

DATA SHEET: CASABLANCA



Version 0, PRELIMINARY

Conductor Type		LF ACCC 285				
Code Name		CASABLANCA				
Conductor values:						
Nominal aluminium equivalent area	mm²	286				
Nominal Cross-sectional area of aluminium	mm²	276,8				
Nominal Cross-sectional area of Core	mm²	39,7				
Number, diameter and type of central wire	#, mm	1	7,11	R	CC	
Number, diameter and type of wire in layer	#, mm	6	4,69	T	Al	
Number, diameter and type of wire in layer	#, mm	10	4,70	T	Al	
Diameter tolerance of Composite Core (CC)	mm	± 0,06				
Minimum filling factor of the aluminium cross section	%	93				
Lay ratio of inner layer(s)		10-16				
Lay ratio of outer layer		10-14				
Overall diameter	mm	20,50				
Diameter of Core	mm	7,11				
Rated Tensile Strength of Conductor (RTS as per ASTM B 857) *	kN	101,1				
Extreme Load Safety Strength of Conductor (with 40% of the aluminium strength) **	kN	92,0				
Rated Tensile Strength of Core	kN	85,6				
Nominal Mass per unit length - Total	kg/km	842,7				
Nominal Mass per unit length - Aluminium	kg/km	766,7				
Nominal Mass per unit length - Core	kg/km	76,0				
DC resistance at 20 °C (nominal): Tolerance + /- 2%.	Ohm/km	0,1013				
AC resistance at 25 °C (nominal): Tolerance + /- 2%.	Ohm/km	0,1702				
DC current rating at maximum continuous surface operating temperature *** (calculated with Maximum DC resistance)	A, °C	1165	175			
AC current rating at maximum continuous surface operating temperature *** (calculated with Maximum AC resistance)	A, °C	1164	175			
Maximum allowable continuous operating temperature (surface)	°C	175				
Maximum allowable continuous operating temperature (core)	°C	180				
Coefficient of linear expansion above thermal kneepoint	/ K	0,00000161				
Coefficient of linear expansion below thermal kneepoint	/ K	0,0000181				
Modulus of elasticity of core	Gpa	118,6				
Modulus of elasticity below thermal kneepoint	GPa	64,3				
Geometric Mean Radius	mm	8,4				
Individual wires:						
Resistivity of aluminium at 20 °C (maximum) (IACS, minimum)	nohmm (%)	27,35	63%			
Minimum tensile strength, aluminium wire	MPa	58,6				

Standard applied for conductor manufacturer: EN50182

* Note ASTM calculates aluminium strength at 96% of the minimum Tensile Strength of the aluminium wire

** This safety strength is recommended where sustained loads of over 80% of the RTS are expected for prolonged periods. For further information, please see the ACCC Conductor Technical Note TN-750-001.

*** Conditions: Wind : 0,6m/s; emissivity= abs.Coef. = 0,5; sun radiation : 1000W/m²; Ambient temperature: 25°C