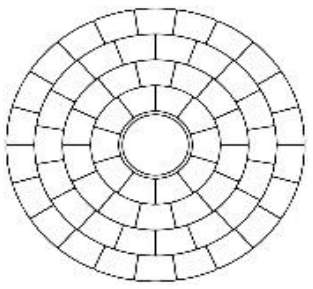
TECHNICAL DATA SHEET	Ultra Low Sag (ULS)	HVCRC® ULS 1160 - 79 Epsilon Advanced Conductors	EPSILON CABLE

International size	-
ASTM Size	**CHUKAR**
Technical designation	ECRC® 1160-AL0/79-X1



Governing Units: Metric

STRANDING CONFIGURATION



No. & Diameter of the core		1 x 10.03	mm
Aluminium layers construction / Height	64 TW x	3.84	mm
1st layer composition and Øeq	10 x	4.50	mm
2nd layer composition and Øeq	14 x	4.74	mm
3st layer composition and Øeq	18 x	4.86	mm
4st layer composition and Øeq	22 x	4.91	mm
Lay Direction of outer layer		Right Hand (Z)	

CONDUCTOR PROPERTIES

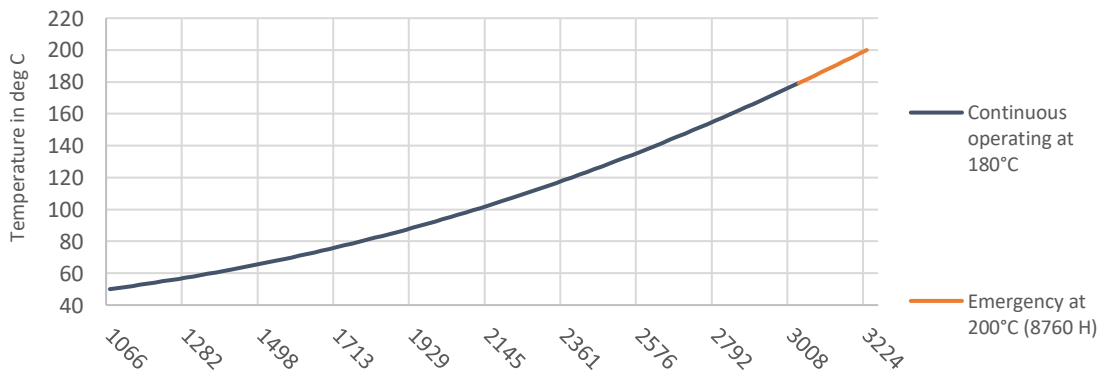
Cross Sectional Area - Annealed Aluminium	1,156.4	mm²
Cross Sectional Area - HVCRC Core	79.0	mm²
Total Area of Conductor Cross Section	1,235.4	mm²
Nominal equivalent Aluminium Area (1350-H19 at 61%IACS)	1,194.3	mm²
Overall Diameter of Conductor	40.74	mm
Mass per unit length - Annealed Aluminium	3,206.8	kg/km
Mass per unit length - Core	145.4	kg/km
Mass per unit length - Conductor	3,352.2	kg/km
Ultimate Tensile Strength of Conductor	273.7	kN
Core Rated Tensile Strength	204.3	kN
Coefficient of Linear Expansion **Above** Thermal Kneepoint	0.75	10^{-6} K^{-1}
Coefficient of Linear Expansion **Below** Thermal Kneepoint	19.58	10^{-6} K^{-1}
Final Modulus of Elasticity **Above** Thermal Kneepoint	146	GPa
Final Modulus of Elasticity **Below** Thermal Kneepoint	61	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	3,062.5	W.s/m.°C
Thermal Heat Capacity for Composite Core	116.3	W.s/m.°C

ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C *(1370-O at 63%IACS)*	0.0243	Ω.km^{-1}
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}
AC Nominal Resistance at 25°C (surface temperature)	0.0278	Ω.km^{-1}
AC Nominal Resistance at 75°C (surface temperature)	0.0323	Ω.km^{-1}
AC Nominal Resistance at 180°C (surface temperature)	0.0419	Ω.km^{-1}
AC Nominal Resistance at 200°C (surface temperature)	0.0438	Ω.km^{-1}
AC Current Rating at 180°C (surface temperature) (1)	3,036	A
AC Current Rating at 200°C (surface temperature) (1)	3,224	A



Geometric Mean Radius (GMR)

16.25 mm

Inductive Reactance Ø0.3m radius

0.221 Ω.km^{-1}

Capacitive Reactance Ø0.3m radius

0.129 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.

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