

DATA SHEET:

1608 KCMIL_BERSFORT_AECC_M3_TS



Governing Units: Metric

Mechanical Specifications	Metric		Imperial	
Fully Annealed Al Cross-sectional Area*	814.95	mm ²	1608.27	kcmil
Encapsulated Aluminum Cross-Sectional Area	136.66	mm ²	0.21182	in ²
Diameter of Composite Core (Exclude Encapsulation)	11.5	mm	0.45300	in
Cross-sectional Area of Core (Exclude Encapsulation)	103.90	mm ²	0.16100	in ²
Overall Diameter of Conductor	35.000	mm	1.378	in
Cross-sectional Area of the Conductor (Exclude Covering)	918.80	mm ²	1.42417	in ²
Ultimate Tensile Strength of Conductor 1) ,2)	334.02	kN	75.09	kip
Rated Strength of Core - 399 ksi (2750 MPa)	285.62	kN	64.21	kip
Core Mass per unit length (Exclude Encapsulation)	181.00	kg/km	121.65	lb/kft
Conductor Mass per unit length	2427.74	kg/km	1631.65	lb/kft
Fully Annealed Al Mass per unit length (Include Encapsulation)**	2246.74	kg/km	1510.00	lb/kft
Maximum Emergency Temperature at Surface 3)	200	°C	392	°F
Coefficient of Linear Expansion Above Thermal Kneepoint (core)	0.500	x10 ⁻⁶ /°C	0.278	x10 ⁻⁶ /°F
Coefficient of Linear Expansion Below Thermal Kneepoint (conductor)	17.263	x10 ⁻⁶ /°C	9.591	x10 ⁻⁶ /°F
Final Modulus of Elasticity Above Thermal Kneepoint (based on core area)	150.0	GPa	21.8	Msi
Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)	66.2	GPa	9.6	Msi
Aluminum Heat Capacity	2089.0	Watt-s/m-°C	353.7	Watt-s/ft-°F
Core Heat Capacity	153.6	Watt-s/m-°C	26.0	Watt-s/ft-°F
Encapsulation Thickness	3.00	mm	0.11811	in
Stranding Ratio	1.0260			
Covered Thickness	0.000	mm	0.000	in
Electrical Specifications	Metric		Imperial	
DC Resistance at 20°C (Fully Annealed Al 63% IACS)	0.0343	ohm/km	0.0552	ohm/mile
DC Resistance at 25°C	0.0350	ohm/km	0.0563	ohm/mile
DC Resistance at 75°C	0.0420	ohm/km	0.0676	ohm/mile
Temperature Coefficient of Resistance at 20°C	0.00408	1/°C	0.00227	1/°F
Frequency	60	Hz	60	Hz
AC Resistance at 25°C	0.0370	ohm/km	0.0595	ohm/mile
AC Resistance at 75°C	0.0437	ohm/km	0.0703	ohm/mile
AC Resistance at 180°C	0.0577	ohm/km	0.0929	ohm/mile
Ampacity 4)		2374	@180°C, & A	
		2510	@200°C, & A	
GMR (estimated)	14.22	mm	0.0466	ft
Inductive Reactance (Xa: internal flux+external flux radius 1 ft)	0.2311	ohm/km	0.372	ohm/mile
Capacitive Reactance	0.1364	Mohm-km	0.085	Mohm-mile

*1608 KCMIL_BERSFORT_AECC_M3_TS conductor is produced with Fully Annealed Al aluminum. The nominal Aluminum equivalent area is 814.9 sq. mm (1608.3 kcmil)

**TS® Conductors are required to exhibit lay lengths (ratios) that conform to established ACSR and ACSS standards.

- 1) Fully Annealed Al rated tensile strength based on applicable standard. Core tensile strength based on 100% of its strength.
- 2) Strength at ambient temperature, Strength may be reduced to Rated Core Strength when temperature is above knee point
- 3) Maximum continuous operating temperature of 1608 KCMIL_BERSFORT_AECC_M3_TS is 180°C and a maximum emergency temperature of 200°C
- 4). Ampacity based on: 25°C ambient temperature, 2ft/s (0.6 m/s) perpendicular wind, 0.5 Emis 0.5 Absorb. 60 Hz, sea level (0) elevation, 30°N line Azimuth, noon on June 10th (96W/sq.ft, 1033W/sq.m), clear atmosphere

The information contained herein is offered in good faith. All values are nominal unless specifically indicated as maximum or minimum. The actual configuration of a given size may vary between conductor manufacturers and may result in slight variations in some of the indicated values. Data herein is to be considered confidential and proprietary to TS Conductor

contact: info@tsconductor.com

ID:29575

Date Produced:

6/11/2025

DATA SHEET:

