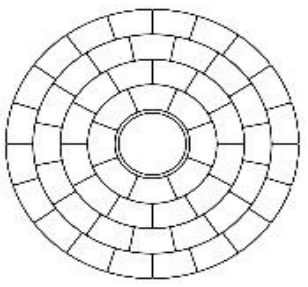
TECHNICAL DATA SHEET	Ultra Low Sag (ULS)	HVCRC® ULS 1020 - 75 Epsilon Advanced Conductors	EPSILON CABLE

International size	**MADRID**
ASTM Size	**LAPWING**
Technical designation	ECRC® 1020-AL0/75-X1



Governing Units: Metric

STRANDING CONFIGURATION



No. & Diameter of the core		1 x 9.78	mm
Aluminium layers construction / Height	56 TW x	3.55	mm
1st layer composition and Øeq	8 x	4.76	mm
2nd layer composition and Øeq	12 x	4.80	mm
3st layer composition and Øeq	16 x	4.81	mm
4st layer composition and Øeq	20 x	4.81	mm
Lay Direction of outer layer		Right Hand (Z)	

CONDUCTOR PROPERTIES

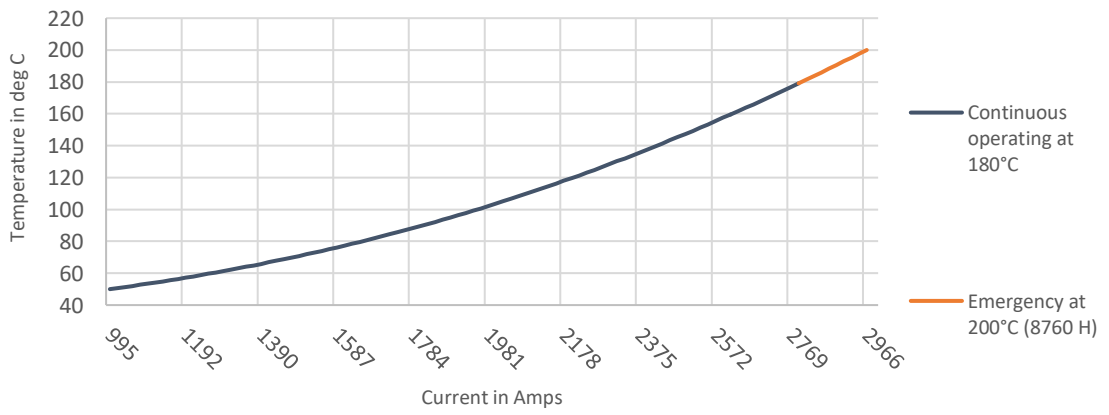
Cross Sectional Area - Annealed Aluminium	1,012.7	mm²
Cross Sectional Area - HVCRC Core	75.1	mm²
Total Area of Conductor Cross Section	1,087.8	mm²
Nominal equivalent Aluminium Area (1350-H19 at 61%IACS)	1,045.9	mm²
Overall Diameter of Conductor	38.18	mm
Mass per unit length - Annealed Aluminium	2,805.0	kg/km
Mass per unit length - Core	138.2	kg/km
Mass per unit length - Conductor	2,943.2	kg/km
Ultimate Tensile Strength of Conductor	255.1	kN
Core Rated Tensile Strength	194.3	kN
Coefficient of Linear Expansion **Above** Thermal Kneepoint	0.75	10^{-6} K^{-1}
Coefficient of Linear Expansion **Below** Thermal Kneepoint	19.34	10^{-6} K^{-1}
Final Modulus of Elasticity **Above** Thermal Kneepoint	146	GPa
Final Modulus of Elasticity **Below** Thermal Kneepoint	61	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	2,678.8	W.s/m.°C
Thermal Heat Capacity for Composite Core	110.6	W.s/m.°C

ELECTRICAL SPECIFICATIONS

Maximum DC Electrical Resistance at 20°C *(1370-O at 63%IACS)*	0.0277	$\Omega.km^{-1}$
Temperature Coefficient of Resistance	4.03	10^{-3} K^{-1}
AC Nominal Resistance at 25°C (surface temperature)	0.0309	$\Omega.km^{-1}$
AC Nominal Resistance at 75°C (surface temperature)	0.0361	$\Omega.km^{-1}$
AC Nominal Resistance at 180°C (surface temperature)	0.0473	$\Omega.km^{-1}$
AC Nominal Resistance at 200°C (surface temperature)	0.0495	$\Omega.km^{-1}$
AC Current Rating at 180°C (surface temperature) (1)	2,796	A
AC Current Rating at 200°C (surface temperature) (1)	2,966	A



Geometric Mean Radius (GMR)	
15.27	mm
Inductive Reactance Ø0.3m radius	
0.188	$\Omega.km^{-1}$
Capacitive Reactance Ø0.3m radius	
0.159	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.

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.

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