

TECHNICAL DATA SHEET

Epsilon Advanced Conductor 560 - 60

High Temperature Low Sag Conductors

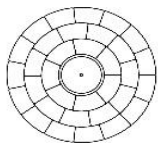
EPSILON
CABLE

International size **HAMBURG**
ASTM Size **PLANO**



Governing Units: Metric to US Customary (Unit conversion)

STRANDING CONFIGURATION



		Metric		US Customary	
No. & Diameter of composite core		1 x 8.76	mm	1 x 0.345	in.
Aluminum layers construction / Height	33 TW x	3.31	mm	0.130	in.
1st layer composition and Øeq	7 x	4.67	mm	0.184	in.
2nd layer composition and Øeq	11 x	4.62	mm	0.182	in.
3rd layer composition and Øeq	15 x	4.58	mm	0.180	in.
Lay Direction of outer layer		Right Hand (Z)			

CONDUCTOR PROPERTIES

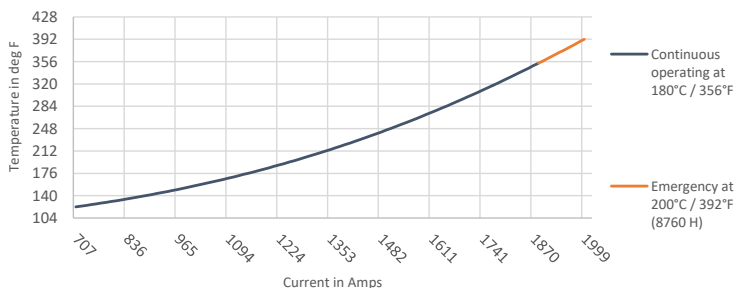
Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	551.5	mm ²	1088.5	kcmil
Cross Sectional Area - Composite Core	60.3	mm ²	0.0934	in. ²
Total Area of Conductor Cross Section	611.8	mm ²	0.9483	in. ²
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	569.6	mm ²	1124.2	kcmil
Overall Diameter of Conductor	28.62	mm	1.127	in.
Mass per unit length - Annealed Aluminum	1,527.0	kg/km	1,026.1	lb/kft
Mass per unit length - Core	111.5	kg/km	74.9	lb/kft
Mass per unit length - Conductor	1,638.5	kg/km	1,101.0	lb/kft
Ultimate Tensile Strength of Conductor	168.3	kN	37.8	kips
Core Rated Tensile Strength	135.2	kN	30.4	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	18.74	10 ⁻⁶ K ⁻¹	10.41	10 ⁻⁶ F ⁻¹
Final Modulus of Elasticity Above Thermal Kneepoint	123	GPa	17.84	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	62	GPa	8.95	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	1,458.3	W-s/m-°C	246.8	W-s/ft-°F
Thermal Heat Capacity for Composite Core	89.2	W-s/m-°C	15.1	W-s/ft-°F

ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C / 68°F (1370-O at 63%IACS)	0.0508	ohm/km	0.0818	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)	0.0540	ohm/km	0.0870	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.0640	ohm/km	0.1030	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.0853	ohm/km	0.1372	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.0893	ohm/km	0.1438	ohm/mile
AC Current Rating at 180°C / 356°F (surface temperature) ⁽¹⁾	1,891 A			
AC Current Rating at 200°C / 392°F (surface temperature) ⁽¹⁾	1,999 A			



Geometric Mean Radius (GMR)

11.57 mm 0.0380 ft.

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

0.206 Ω.km-1 0.3315 ohm/mile

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

0.175 MΩ.km 0.1087 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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contact@epsilon-cable.com

www.epsilon-cable.com