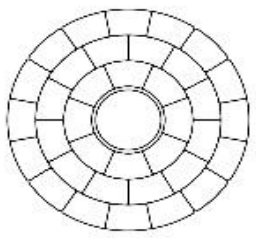
TECHNICAL DATA SHEET	Ultra Low Sag (ULS)	HVCRC® ULS 680 - 71 Epsilon Advanced Conductors	EPSILON CABLE

International size	**BUDAPEST**
ASTM Size	**FORT WORTH**
Technical designation	ECRC® 680-AL0/71-X1



Governing Units: Metric

STRANDING CONFIGURATION



No. & Diameter of the core		1 x 9.53	mm
Aluminium layers construction / Height	36 TW x	3.66	mm
1st layer composition and Øeq	8 x	4.81	mm
2nd layer composition and Øeq	12 x	4.87	mm
3st layer composition and Øeq	16 x	4.90	mm
Lay Direction of outer layer		Right Hand (Z)	

CONDUCTOR PROPERTIES

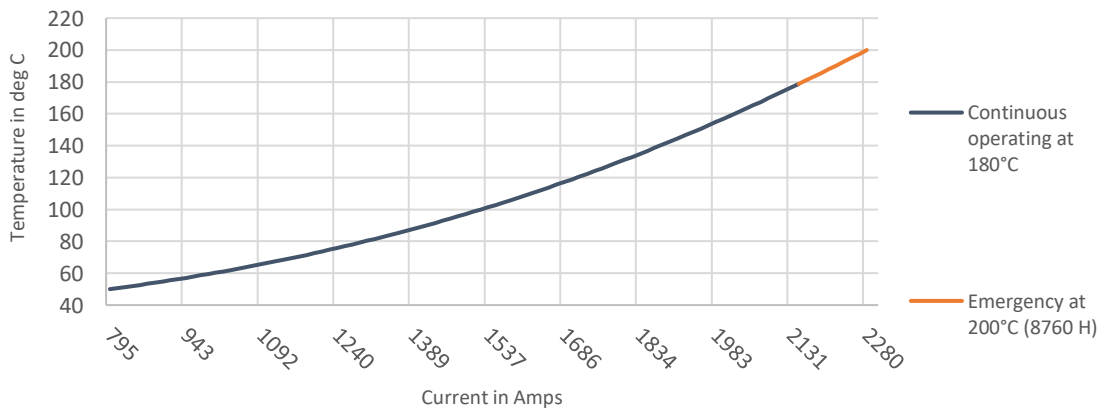
Cross Sectional Area - Annealed Aluminium	670.2	mm²
Cross Sectional Area - HVCRC Core	71.3	mm²
Total Area of Conductor Cross Section	741.6	mm²
Nominal equivalent Aluminium Area (1350-H19 at 61%IACS)	692.2	mm²
Overall Diameter of Conductor	31.49	mm
Mass per unit length - Annealed Aluminium	1,856.0	kg/km
Mass per unit length - Core	131.2	kg/km
Mass per unit length - Conductor	1,987.2	kg/km
Ultimate Tensile Strength of Conductor	224.7	kN
Core Rated Tensile Strength	184.5	kN
Coefficient of Linear Expansion **Above** Thermal Kneepoint	0.75	10^{-6} K^{-1}
Coefficient of Linear Expansion **Below** Thermal Kneepoint	18.10	10^{-6} K^{-1}
Final Modulus of Elasticity **Above** Thermal Kneepoint	146	GPa
Final Modulus of Elasticity **Below** Thermal Kneepoint	64	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	1,772.5	W.s/m.°C
Thermal Heat Capacity for Composite Core	105.0	W.s/m.°C

ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C *(1370-O at 63%IACS)*	0.0418	$\Omega.km^{-1}$
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}
AC Nominal Resistance at 25°C (surface temperature)	0.0445	$\Omega.km^{-1}$
AC Nominal Resistance at 75°C (surface temperature)	0.0526	$\Omega.km^{-1}$
AC Nominal Resistance at 180°C (surface temperature)	0.0699	$\Omega.km^{-1}$
AC Nominal Resistance at 200°C (surface temperature)	0.0732	$\Omega.km^{-1}$
AC Current Rating at 180°C (surface temperature) (1)	2,154	A
AC Current Rating at 200°C (surface temperature) (1)	2,280	A



Geometric Mean Radius (GMR)
12.72 mm
Inductive Reactance Ø0.3m radius
0.2 $\Omega.km^{-1}$
Capacitive Reactance Ø0.3m radius
0.17 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

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