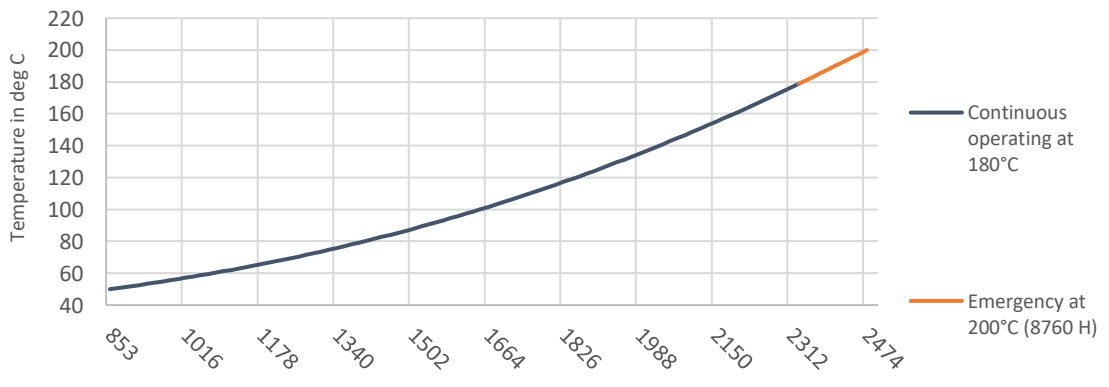
Cross Sectional Area - Annealed Aluminium	761.6	mm²
Cross Sectional Area - HVCRC Core	75.1	mm²
Total Area of Conductor Cross Section	836.8	mm²
Nominal equivalent Aluminium Area (1350-H19 at 61%IACS)	786.6	mm²
Overall Diameter of Conductor	33.42	mm
Mass per unit length - Annealed Aluminium	2,109.0	kg/km
Mass per unit length - Core	138.2	kg/km
Mass per unit length - Conductor	2,247.2	kg/km
Ultimate Tensile Strength of Conductor	240.0	kN
Core Rated Tensile Strength	194.3	kN
Coefficient of Linear Expansion **Above** Thermal Kneepoint	0.75	10^{-6} K^{-1}
Coefficient of Linear Expansion **Below** Thermal Kneepoint	18.38	10^{-6} K^{-1}
Final Modulus of Elasticity **Above** Thermal Kneepoint	146	GPa
Final Modulus of Elasticity **Below** Thermal Kneepoint	63	GPa

THERMAL SPECIFICATIONS

Maximum Continuous Operating Temperature(2) (surface temperature)	180	°C
Maximum Emergency Temperature / 8760 Hours(2) (surface temperature)	200	°C
Thermal Heat Capacity for Annealed Aluminium Layers	2,014.1	W.s/m.°C
Thermal Heat Capacity for Composite Core	110.6	W.s/m.°C

ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C *(1370-O at 63%IACS)*	0.0368	Ω.km^{-1}
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}
AC Nominal Resistance at 25°C (surface temperature)	0.0396	Ω.km^{-1}
AC Nominal Resistance at 75°C (surface temperature)	0.0467	Ω.km^{-1}
AC Nominal Resistance at 180°C (surface temperature)	0.0619	Ω.km^{-1}
AC Nominal Resistance at 200°C (surface temperature)	0.0648	Ω.km^{-1}
AC Current Rating at 180°C (surface temperature) (1)	2,337	A
AC Current Rating at 200°C (surface temperature) (1)	2,474	A



Geometric Mean Radius (GMR)	
13.46	mm
Inductive Reactance Ø0.3m radius	
0.196	Ω.km^{-1}
Capacitive Reactance Ø0.3m radius	
0.166	MΩ.km

(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.

(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*
Ref. Document	*ST25-00070*
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