

# TECHNICAL DATA SHEET

## Epsilon Advanced Conductor 230 - 28

High Temperature Low Sag Conductors

EPSILON  
CABLE

International size **COPENHAGEN**  
ASTM Size **LINNET**



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	3.08	mm	0.121	in.
	1st layer composition and Øeq	6 x	4.20	mm	0.165	in.
	2nd layer composition and Øeq	10 x	4.19	mm	0.165	in.
	Lay Direction of outer layer	Right Hand (Z)				

### CONDUCTOR PROPERTIES

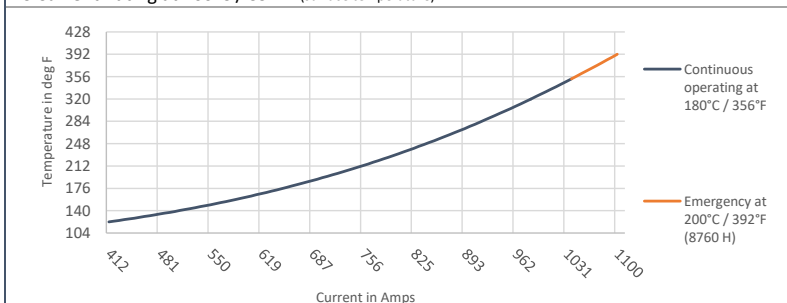
Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	221.3	mm <sup>2</sup>	436.8	kcmil
Cross Sectional Area - Composite Core	28.0	mm <sup>2</sup>	0.0434	in. <sup>2</sup>
Total Area of Conductor Cross Section	249.3	mm <sup>2</sup>	0.3865	in. <sup>2</sup>
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	228.6	mm <sup>2</sup>	451.1	kcmil
Overall Diameter of Conductor	18.29	mm	0.720	in.
Mass per unit length - Annealed Aluminum	612.0	kg/km	411.2	lb/kft
Mass per unit length - Core	51.8	kg/km	34.8	lb/kft
Mass per unit length - Conductor	663.8	kg/km	446.0	lb/kft
Ultimate Tensile Strength of Conductor	73.1	kN	16.4	kips
Core Rated Tensile Strength	59.8	kN	13.4	kips
Coefficient of Linear Expansion Above Thermal Kneepoint	1.6	10 <sup>-6</sup> K <sup>-1</sup>	0.889	10 <sup>-6</sup> F <sup>-1</sup>
Coefficient of Linear Expansion Below Thermal Kneepoint	18.62	10 <sup>-6</sup> K <sup>-1</sup>	10.34	10 <sup>-6</sup> F <sup>-1</sup>
Final Modulus of Elasticity Above Thermal Kneepoint	112	GPa	16.24	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	61	GPa	8.91	Msi

### THERMAL SPECIFICATIONS

Maximum Continuous Operating Temperature <sup>(2)</sup> (surface temperature)	180	°C	356	°F
Maximum Emergency Temperature / 8760 Hours <sup>(2)</sup> (surface temperature)	200	°C	392	°F
Thermal Heat Capacity for Annealed Aluminum Layers	584.5	W-s/m-°C	98.9	W-s/ft-°F
Thermal Heat Capacity for Composite Core	41.4	W-s/m-°C	7.0	W-s/ft-°F

### ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C / 68°F (1370-O at 63%IACS)	0.1265	ohm/km	0.2036	ohm/mile
Temperature Coefficient of Resistance	4.07	10 <sup>-3</sup> K <sup>-1</sup>	2.109	10 <sup>-3</sup> F <sup>-1</sup>
AC Nominal Resistance at 25°C / 77°F (surface temperature)	0.1300	ohm/km	0.2092	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.1556	ohm/km	0.2504	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.2094	ohm/km	0.3371	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.2197	ohm/km	0.3536	ohm/mile
AC Current Rating at 180°C / 356°F (surface temperature) <sup>(1)</sup>	1,044 A			
AC Current Rating at 200°C / 392°F (surface temperature) <sup>(1)</sup>	1,100 A			



#### Geometric Mean Radius (GMR)

7.42 mm 0.0243 ft.

#### Inductive Reactance Ø0.3m (Ø0.98ft) radius

0.233 Ω.km-1 0.3750 ohm/mile

#### Capacitive Reactance Ø0.3m (Ø0.98ft) radius

0.201 MΩ.km 0.1249 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/m<sup>2</sup> (92.9 W/ft<sup>2</sup>) 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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