

DATA SHEET:

383 KCMIL_Burnt_AECC_TW_M3_TS

Governing Units: Metric

Mechanical Specifications	Metric		Imperial	
Fully Annealed Al Cross-sectional Area*	193.83	mm ²	382.51	kcmil
Encapsulated Aluminum Cross-Sectional Area	43.98	mm ²	0.06817	in ²
Diameter of Composite Core (Exclude Encapsulation)	5.0	mm	0.19700	in
Cross-sectional Area of Core (Exclude Encapsulation)	19.60	mm ²	0.03043	in ²
Overall Diameter of Conductor	16.916	mm	0.666	in
Cross-sectional Area of the Conductor (Exclude Covering)	213.50	mm ²	0.33086	in ²
Ultimate Tensile Strength of Conductor 1) ,2)	65.74	kN	14.78	kip
Rated Strength of Core - 399 ksi (2750 MPa)	54.00	kN	12.14	kip
Core Mass per unit length (Exclude Encapsulation)	34.00	kg/km	22.85	lb/kft
Conductor Mass per unit length	565.18	kg/km	379.85	lb/kft
Fully Annealed Al Mass per unit length (Include Encapsulation)**	531.18	kg/km	357.00	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)	18.224	x10 ⁻⁶ /°C	10.124	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)	64.6	GPa	9.4	Msi
Aluminum Heat Capacity	496.9	Watt-s/m-°C	84.1	Watt-s/ft-°F
Core Heat Capacity	29.0	Watt-s/m-°C	4.9	Watt-s/ft-°F
Encapsulation Thickness	2.00	mm	0.07874	in
Stranding Ratio	1.0200			
Covered Thickness	0.000	mm	0.000	in
Electrical Specifications	Metric		Imperial	
DC Resistance at 20°C (Fully Annealed Al 63% IACS)	0.1434	ohm/km	0.2307	ohm/mile
DC Resistance at 25°C	0.1463	ohm/km	0.2354	ohm/mile
DC Resistance at 75°C	0.1755	ohm/km	0.2825	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	0.1468	ohm/km	0.2363	ohm/mile
AC Resistance at 75°C	0.1760	ohm/km	0.2832	ohm/mile
AC Resistance at 180°C	0.2372	ohm/km	0.3818	ohm/mile
Ampacity 4)		933	@180°C, & A	
		981	@200°C, & A	
GMR (estimated)	6.82	mm	0.0224	ft
Inductive Reactance (Xa: internal flux+external flux radius 1 ft)	0.2865	ohm/km	0.461	ohm/mile
Capacitive Reactance	0.1711	Mohm-km	0.106	Mohm-mile

*383 KCMIL_Burnt_AECC_TW_M3_TS conductor is produced with Fully Annealed Al aluminum. The nominal Aluminum equivalent area is 193.8 sq. mm (382.5 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 383 KCMIL_Burnt_AECC_TW_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

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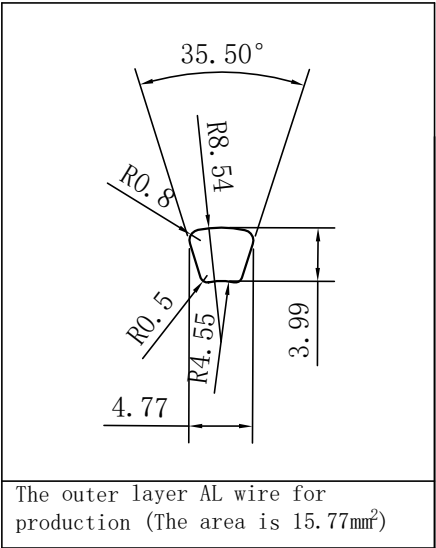
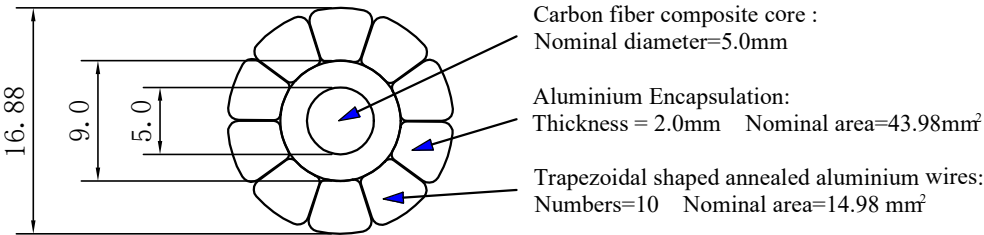
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Date Produced:

6/3/2025

Units: mm

TS Conductor Cross sectional drawing



TS Conductor Corp.

TS Burnt M3 5(0.666) – -ID: 27411

Design		Date	2024. 9. 29
Check		Date	2024. 9. 29
Ratify		Date	2024. 9. 29