

DATA SHEET:

ACCC® AZR CALGARY
ACCC®-AZR 419/71/257 (826 kcmil)*



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***	418.6	mm ²	826.1	kcmil	
Layer 1 %IACS/Aluminum Type (inner)	60%		AT3		
Layer 2 %IACS/Aluminum Type	60%		AT3		
Aluminum Nominal Weight**	1158.7	kg/km	778.7	lb/kft	
Coefficient of Thermal Expansion	23.0	x10 ⁻⁶ /°C	12.8	x10 ⁻⁶ /°F	
Aluminum Heat Capacity	1080.4	W-s/m-C	183.0	W-s/ft-F	
ACCC® Core Specification		Metric		US Units	
Nominal Cross-sectional Area of Core	71.30	mm ²	0.1100	in ²	
Nominal Diameter of Composite Core (CTC Part Number F-730-207)	9.53	mm	0.375	in.	
Core Nominal Weight	133.0	kg/km	89.2	lb/kft	
Rated Strength of Core - 310 ksi (2137 MPa)	151.7	kN	34.1	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	108.1	W-s/m-°C	18.3	W-s/ft-°F	
ACCC® Conductor Specification		Metric		US Units	
Overall Diameter of Conductor ¹	25.70	mm	1.012	in.	
Nominal Cross-sectional Area of the Conductor	489.9	mm ²	0.759	in ²	
Ultimate Tensile Strength of Conductor ²	173.4	kN	39.0	kips	
Conductor Nominal Weight**	1291.7	kg/km	867.9	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	17.7	x10 ⁻⁶ /°C	9.82	x10 ⁻⁶ /°F	
Final Modulus of Elasticity Above Thermal Kneepoint	112.3	GPa	16.29	Msi	
Final Modulus of Elasticity Below Thermal Kneepoint	65.3	GPa	9.5	Msi	
Maximum Allowable Operating Temperature at Surface ³	180	°C	356	°F	
Electrical Specification		Metric		US Units	
Nominal DC Resistivity at 20°C	0.0703	ohm/km	0.1131	ohm/mile	
Temperature Coefficient of Resistance	0.00400	/°C	0.00207	/°F	
Frequency	60	Hz	60	Hz	
AC Nominal Resistance at 25°C	0.0730	ohm/km	0.1175	ohm/mile	
AC Nominal Resistance at 75°C	0.0868	ohm/km	0.1397	ohm/mile	
AC Nominal Resistance at 180°C	0.1158	ohm/km	0.1863	ohm/mile	
AC Current Rating at Given Temperatures ⁴		1520	@ 180C & 60 Hz		
		1603	@ 200C & 60 Hz		
GMR (estimated)	10.55	mm	0.0346	ft.	
Inductive Reactance	0.254	ohm/km	0.4081	ohm/mile	
Capacitive Reactance	0.151	Mohm-km	0.0939	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.

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 (0.61 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

*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 (ratios) 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

DATA SHEET:

ACCC® AZR TORONTO
ACCC®-AZR 504/87/281 (994 kcmil)*



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Metric and US Units are considered separate

