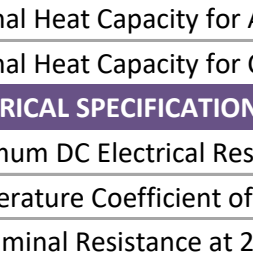
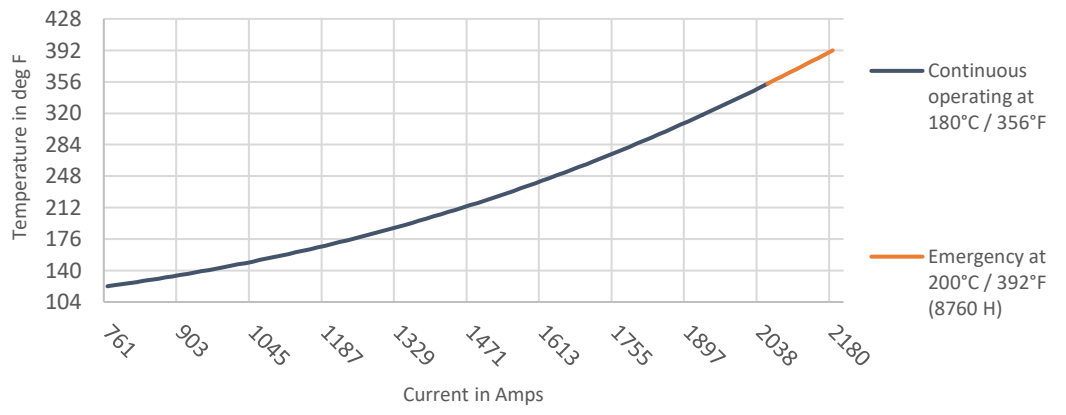
TECHNICAL DATA SHEET	Ultra Low Sag (ULS)	**ECRC® ULS 640 - 60** Epsilon Advanced Conductors	EPSILON CABLE
International size	**VIENNA**		
ASTM Size	**CARDINAL**		
Technical designation	ECRC® 640-AL0/60-X1		



Governing Units: Metric to US Customary (Unit conversion)

STRANDING CONFIGURATION		Metric		US Customary	
	*No. & Diameter of the core*	1 x 8.76	mm	1 x 0.345	in.
	Aluminium layers construction / Height	36 TW x 3.61	mm	0.142	in.
	1st layer composition and Øeq	8 x 4.62	mm	0.182	in.
	2nd layer composition and Øeq	12 x 4.73	mm	0.186	in.
	3st layer composition and Øeq	16 x 4.77	mm	0.188	in.
	Lay Direction of outer layer	Right Hand (Z)			

CONDUCTOR PROPERTIES				
Cross Sectional Area - Annealed Aluminum (1350-O at 63%IACS)	630.5	mm²	1244.2	kcmil
Cross Sectional Area - Composite Core	60.3	mm²	0.0934	in.²
Total Area of Conductor Cross Section	690.7	mm²	1.0706	in.²
Nominal equivalent Aluminum Area (1350-H19 at 61%IACS)	651.1	mm²	1285.0	kcmil
Overall Diameter of Conductor	30.42	mm	1.198	in.
Mass per unit length - Annealed Aluminum	1,746.0	kg/km	1,173.3	lb/kft
Mass per unit length - Core	110.9	kg/km	74.5	lb/kft
Mass per unit length - Conductor	1,856.9	kg/km	1,247.8	lb/kft
Ultimate Tensile Strength of Conductor	193.7	kN	43.5	kips
Core Rated Tensile Strength	155.9	kN	35.0	kips
Coefficient of Linear Expansion Above Thermal Kneepoint	0.75	10^{-6} K^{-1}	0.417	10^{-6} F^{-1}
Coefficient of Linear Expansion Below Thermal Kneepoint	18.50	10^{-6} K^{-1}	10.27	10^{-6} F^{-1}
Final Modulus of Elasticity Above Thermal Kneepoint	146	GPa	21.18	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	63	GPa	9.13	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	1,667.4	W-s/m-°C	282.2	W-s/ft-°F
Thermal Heat Capacity for Composite Core	88.7	W-s/m-°C	15.0	W-s/ft-°F
ELECTRICAL SPECIFICATIONS				
Maximum DC Electrical Resistance at 20°C / 68°F *(1370-O at 63%IACS)*	0.0445	ohm/km	0.0716	ohm/mile
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}	2.089	10^{-3} F^{-1}
AC Nominal Resistance at 25°C / 77°F (surface temperature)	0.0479	ohm/km	0.0771	ohm/mile
AC Nominal Resistance at 75°C / 167°F (surface temperature)	0.0565	ohm/km	0.0909	ohm/mile
AC Nominal Resistance at 180°C / 356°F (surface temperature)	0.0748	ohm/km	0.1204	ohm/mile
AC Nominal Resistance at 200°C / 392°F (surface temperature)	0.0783	ohm/km	0.1260	ohm/mile
AC Current Rating at 180°C / 356°F (surface temperature) [1]	2,060 A			
AC Current Rating at 200°C / 392°F (surface temperature) [1]	2,180 A			



Geometric Mean Radius (GMR)			
12.25	mm	0.0402	ft.
Inductive Reactance Ø0.3m (Ø0.98ft) radius			
0.202	Ω.km-1	0.3251	ohm/mile
Capacitive Reactance Ø0.3m (Ø0.98ft) radius			
0.172	MΩ.km	0.1069	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.

Reference standards for core properties: ASTM B987.

Reference standards for electrical specifications: IEC 62219.

Reference standards for stranding parameters: ASTM B857-14/IEC 62219.

Depending on conductor manufacturer rated specifications may slightly change.

Revision 00

Ref. Document ST25-00065

Date 14-Aug-2025

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