

DATA SHEET:

TS Jerimoth M3 6 (0.584) 273



Governing Units: Metric

Mechanical Specifications	Metric		Imperial	
Fully Annealed Al Cross-sectional Area*	138.53	mm ²	273.38	kcmil
Encapsulated Aluminum Cross-Sectional Area	56.67	mm ²	0.08785	in ²
Diameter of Composite Core (Exclude Encapsulation)	6.0	mm	0.23600	in
Cross-sectional Area of Core (Exclude Encapsulation)	28.30	mm ²	0.04383	in ²
Overall Diameter of Conductor	14.840	mm	0.584	in
Cross-sectional Area of the Conductor (Exclude Covering)	166.80	mm ²	0.25854	in ²
Ultimate Tensile Strength of Conductor 1) ,2)	86.65	kN	19.48	kip
Rated Strength of Core - 399 ksi (2750 MPa)	77.80	kN	17.49	kip
Core Mass per unit length (Exclude Encapsulation)	49.00	kg/km	32.93	lb/kft
Conductor Mass per unit length	426.93	kg/km	286.93	lb/kft
Fully Annealed Al Mass per unit length (Include Encapsulation)**	377.93	kg/km	254.00	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)	15.189	x10 ⁻⁶ /°C	8.439	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)	73.0	GPa	10.6	Msi
Aluminum Heat Capacity	355.1	Watt-s/m-°C	60.1	Watt-s/ft-°F
Core Heat Capacity	41.8	Watt-s/m-°C	7.1	Watt-s/ft-°F
Encapsulation Thickness	2.20	mm	0.08661	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)	0.1999	ohm/km	0.3217	ohm/mile
DC Resistance at 25°C	0.2040	ohm/km	0.3282	ohm/mile
DC Resistance at 75°C	0.2447	ohm/km	0.3939	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	0.2042	ohm/km	0.3287	ohm/mile
AC Resistance at 75°C	0.2450	ohm/km	0.3942	ohm/mile
AC Resistance at 180°C	0.3305	ohm/km	0.5319	ohm/mile
Ampacity 4)		760	@180°C, & A	
		798	@200°C, & A	
GMR (estimated)	6.15	mm	0.0202	ft
Inductive Reactance (Xa: internal flux+external flux radius 1 ft)	0.2943	ohm/km	0.474	ohm/mile
Capacitive Reactance	0.1774	Mohm-km	0.110	Mohm-mile

*TS Jerimoth M3 6 (0.584) 273 conductor is produced with Fully Annealed Al aluminum. The nominal Aluminum equivalent area is 138.5 sq. mm (273.4 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 TS Jerimoth M3 6 (0.584) 273 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

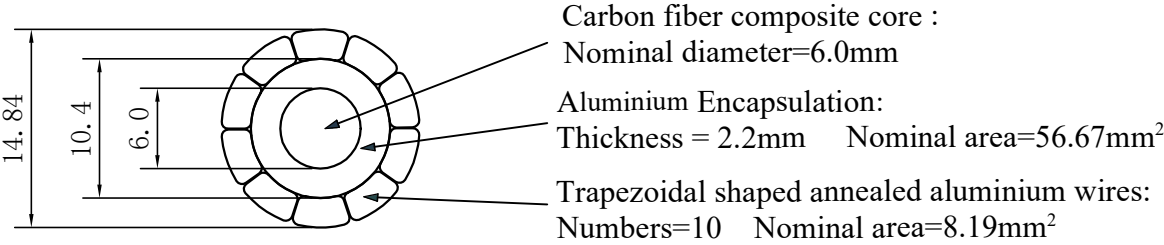
The information contained herein is offered in good faith. All values are nominal unless specifically indicated as maximum or minimum. The actual configuration of a given size may vary between conductor manufacturers and may result in slight variations in some of the indicated values. Data herein is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

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ID:27438

Date Produced: 12/4/2023

TS Conductor Cross sectional drawing



TS Conductor Corp.

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Design		Date	19. 11. 2023
Check		Date	19. 11. 2023
Ratify		Date	19. 11. 2023