Aluminum Specification	Metric		US Units	
Nominal Aluminum Cross-sectional Area***	503.8	mm ²	994.2	kcmil
Layer 1 %IACS/Aluminum Type (inner)	63%		1350-O	
Layer 2 %IACS/Aluminum Type	60%		AT3	
Aluminum Nominal Weight**	1394.6	kg/km	937.3	lb/kft
Coefficient of Thermal Expansion	23.0	x10 ⁻⁶ /°C	12.8	x10 ⁻⁶ /°F
Aluminum Heat Capacity	1300.2	W-s/m-C	220.2	W-s/ft-F
ACCC® Core Specification	Metric		US Units	
Nominal Cross-sectional Area of Core	87.25	mm ²	0.1350	in ²
Nominal Diameter of Composite Core (CTC Part Number F-730-211)	10.54	mm	0.415	in.
Core Nominal Weight	163.0	kg/km	110.0	lb/kft
Rated Strength of Core - 310 ksi (2137 MPa)	185.9	kN	41.8	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	132.5	W-s/m-°C	22.5	W-s/ft-°F
ACCC® Conductor Specification	Metric		US Units	
Overall Diameter of Conductor ¹	28.14	mm	1.108	in.
Nominal Cross-sectional Area of the Conductor	591.0	mm ²	0.916	in ²
Ultimate Tensile Strength of Conductor ²	195.0	kN	43.8	kips
Conductor Nominal Weight**	1557.6	kg/km	1047.3	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	17.6	x10 ⁻⁶ /°C	9.79	x10 ⁻⁶ /°F
Final Modulus of Elasticity Above Thermal Kneepoint	112.3	GPa	16.29	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	65.7	GPa	9.5	Msi
Maximum Allowable Operating Temperature at Surface ³	180	°C	356	°F
Electrical Specification	Metric		US Units	
Nominal DC Resistivity at 20°C	0.0573	ohm/km	0.0922	ohm/mile
Temperature Coefficient of Resistance	0.00406	/°C	0.00210	/°F
Frequency	60	Hz	60	Hz
AC Nominal Resistance at 25°C	0.0595	ohm/km	0.0958	ohm/mile
AC Nominal Resistance at 75°C	0.0710	ohm/km	0.1142	ohm/mile
AC Nominal Resistance at 180°C	0.0950	ohm/km	0.1528	ohm/mile
AC Current Rating at Given Temperatures ⁴		1726	@ 180C & 60 Hz	
		1821	@ 200C & 60 Hz	
GMR (estimated)	11.56	mm	0.0379	ft.
Inductive Reactance	0.247	ohm/km	0.3970	ohm/mile
Capacitive Reactance	0.147	Mohm-km	0.0912	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.

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 (0.61 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

*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 (ratios) that conform to ASTM B 857 or EN 50540.

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Metric and US Units are considered separate

Aluminum Specification	Metric		US Units	
Nominal Aluminum Cross-sectional Area***	418.6	mm ²	826.1	kcmil
Layer 1 %IACS/Aluminum Type (inner)	60%		AT3	
Layer 2 %IACS/Aluminum Type	60%		AT3	
Aluminum Nominal Weight**	1158.7	kg/km	778.7	lb/kft
Coefficient of Thermal Expansion	23.0	x10 ⁻⁶ /°C	12.8	x10 ⁻⁶ /°F
Aluminum Heat Capacity	1080.4	W-s/m-C	183.0	W-s/ft-F
ACCC® Core Specification	Metric		US Units	
Nominal Cross-sectional Area of Core	71.30	mm ²	0.1100	in ²
Nominal Diameter of Composite Core (CTC Part Number F-730-207)	9.53	mm	0.375	in.
Core Nominal Weight	128.3	kg/km	85.8	lb/kft
Rated Strength of Core - 375 ksi (2586 MPa)	183.3	kN	41.2	kips
Coefficient of Thermal Expansion	0.75	x10 ⁻⁶ /°C	0.417	x10 ⁻⁶ /°F
Modulus of Elasticity	146.0	GPa	21.17	Msi
Core Heat Capacity	104.3	W-s/m-°C	17.7	W-s/ft-°F
ACCC® Conductor Specification	Metric		US Units	
Overall Diameter of Conductor ¹	25.70	mm	1.012	in.
Nominal Cross-sectional Area of the Conductor	489.9	mm ²	0.759	in ²
Ultimate Tensile Strength of Conductor ²	197.1	kN	44.4	kips
Conductor Nominal Weight**	1287.0	kg/km	864.5	lb/kft
Coefficient of Linear Expansion Above Thermal Kneepoint	0.75	x10 ⁻⁶ /°C	0.417	x10 ⁻⁶ /°F
Coefficient of Linear Expansion Below Thermal Kneepoint	16.3	x10 ⁻⁶ /°C	9.05	x10 ⁻⁶ /°F
Final Modulus of Elasticity Above Thermal Kneepoint	146.0	GPa	21.17	Msi
Final Modulus of Elasticity Below Thermal Kneepoint	70.2	GPa	10.2	Msi
Maximum Allowable Operating Temperature at Surface ³	180	°C	356	°F
Electrical Specification	Metric		US Units	
Nominal DC Resistivity at 20°C	0.0703	ohm/km	0.1131	ohm/mile
Temperature Coefficient of Resistance	0.00400	/°C	0.00207	/°F
Frequency	60	Hz	60	Hz
AC Nominal Resistance at 25°C	0.0730	ohm/km	0.1175	ohm/mile
AC Nominal Resistance at 75°C	0.0868	ohm/km	0.1397	ohm/mile
AC Nominal Resistance at 180°C	0.1158	ohm/km	0.1863	ohm/mile
AC Current Rating at Given Temperatures ⁴		1520	@ 180C & 60 Hz	
		1603	@ 200C & 60 Hz	
GMR (estimated)	10.55	mm	0.0346	ft.
Inductive Reactance	0.254	ohm/km	0.4081	ohm/mile
Capacitive Reactance	0.151	Mohm-km	0.0939	Mohm-mile

