

DATA SHEET:

564 KCMIL_Juniper_AECC_TW_M3_TS

Governing Units: Metric

Mechanical Specifications	Metric		Imperial	
Fully Annealed Al Cross-sectional Area*	285.83	mm ²	564.08	kcmil
Encapsulated Aluminum Cross-Sectional Area	63.59	mm ²	0.09856	in ²
Diameter of Composite Core (Exclude Encapsulation)	6.5	mm	0.25600	in
Cross-sectional Area of Core (Exclude Encapsulation)	33.20	mm ²	0.05143	in ²
Overall Diameter of Conductor	20.676	mm	0.814	in
Cross-sectional Area of the Conductor (Exclude Covering)	319.00	mm ²	0.49447	in ²
Ultimate Tensile Strength of Conductor 1) ,2)	108.58	kN	24.41	kip
Rated Strength of Core - 399 ksi (2750 MPa)	91.32	kN	20.53	kip
Core Mass per unit length (Exclude Encapsulation)	58.00	kg/km	38.98	lb/kft
Conductor Mass per unit length	842.13	kg/km	565.98	lb/kft
Fully Annealed Al Mass per unit length (Include Encapsulation)**	784.13	kg/km	527.00	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)	17.685	x10 ⁻⁶ /°C	9.825	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)	65.7	GPa	9.5	Msi
Aluminum Heat Capacity	732.7	Watt-s/m-°C	124.1	Watt-s/ft-°F
Core Heat Capacity	49.1	Watt-s/m-°C	8.3	Watt-s/ft-°F
Encapsulation Thickness	2.30	mm	0.09055	in
Stranding Ratio	1.0215			
Covered Thickness	0.000	mm	0.000	in
Electrical Specifications	Metric		Imperial	
DC Resistance at 20°C (Fully Annealed Al 63% IACS)	0.0973	ohm/km	0.1567	ohm/mile
DC Resistance at 25°C	0.0993	ohm/km	0.1598	ohm/mile
DC Resistance at 75°C	0.1192	ohm/km	0.1918	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	0.1001	ohm/km	0.1611	ohm/mile
AC Resistance at 75°C	0.1198	ohm/km	0.1928	ohm/mile
AC Resistance at 180°C	0.1613	ohm/km	0.2595	ohm/mile
Ampacity 4)		1203	@180°C, & A	
		1267	@200°C, & A	
GMR (estimated)	8.37	mm	0.0275	ft
Inductive Reactance (Xa: internal flux+external flux radius 1 ft)	0.2711	ohm/km	0.436	ohm/mile
Capacitive Reactance	0.1615	Mohm-km	0.100	Mohm-mile

*564 KCMIL_Juniper_AECC_TW_M3_TS conductor is produced with Fully Annealed Al aluminum. The nominal Aluminum equivalent area is 285.8 sq. mm (564.1 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 564 KCMIL_Juniper_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

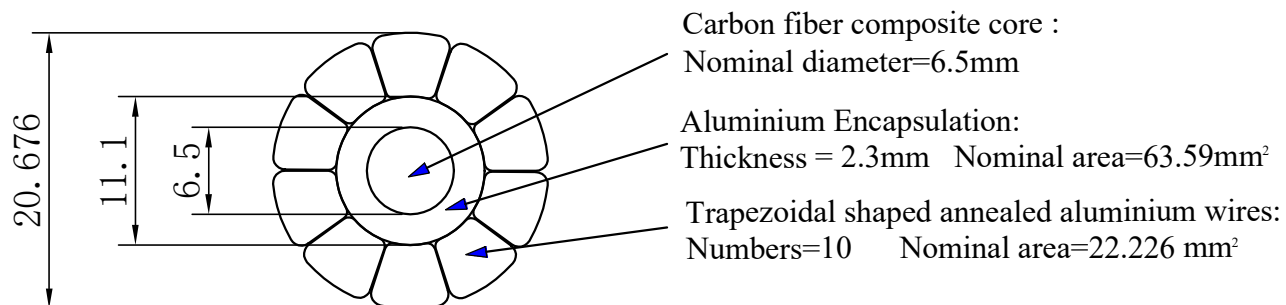
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ID:48025

Date Produced:

6/3/2025

TS[®] Conductor Cross sectional drawing



TS Conductor Corp.

TS Juniper M3 6.5(0.814) 564 ID:48025

Design	Date		
Check	Date		
Ratify	Date		