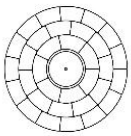
TECHNICAL DATA SHEET	HVCRC® 520 - 60 Epsilon Advanced Conductors	EPSILON CABLE

International size	**WARSAW**
ASTM Size	**GALVESTON**
Technical designation	ECRC® 520-AL0/60-S1



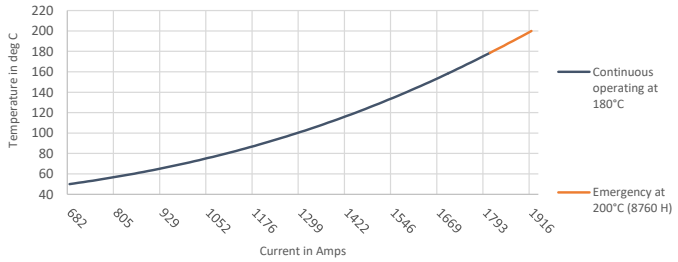
Governing Units: Metric

STRANDING CONFIGURATION				
	*No. & Diameter of the core*		1 x 8.76	mm
	Aluminium layers construction / Height	33 TW x	3.16	mm
	1st layer composition and Øeq	7 x	4.54	mm
	2nd layer composition and Øeq	11 x	4.45	mm
	3st layer composition and Øeq	15 x	4.41	mm
	Lay Direction of outer layer		Right Hand (Z)	

CONDUCTOR PROPERTIES		
Cross Sectional Area - Annealed Aluminium	513.1	mm²
Cross Sectional Area - HVCRC Core	60.3	mm²
Total Area of Conductor Cross Section	573.4	mm²
Nominal equivalent Aluminium Area (1350-H19 at 61%IACS)	529.9	mm²
Overall Diameter of Conductor	27.72	mm
Mass per unit length - Annealed Aluminium	1,421.0	kg/km
Mass per unit length - Core	111.5	kg/km
Mass per unit length - Conductor	1,532.5	kg/km
Ultimate Tensile Strength of Conductor	166.0	kN
Core Rated Tensile Strength	135.2	kN
Coefficient of Linear Expansion **Above** Thermal Kneepoint	1.3	10^{-6} K^{-1}
Coefficient of Linear Expansion **Below** Thermal Kneepoint	18.49	10^{-6} K^{-1}
Final Modulus of Elasticity **Above** Thermal Kneepoint	123	GPa
Final Modulus of Elasticity **Below** Thermal Kneepoint	62	GPa

THERMAL SPECIFICATIONS		
Maximum Continuous Operating Temperature[2] (surface temperature)	180	°C
Maximum Emergency Temperature / 8760 Hours[2] (surface temperature)	200	°C
Thermal Heat Capacity for Annealed Aluminium Layers	1,357.1	W.s/m.°C
Thermal Heat Capacity for Composite Core	89.2	W.s/m.°C

ELECTRICAL SPECIFICATIONS		
Maximum DC Electrical Resistance at 20°C *(1370-O at 63%IACS)*	0.0546	Ω.km^{-1}
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}
AC Nominal Resistance at 25°C (surface temperature)	0.0571	Ω.km^{-1}
AC Nominal Resistance at 75°C (surface temperature)	0.0679	Ω.km^{-1}
AC Nominal Resistance at 160°C (surface temperature)	0.0864	Ω.km^{-1}
AC Nominal Resistance at 180°C (surface temperature)	0.0907	Ω.km^{-1}
AC Nominal Resistance at 200°C (surface temperature)	0.0951	Ω.km^{-1}
AC Current Rating at 160°C (surface temperature) [1]	1,703	A
AC Current Rating at 180°C (surface temperature) [1]	1,813	A
AC Current Rating at 200°C (surface temperature) [1]	1,916	A



Geometric Mean Radius (GMR)	
11.22	mm
Inductive Reactance Ø0.3m radius	
0.207	Ω.km^{-1}
Capacitive Reactance Ø0.3m radius	
0.177	MΩ.km

(1) Ampacity calculations based on IEEE Standard 738-2012, according to the following data:

25 °C ambient temperature, *0.61 m/s wind velocity with an angle of 90 °,*

1000 W/m² solar radiation, *0.5 solar absorption coefficient,*

0.6 emissivity coefficient, *Resistance AC at 50 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.

Depending on conductor manufacturer rated specifications may slightly change.

Revision	*03*
Ref. Document	*ST21-00053*
Date	*8-Jan-2026*

This document is the property of EPSILON COMPOSITE

contact@epsilon-cable.com

www.epsilon-cable.com