


DATA SHEET:	ACCC® AZR GROSBEAK ACCC®-AZR 416/52/251 (821 kcmil)*	
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For questions, please contact CTC Application Engineering Department: applicationsupport@ctcglobal.com

Metric and US Units are considered separate

Aluminum Specification	Metric		US Units	
Nominal Aluminum Cross-sectional Area***	416.2	mm ²	821.4	kcmil
Layer 1 %IACS/Aluminum Type (inner)	60%		AT3	
Layer 2 %IACS/Aluminum Type	60%		AT3	
Aluminum Nominal Weight**	1152.5	kg/km	774.6	lb/kft
Coefficient of Thermal Expansion	23.0	x10 ⁻⁶ /°C	12.8	x10 ⁻⁶ /°F
Aluminum Heat Capacity	1074.1	W-s/m-C	181.9	W-s/ft-F
ACCC® Core Specification (CTC Part Number 200-006)	Metric		US Units	
Nominal Cross-sectional Area of Core	51.90	mm ²	0.0804	in ²
Nominal Diameter of Composite Core	8.13	mm	0.320	in.
Core Nominal Weight	97.1	kg/km	65.2	lb/kft
Rated Strength of Core - 313 ksi (2158 MPa)	112.0	kN	25.2	kips
Coefficient of Thermal Expansion	1.61	x10 ⁻⁶ /°C	0.894	x10 ⁻⁶ /°F
Modulus of Elasticity	112.3	GPa	16.29	Msi
Core Heat Capacity	78.9	W-s/m-°C	13.4	W-s/ft-°F
ACCC® Conductor Specification	Metric		US Units	
Overall Diameter of Conductor ¹	25.15	mm	0.990	in.
Nominal Cross-sectional Area of the Conductor	468.1	mm ²	0.726	in ²
Ultimate Tensile Strength of Conductor ²	142.3	kN	32.0	kips
Conductor Nominal Weight**	1249.6	kg/km	839.8	lb/kft
Coefficient of Linear Expansion Above Thermal Kneepoint	1.61	x10 ⁻⁶ /°C	0.894	x10 ⁻⁶ /°F
Coefficient of Linear Expansion Below Thermal Kneepoint	18.7	x10 ⁻⁶ /°C	10.42	x10 ⁻⁶ /°F
Final Modulus of Elasticity Above Thermal Kneepoint	112.3	GPa	16.29	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	62.1	GPa	9.0	Msi
Maximum Allowable Operating Temperature at Surface ³	180	°C	356	°F
Electrical Specification	Metric		US Units	
Nominal DC Resistivity at 20°C	0.0705	ohm/km	0.1134	ohm/mile
Temperature Coefficient of Resistance	0.00400	/°C	0.00222	/°F
Frequency	60	Hz	60	Hz
AC Nominal Resistance at 25°C	0.0729	ohm/km	0.1173	ohm/mile
AC Nominal Resistance at 75°C	0.0869	ohm/km	0.1398	ohm/mile
AC Nominal Resistance at 200°C	0.1218	ohm/km	0.1960	ohm/mile
AC Current Rating at Given Temperatures ⁴		1506	@ 180°C & 60 Hz	
		1588	@ 200°C & 60 Hz	
GMR (estimated)	10.21	mm	0.0335	ft.
Inductive Reactance	0.256	ohm/km	0.4121	ohm/mile
Capacitive Reactance	0.152	Mohm-km	0.0946	Mohm-mile

ACCC®-AZR is produced with high temperature resistant AT3 aluminum alloy meeting IEC 62004 or ASTM B941 specifications. Some designs may also contain layers of 1350-O (fully annealed) aluminum. See aluminum specifications above for details. Numbers after name designate the number of layers of each alloy: First number designates the number of layers with the lower tensile strength alloy starting with the inner layer, second number designates the number of layers with the higher strength alloy on the outer layers.

- 1) Minimum hub diameter of the conductor reel must meet the requirements of CTC F-750-032.
- 2) Strength at ambient temperature. Based on 96% of the 1350-O minimum tensile strength (8.5 ksi/58.6 Mpa) and 90% of the AT3 minimum tensile strength (22.5 ksi/155 Mpa) and 75% of the composite core minimum tensile strength (310 ksi/2137 Mpa).
- 3) Maximum operating temperature of ACCC®-AZR is 180°C and a maximum emergency temperature of 200°C (10,000 hours over the life of the conductor).
- 4) Conditions: 2 ft/s (0.6 m/s) wind, 0 ft (0 m) Elevation, 0.5 Emis. 0.5 absorp., 25°C Ambient temp., 96 W/sq. ft (1033 W/sq. m) sun radiation

*ASTM name designation: mm² nominal aluminum area/mm² nominal core area/mm nominal diameterx10 (nominal kcmil aluminum)

**ACCC® Conductors are required to exhibit lay lengths (factors) that conform to ASTM B 857 or EN 50540.

***Different configurations among conductor manufacturers may result in slight variations within the parameters of indicated values for a given size in accordance with the stated specification.