TECHNICAL DATA SHEET

ECRC® 250 - 28

Epsilon Advanced Conductors

EPSILON CABLE

International size	**GDANSK**
ASTM Size	-
Technical designation	ECRC® 250-AL0/28-L1



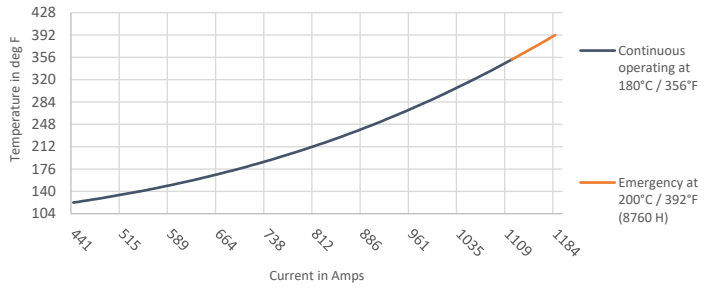
Governing Units: Metric to US Customary (Unit conversion)

STRANDING CONFIGURATION		Metric		US Customary	
	*No. & Diameter of composite core*	1 x 5.97	mm	1 x 0.235	in.
	Aluminum layers construction / Height	16 TW x 3.31	mm	0.130	in.
	1st layer composition and Øeq	6 x 4.42	mm	0.174	in.
	2nd layer composition and Øeq	10 x 4.45	mm	0.175	in.
	Lay Direction of outer layer	Right Hand (Z)			

CONDUCTOR PROPERTIES				
Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	247.5	mm²	488.5	kcmil
Cross Sectional Area - Composite Core	28.0	mm²	0.0434	in.²
Total Area of Conductor Cross Section	275.5	mm²	0.4270	in.²
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	255.6	mm²	504.5	kcmil
Overall Diameter of Conductor	19.21	mm	0.756	in.
Mass per unit length - Annealed Aluminum	684.0	kg/km	459.6	lb/kft
Mass per unit length - Core	52.6	kg/km	35.4	lb/kft
Mass per unit length - Conductor	736.6	kg/km	495.0	lb/kft
Ultimate Tensile Strength of Conductor	74.7	kN	16.8	kips
Core Rated Tensile Strength	59.8	kN	13.4	kips
Coefficient of Linear Expansion Above Thermal Kneepoint	1.6	10^{-6} K^{-1}	0.889	10^{-6} F^{-1}
Coefficient of Linear Expansion Below Thermal Kneepoint	18.99	10^{-6} K^{-1}	10.55	10^{-6} F^{-1}
Final Modulus of Elasticity Above Thermal Kneepoint	112	GPa	16.24	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	61	GPa	8.82	Msi

THERMAL SPECIFICATIONS				
Maximum Continuous Operating Temperature[2] (surface temperature)	180	°C	356	°F
Maximum Emergency Temperature / 8760 Hours[2] (surface temperature)	200	°C	392	°F
Thermal Heat Capacity for Annealed Aluminum Layers	653.2	W-s/m-°C	110.6	W-s/ft-°F
Thermal Heat Capacity for Composite Core	42.1	W-s/m-°C	7.1	W-s/ft-°F

ELECTRICAL SPECIFICATIONS				
Maximum DC Electrical Resistance at 20°C / 68°F *(1370-O at 63%IACS)*	0.1131	ohm/km	0.1820	ohm/mile
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}	2.089	10^{-3} F^{-1}
AC Nominal Resistance at 25°C / 77°F (surface temperature)	0.1164	ohm/km	0.1873	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.1390	ohm/km	0.2237	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.1867	ohm/km	0.3004	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.1957	ohm/km	0.3150	ohm/mile
AC Current Rating at 180°C / 356°F (surface temperature) [1]	1,123 A			
AC Current Rating at 200°C / 392°F (surface temperature) [1]	1,184 A			



Geometric Mean Radius (GMR)				
	7.77	mm	0.0255	ft.
Inductive Reactance Ø0.3m (Ø0.98ft) radius				
	0.231	Ω.km-1	0.3718	ohm/mile
Capacitive Reactance Ø0.3m (Ø0.98ft) radius				
	0.198	MΩ.km	0.1230	Mohm-mile

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

25 °C / 77 °F ambient temperature, 0.61 m/s (2 ft/s) wind velocity with an angle of 90 °,

1000 W/m² (92.9 W/ft²) solar radiation, 0.5 solar absorption coefficient,

0.6 emissivity coefficient, Resistance AC at 60 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.

Rated specifications may slightly change depending on conductor manufacturer.

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