

# TECHNICAL DATA SHEET

## Epsilon Advanced Conductor 950 - 75

High Temperature Low Sag Conductors


**EPSILON**  
CABLE

International size **ANTWERP**  
ASTM Size **DALLAS**



Governing Units: Metric to US Customary (Unit conversion)

### STRANDING CONFIGURATION

	No. & Diameter of composite core	Metric			US Customary	
	Aluminum layers construction / Height	1 x 9.78	mm		1 x 0.385	in.
	1st layer composition and Øeq	42 TW x	4.52	mm	0.178	in.
	2nd layer composition and Øeq	9 x	5.25	mm	0.207	in.
	3rd layer composition and Øeq	14 x	5.35	mm	0.211	in.
		19 x	5.39	mm	0.212	in.
Lay Direction of outer layer	Right Hand (Z)					

### CONDUCTOR PROPERTIES

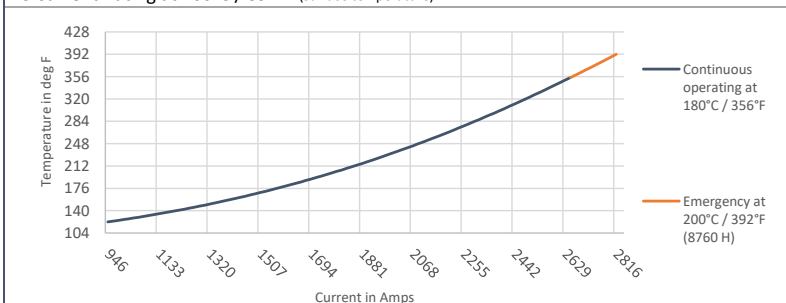
Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	943.6	mm <sup>2</sup>	1862.2	kcmil
Cross Sectional Area - Composite Core	75.1	mm <sup>2</sup>	0.1164	in. <sup>2</sup>
Total Area of Conductor Cross Section	1,018.7	mm <sup>2</sup>	1.5790	in. <sup>2</sup>
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	974.5	mm <sup>2</sup>	1923.2	kcmil
Overall Diameter of Conductor	36.9	mm	1.453	in.
Mass per unit length - Annealed Aluminum	2,612.0	kg/km	1,755.2	lb/kft
Mass per unit length - Core	139.0	kg/km	93.4	lb/kft
Mass per unit length - Conductor	2,751.0	kg/km	1,848.6	lb/kft
Ultimate Tensile Strength of Conductor	225.2	kN	50.6	kips
Core Rated Tensile Strength	168.6	kN	37.9	kips
Coefficient of Linear Expansion Above Thermal Kneepoint	1.3	10 <sup>-6</sup> K <sup>-1</sup>	0.722	10 <sup>-6</sup> F <sup>-1</sup>
Coefficient of Linear Expansion Below Thermal Kneepoint	19.72	10 <sup>-6</sup> K <sup>-1</sup>	10.95	10 <sup>-6</sup> F <sup>-1</sup>
Final Modulus of Elasticity Above Thermal Kneepoint	123	GPa	17.84	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	60	GPa	8.70	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	2,494.5	W-s/m-°C	422.2	W-s/ft-°F
Thermal Heat Capacity for Composite Core	111.2	W-s/m-°C	18.8	W-s/ft-°F

### ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C / 68°F (1370-O at 63%IACS)	0.0297	ohm/km	0.0478	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)	0.0338	ohm/km	0.0545	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.0394	ohm/km	0.0634	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.0514	ohm/km	0.0827	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.0537	ohm/km	0.0864	ohm/mile
AC Current Rating at 180°C / 356°F (surface temperature) <sup>(1)</sup>	2,654 A			
AC Current Rating at 200°C / 392°F (surface temperature) <sup>(1)</sup>	2,816 A			



(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.

Geometric Mean Radius (GMR)

14.76 mm 0.0484 ft.

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

0.19 Ω.km-1 0.3058 ohm/mile

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

0.161 MΩ.km 0.1000 Mohm-mile

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[contact@epsilon-cable.com](mailto:contact@epsilon-cable.com)

[www.epsilon-cable.com](http://www.epsilon-cable.com)