

TECHNICAL DATA SHEET

Epsilon Advanced Conductor 230 - 87

High Temperature Low Sag Conductors

EPSILON
CABLE

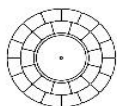
International size **MONTE CARLO**

ASTM Size -



Governing Units: Metric to US Customary (Unit conversion)

STRANDING CONFIGURATION



		Metric			US Customary	
No. & Diameter of composite core		1 x 10.54	mm		1 x 0.415	in.
Aluminum layers construction / Height	28 TW x	2.56	mm		0.101	in.
1st layer composition and Øeq	12 x	3.20	mm		0.126	in.
2nd layer composition and Øeq	16 x	3.25	mm		0.128	in.
Lay Direction of outer layer		Right Hand (Z)				

CONDUCTOR PROPERTIES

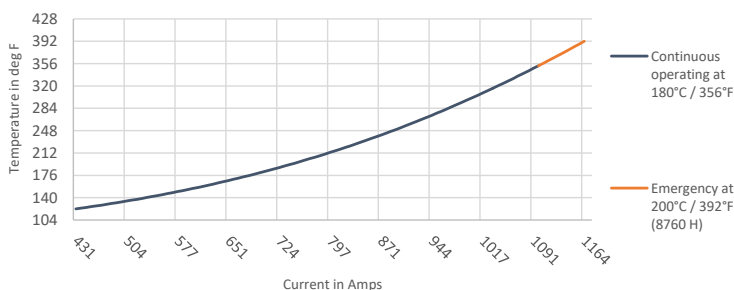
Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	229.1	mm ²	452.2	kcmil
Cross Sectional Area - Composite Core	87.3	mm ²	0.1352	in. ²
Total Area of Conductor Cross Section	316.4	mm ²	0.4904	in. ²
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	236.6	mm ²	467.0	kcmil
Overall Diameter of Conductor	20.78	mm	0.818	in.
Mass per unit length - Annealed Aluminum	635.2	kg/km	426.8	lb/kft
Mass per unit length - Core	161.4	kg/km	108.5	lb/kft
Mass per unit length - Conductor	796.6	kg/km	535.3	lb/kft
Ultimate Tensile Strength of Conductor	209.5	kN	47.1	kips
Core Rated Tensile Strength	195.8	kN	44.0	kips
Coefficient of Linear Expansion Above Thermal Kneepoint	1.3	10 ⁻⁶ K ⁻¹	0.722	10 ⁻⁶ F ⁻¹
Coefficient of Linear Expansion Below Thermal Kneepoint	13.02	10 ⁻⁶ K ⁻¹	7.23	10 ⁻⁶ F ⁻¹
Final Modulus of Elasticity Above Thermal Kneepoint	123	GPa	17.84	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	74	GPa	10.70	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	606.6	W-s/m-°C	102.7	W-s/ft-°F
Thermal Heat Capacity for Composite Core	129.1	W-s/m-°C	21.9	W-s/ft-°F

ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C / 68°F (1370-O at 63%IACS)	0.1225	ohm/km	0.1972	ohm/mile
Temperature Coefficient of Resistance	4.07	10 ⁻³ K ⁻¹	2.109	10 ⁻³ F ⁻¹
AC Nominal Resistance at 25°C / 77°F (surface temperature)	0.1259	ohm/km	0.2027	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.1507	ohm/km	0.2426	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.2029	ohm/km	0.3265	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.2128	ohm/km	0.3425	ohm/mile
AC Current Rating at 180°C / 356°F (surface temperature) ⁽¹⁾	1,104 A			
AC Current Rating at 200°C / 392°F (surface temperature) ⁽¹⁾	1,164 A			



Geometric Mean Radius (GMR)

8.87 mm 0.0291 ft.

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

0.222 Ω.km-1 0.3573 ohm/mile

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

0.194 MΩ.km 0.1205 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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