ACCC®-AZR-ULS 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.

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 (375 ksi/2586 Mpa).

3) Maximum operating temperature of ACCC®-AZR-ULS 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 (0.61 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

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

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Layer 1 %IACS/Aluminum Type (inner)	63%		1350-O		
Layer 2 %IACS/Aluminum Type	60%		AT3		
Aluminum Nominal Weight**	1394.6	kg/km	937.3	lb/kft	
Coefficient of Thermal Expansion	23.0	x10 ⁻⁶ /°C	12.8	x10 ⁻⁶ /°F	
Aluminum Heat Capacity	1300.2	W-s/m-C	220.2	W-s/ft-F	
ACCC® Core Specification		Metric		US Units	
Nominal Cross-sectional Area of Core	87.25	mm ²	0.1350	in ²	
Nominal Diameter of Composite Core (CTC Part Number F-730-211)	10.54	mm	0.415	in.	
Core Nominal Weight	157.1	kg/km	105.3	lb/kft	
Rated Strength of Core - 375 ksi (2586 MPa)	225.1	kN	50.6	kips	
Coefficient of Thermal Expansion	0.75	x10 ⁻⁶ /°C	0.417	x10 ⁻⁶ /°F	
Modulus of Elasticity	146.0	GPa	21.17	Msi	
Core Heat Capacity	127.7	W-s/m-°C	21.6	W-s/ft-°F	
ACCC® Conductor Specification		Metric		US Units	
Overall Diameter of Conductor ¹	28.14	mm	1.108	in.	
Nominal Cross-sectional Area of the Conductor	591.0	mm ²	0.916	in ²	
Ultimate Tensile Strength of Conductor ²	224.4	kN	50.4	kips	
Conductor Nominal Weight**	1551.7	kg/km	1042.6	lb/kft	
Coefficient of Linear Expansion Above Thermal Kneepoint	0.75	x10 ⁻⁶ /°C	0.417	x10 ⁻⁶ /°F	
Coefficient of Linear Expansion Below Thermal Kneepoint	16.2	x10 ⁻⁶ /°C	9.02	x10 ⁻⁶ /°F	
Final Modulus of Elasticity Above Thermal Kneepoint	146.0	GPa	21.17	Msi	
Final Modulus of Elasticity Below Thermal Kneepoint	70.7	GPa	10.2	Msi	
Maximum Allowable Operating Temperature at Surface ³	180	°C	356	°F	
Electrical Specification		Metric		US Units	
Nominal DC Resistivity at 20°C	0.0573	ohm/km	0.0922	ohm/mile	
Temperature Coefficient of Resistance	0.00406	/°C	0.00210	/°F	
Frequency	60	Hz	60	Hz	
AC Nominal Resistance at 25°C	0.0595	ohm/km	0.0958	ohm/mile	
AC Nominal Resistance at 75°C	0.0710	ohm/km	0.1142	ohm/mile	
AC Nominal Resistance at 180°C	0.0950	ohm/km	0.1528	ohm/mile	
AC Current Rating at Given Temperatures ⁴		1726	@ 180C & 60 Hz		
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