TECHNICAL DATA SHEET	HVCRC® 160 - 28 Epsilon Advanced Conductors	EPSILON CABLE

International size	**HELSINKI**
ASTM Size	**PASADENA**
Technical designation	ECRC® 160-AL0/28-L1



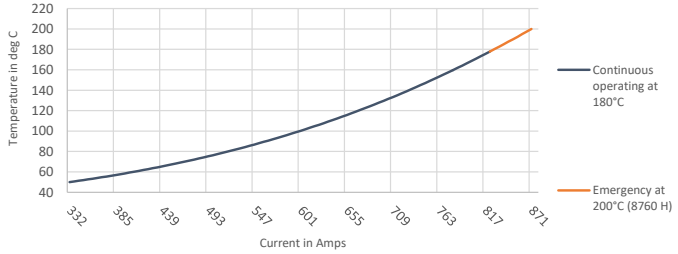
Governing Units: Metric

STRANDING CONFIGURATION				
	*No. & Diameter of HVCRC core*		1 x 5.97	mm
	Aluminium Layers Construction / height	18 TW x	2.42	mm
	1st layer composition and Øeq	7 x	3.29	mm
	2nd layer composition and Øeq	11 x	3.28	mm
	Lay Direction of outer layer		Right Hand (Z)	

CONDUCTOR PROPERTIES		
Cross Sectional Area - Annealed Aluminium	152.5	mm²
Cross Sectional Area - HVCRC Core	28.0	mm²
Total Area of Conductor Cross Section	180.5	mm²
Nominal equivalent Aluminium Area (1350-H19 at 61%IACS)	157.5	mm²
Overall Diameter of Conductor	15.65	mm
Mass per unit length - Annealed Aluminium	422.0	kg/km
Mass per unit length - Core	52.6	kg/km
Mass per unit length - Conductor	474.6	kg/km
Ultimate Tensile Strength of Conductor	69.0	kN
Core Rated Tensile Strength	59.8	kN
Coefficient of Linear Expansion **Above** Thermal Kneepoint	1.6	10^{-6} K^{-1}
Coefficient of Linear Expansion **Below** Thermal Kneepoint	17.18	10^{-6} K^{-1}
Final Modulus of Elasticity **Above** Thermal Kneepoint	112	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	403.0	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 *(1370-O at 63%IACS)*	0.1836	Ω.km^{-1}
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}
AC Nominal Resistance at 25°C (surface temperature)	0.1877	Ω.km^{-1}
AC Nominal Resistance at 75°C (surface temperature)	0.2247	Ω.km^{-1}
AC Nominal Resistance at 160°C (surface temperature)	0.2875	Ω.km^{-1}
AC Nominal Resistance at 180°C (surface temperature)	0.3023	Ω.km^{-1}
AC Nominal Resistance at 200°C (surface temperature)	0.3170	Ω.km^{-1}
AC Current Rating at 160°C (surface temperature) [1]	780	A
AC Current Rating at 180°C (surface temperature) [1]	827	A
AC Current Rating at 200°C (surface temperature) [1]	871	A



Geometric Mean Radius (GMR)	
6.44	mm
Inductive Reactance Ø0.3m radius	
0.242	Ω.km^{-1}
Capacitive Reactance Ø0.3m radius	
0.21	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 B987-20.

Reference standards for core properties: ASTM B987-20.

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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