

TECHNICAL DATA SHEET

Epsilon Advanced Conductor 250 - 28

High Temperature Low Sag Conductors

EPSILON
CABLEInternational size **GDANSK**

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	16 TW x	3.31	mm	0.130	in.
	1st layer composition and ϕ_{eq}	6 x	4.42	mm	0.174	in.
	2nd layer composition and ϕ_{eq}	10 x	4.45	mm	0.175	in.
	Lay Direction of outer layer	Right Hand (Z)				

CONDUCTOR PROPERTIES

Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	247.5	mm ²	488.5	kcmil
Cross Sectional Area - Composite Core	28.0	mm ²	0.0434	in. ²
Total Area of Conductor Cross Section	275.5	mm ²	0.4270	in. ²
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	255.6	mm ²	504.5	kcmil
Overall Diameter of Conductor	19.21	mm	0.756	in.
Mass per unit length - Annealed Aluminum	684.0	kg/km	459.6	lb/kft
Mass per unit length - Core	51.8	kg/km	34.8	lb/kft
Mass per unit length - Conductor	735.8	kg/km	494.4	lb/kft
Ultimate Tensile Strength of Conductor	74.7	kN	16.8	kips
Core Rated Tensile Strength	59.8	kN	13.4	kips
Coefficient of Linear Expansion Above Thermal Kneepoint	1.6	10 ⁻⁶ K ⁻¹	0.889	10 ⁻⁶ F ⁻¹
Coefficient of Linear Expansion Below Thermal Kneepoint	18.99	10 ⁻⁶ K ⁻¹	10.55	10 ⁻⁶ F ⁻¹
Final Modulus of Elasticity Above Thermal Kneepoint	112	GPa	16.24	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	61	GPa	8.82	Msi

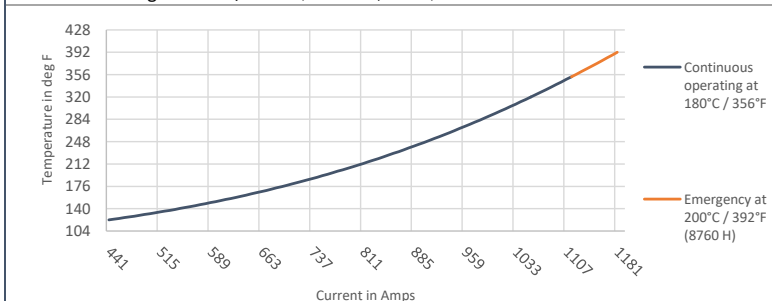
THERMAL SPECIFICATIONS

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	653.2	W-s/m-°C	110.6	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)	0.1131	ohm/km	0.1820	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)	0.1164	ohm/km	0.1874	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.1393	ohm/km	0.2241	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.1874	ohm/km	0.3016	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.1966	ohm/km	0.3163	ohm/mile

AC Current Rating at 180°C / 356°F (surface temperature) ⁽¹⁾	1,121 A			
AC Current Rating at 200°C / 392°F (surface temperature) ⁽¹⁾	1,181 A			



Geometric Mean Radius (GMR)

7.77 mm 0.0255 ft.

Inductive Reactance $\phi 0.3m$ ($\phi 0.98ft$) radius0.231 $\Omega.km^{-1}$ 0.3718 ohm/mileCapacitive Reactance $\phi 0.3m$ ($\phi 0.98ft$) radius0.198 M $\Omega.km$ 0.1230 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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