TS Bersfort M3 11.5 (35.0) 94 IEC



Governing Units: Metric

Mechanical Specifications	Metric		Imperial	
Fully Annealed Al Cross-sectional Area*	814.95	mm ²	1608.27	kcmil
Encapsulated Aluminum Cross-Sectional Area	136.66	mm ²	0.21182	in ²
Diameter of Composite Core (Exclude Encapsulation)	11.5	mm	0.45300	in
Cross-sectional Area of Core (Exclude Encapsulation)	103.90	mm ²	0.16100	in ²
Overall Diameter of Conductor	35.000	mm	1.378	in
Cross-sectional Area of the Conductor (Exclude Covering)	918.80	mm ²	1.42417	in ²
Ultimate Tensile Strength of Conductor 1) ,2)	334.02	kN	75.09	kip
Rated Strength of Core - 399 ksi (2750 MPa)	285.62	kN	64.21	kip
Core Mass per unit length (Exclude Encapsulation)	181.00	kg/km	121.65	lb/kft
Conductor Mass per unit length	2427.74	kg/km	1631.65	lb/kft
Fully Annealed Al Mass per unit length (Include Encapsulation)**	2246.74	kg/km	1510.00	lb/kft
Maximum Emergency Temperature at Surface 3)	200	°C	392	°F
Coefficient of Linear Expansion Above Thermal Kneepoint (core)	0.500	x10 ⁻⁶ /°C	0.278	x10 ⁻⁶ /°F
Coefficient of Linear Expansion Below Thermal Kneepoint (conductor)	17.263	x10 ⁻⁶ /°C	9.591	x10 ⁻⁶ /°F
Final Modulus of Elasticity Above Thermal Kneepoint (based on core area)	150.0	GPa	21.8	Msi
Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)	66.2	GPa	9.6	Msi
Aluminum Heat Capacity	2089.0	Watt-s/m-°C	353.7	Watt-s/ft-°F
Core Heat Capacity	153.6	Watt-s/m-°C	26.0	Watt-s/ft-°F
Encapsulation Thickness	3.00	mm	0.11811	in
Stranding Ratio	1.0260			
Covered Thickness	0.000	mm	0.000	in
Electrical Specifications	Metric		Imperial	
DC Resistance at 20°C (Fully Annealed Al 63% IACS)	0.0343	ohm/km	0.0552	ohm/mile
DC Resistance at 25°C	0.0350	ohm/km	0.0563	ohm/mile
DC Resistance at 75°C	0.0420	ohm/km	0.0676	ohm/mile
Temperature Coefficient of Resistance at 20°C	0.00408	1/°C	0.00227	1/°F
Frequency	50	Hz	50	Hz
AC Resistance at 25°C	0.0364	ohm/km	0.0586	ohm/mile
AC Resistance at 75°C	0.0432	ohm/km	0.0695	ohm/mile
AC Resistance at 180°C	0.0574	ohm/km	0.0924	ohm/mile
Ampacity 4)		2380	@180°C, & A	
		2516	@200°C, & A	
GMR (estimated)	14.22	mm	0.0466	ft
Inductive Reactance (Xa: internal flux+external flux radius 1 ft)	0.1926	ohm/km	0.310	ohm/mile
Capacitive Reactance	0.1637	Mohm-km	0.102	Mohm-mile

*TS Bersfort M3 11.5 (35.0) 94 IEC conductor is produced with Fully Annealed Al aluminum. The nominal Aluminum equivalent area is 814.9 sq. mm (1608.3 kcmil)

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- 2) Strength at ambient temperature, Strength may be reduced to Rated Core Strength when temperature is above knee point
- 3) Maximum continuous operating temperature of TS Bersfort M3 11.5 (35.0) 94 IEC is 180°C and a maximum emergency temperature of 200°C
- 4). Ampacity based on: 25°C ambient temperature, 2ft/s (0.6 m/s) perpendicular wind, 0.5 Emis 0.5 Absorb. 50 Hz, sea level (0) elevation, 30°N line Azimuth, noon on June 10th (96W/sq.ft, 1033W/sq.m), clear atmosphere

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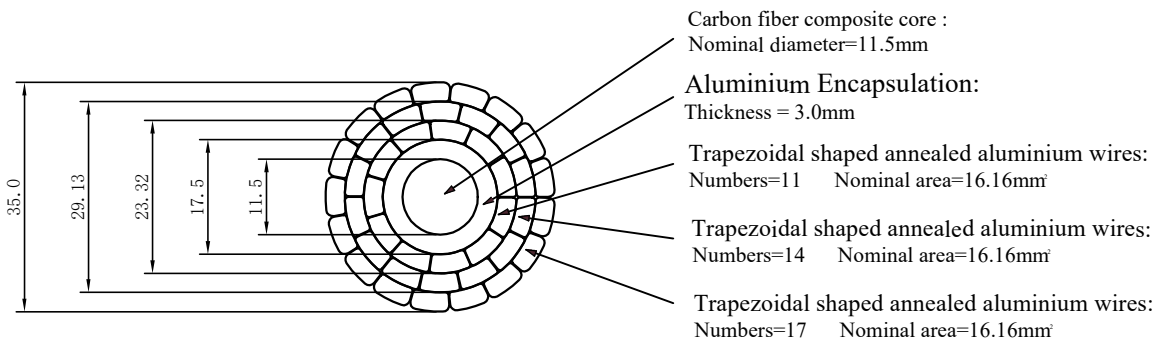
ID:46999

Date Produced: 12/5/2023

Conductor design drawing for manufacturing

Unit is mm

Expected value at production time



TS Bersfort M3 11.5 (35.0) 94 IEC ID:46999
TS Bersfort M4 11.5 (35.0) 94 IEC ID:47000
TS Bersfort M3 11.5 (1.378) 1608 ID:29575

TS Conductor Corp.		
TS® Conductor Bersfort		
Design		
Check		
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