

# TECHNICAL DATA SHEET

## Epsilon Advanced Conductor 130 - 28

High Temperature Low Sag Conductors

**EPSILON**  
CABLE

International size **SILVASSA**

ASTM Size -



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	20 TW x	2.10	mm	0.083	in.
	1st layer composition and Øeq	8 x	2.79	mm	0.110	in.
	2nd layer composition and Øeq	12 x	2.80	mm	0.110	in.
	Lay Direction of outer layer	Right Hand (Z)				

### CONDUCTOR PROPERTIES

Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	122.9	mm <sup>2</sup>	242.6	kcmil
Cross Sectional Area - Composite Core	28.0	mm <sup>2</sup>	0.0434	in. <sup>2</sup>
Total Area of Conductor Cross Section	150.9	mm <sup>2</sup>	0.2339	in. <sup>2</sup>
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	126.9	mm <sup>2</sup>	250.5	kcmil
Overall Diameter of Conductor	14.35	mm	0.565	in.
Mass per unit length - Annealed Aluminum	340.0	kg/km	228.5	lb/kft
Mass per unit length - Core	51.8	kg/km	34.8	lb/kft
Mass per unit length - Conductor	391.8	kg/km	263.3	lb/kft
Ultimate Tensile Strength of Conductor	67.2	kN	15.1	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	16.22	10 <sup>-6</sup> K <sup>-1</sup>	9.01	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	66	GPa	9.51	Msi

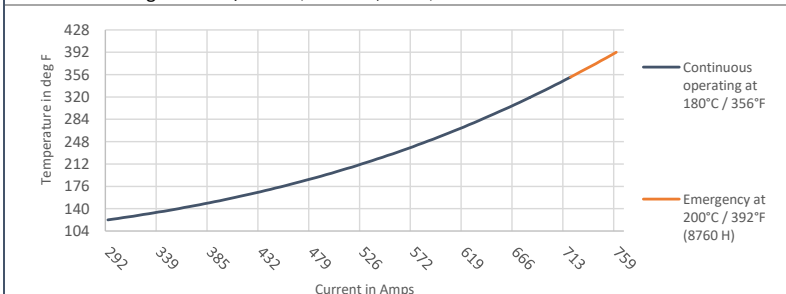
### THERMAL SPECIFICATIONS

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	324.7	W-s/m-°C	55.0	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)	0.2277	ohm/km	0.3664	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)	0.2328	ohm/km	0.3747	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.2791	ohm/km	0.4492	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.3763	ohm/km	0.6056	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.3948	ohm/km	0.6354	ohm/mile

AC Current Rating at 180°C / 356°F (surface temperature) <sup>(1)</sup>	722 A			
AC Current Rating at 200°C / 392°F (surface temperature) <sup>(1)</sup>	759 A			



#### Geometric Mean Radius (GMR)

5.96 mm 0.0196 ft.

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

0.247 Ω.km-1 0.3975 ohm/mile

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

0.215 MΩ.km 0.1336 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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