## TS Killdeer M3 10.5 (1.720) 2610



Governing Units: Metric

Metric   Imperial
Encapsulated Aluminum Cross-Sectional Area   127.23   mm²   0.19721   in²   Diameter of Composite Core (Exclude Encapsulation)   10.5   mm   0.41300   in   Cross-sectional Area of Core (Exclude Encapsulation)   86.60   mm²   0.13421   in²   Overall Diameter of Conductor   43.688   mm   1.720   in   Cross-sectional Area of the Conductor (Exclude Covering)   1409.10   mm²   2.18407   in²   Ultimate Tensile Strength of Conductor 1), 2)   314.89   kN   70.79   kip   Rated Strength of Core - 399 ksi (2750 MPa)   238.11   kN   53.53   kip   Core Mass per unit length (Exclude Encapsulation)   151.00   kg/km   101.48   lb/kft   Conductor Mass per unit length (Include Encapsulation)   3823.16   kg/km   2569.48   lb/kft   Fully Annealed AlMass per unit length (Include Encapsulation)**   3672.16   kg/km   2468.00   lb/kft   Maximum Emergency Temperature at Surface 3)   200   °C   392   °F   Coefficient of Linear Expansion Above Thermal Kneepoint (core)   0.500   x10.69°C   0.278   x10.69°C   Coefficient of Linear Expansion Below Thermal Kneepoint (conductor)   19.622   x10.69°C   10.901   x10.69°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)   60.8   GPa   8.8   Msi   Aluminum Heat Capacity   128.1   Watt-s/m.*°C   574.1   Watt-s/ft.*F   Core Heat Capacity   128.1   Watt-s/m.*°C   21.7   Watt-s/ft.*F   Encapsulation Thickness   3.00   mm   0.11811   in   Stranding Ratio   1.0320   Covered Thickness   0.000   mm   0.000   in
Diameter of Composite Core (Exclude Encapsulation)         10.5         mm         0.41300         in           Cross-sectional Area of Core (Exclude Encapsulation)         86.60         mm²         0.13421         in²           Overall Diameter of Conductor         43.688         mm         1.720         in           Cross-sectional Area of the Conductor (Exclude Covering)         1409.10         mm²         2.18407         in²           Ultimate Tensile Strength of Conductor 1) ,2)         314.89         kN         70.79         kip           Rated Strength of Core - 399 ksi (2750 MPa)         238.11         kN         53.53         kip           Core Mass per unit length (Exclude Encapsulation)         151.00         kg/km         101.48         lb/kft           Conductor Mass per unit length (Include Encapsulation)**         3823.16         kg/km         2569.48         lb/kft           Fully Annealed AlMass per unit length (Include Encapsulation)**         3672.16         kg/km         2468.00         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°C           Coefficient of Linear Expansion Below Thermal Kneepoint (based on co
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Overall Diameter of Conductor  Cross-sectional Area of the Conductor (Exclude Covering)  Ultimate Tensile Strength of Conductor 1), 2)  Rated Strength of Core - 399 ksi (2750 MPa)  Core Mass per unit length (Exclude Encapsulation)  Conductor Mass per unit length (Exclude Encapsulation)  Conductor Mass per unit length  Conductor Mass per unit length (Include Encapsulation)**  Fully Annealed AlMass per unit length (Include Encapsulation)**  Maximum Emergency Temperature at Surface 3)  Coefficient of Linear Expansion Above Thermal Kneepoint (core)  Coefficient of Linear Expansion Below Thermal Kneepoint (conductor)  Final Modulus of Elasticity Above Thermal Kneepoint (based on core area)  Aluminum Heat Capacity  Core Heat Capacity  Covered Thickness  Description of Linear Expansion  Alumina Ratio  Covered Thickness  Incore A3.688  mm  1.720  in  1.7
Cross-sectional Area of the Conductor (Exclude Covering)         1409.10         mm²         2.18407         in²           Ultimate Tensile Strength of Conductor 1) ,2)         314.89         kN         70.79         kip           Rated Strength of Core - 399 ksi (2750 MPa)         238.11         kN         53.53         kip           Core Mass per unit length (Exclude Encapsulation)         151.00         kg/km         101.48         lb/kft           Conductor Mass per unit length         3823.16         kg/km         2569.48         lb/kft           Fully Annealed AlMass per unit length (Include Encapsulation)**         3672.16         kg/km         2468.00         lb/kft           Maximum Emergency Temperature at Surface 3)         200         °C         392         °F           Coefficient of Linear Expansion Above Thermal Kneepoint (core)         0.500         x10-6/9C         0.278         x10-6/9F           Coefficient of Linear Expansion Below Thermal Kneepoint (based on core area)         150.0         GPa         21.8         Msi           Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)         60.8         GPa         8.8         Msi           Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)         60.8         GPa         8.8         Msi           F
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Fully Annealed AlMass per unit length (Include Encapsulation)**  Maximum Emergency Temperature at Surface 3)  Coefficient of Linear Expansion Above Thermal Kneepoint (core)  Coefficient of Linear Expansion Below Thermal Kneepoint (conductor)  Final Modulus of Elasticity Above Thermal Kneepoint (based on core area)  Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)  Aluminum Heat Capacity  Core Heat Capacity  Core Heat Capacity  Encapsulation Thickness  3672.16  kg/km  2468.00  lb/kft  kg/km  2468.00  lb/kft  8g/km  2468.00  lb/kft  9c  392  °F  Cozefficient of Linear Expansion Above Thermal Kneepoint (conductor)  19.622  x10°6/°C  10.901  x10°6/°F
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Coefficient of Linear Expansion Above Thermal Kneepoint (core)  Coefficient of Linear Expansion Below Thermal Kneepoint (conductor)  Final Modulus of Elasticity Above Thermal Kneepoint (based on core area)  Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)  Final Modulus of Elasticity Below Thermal Kneepoint (based on conductor area)  Aluminum Heat Capacity  Core Heat Capacity  Encapsulation Thickness  3.00  mm  Conductor  128.1  Watt-s/m-°C  21.7  Watt-s/ft-°F  Encapsulation Thickness  3.00  Thickness  Covered Thickness  0.000  mm  0.000  mm  0.000  in
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Aluminum Heat Capacity       3390.1       Watt-s/m-°C       574.1       Watt-s/ft-°F         Core Heat Capacity       128.1       Watt-s/m-°C       21.7       Watt-s/ft-°F         Encapsulation Thickness       3.00       mm       0.11811       in         Stranding Ratio       1.0320          Covered Thickness       0.000       mm       0.000       in
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Covered Thickness 0.000 mm 0.000 in
Electrical Specifications Metric Imperial
DC Resistance at 20°C (Fully Annealed Al 63% IACS) 0.0213 ohm/km 0.0343 ohm/mile
DC Resistance at 25°C 0.0217 ohm/km 0.0350 ohm/mile
DC Resistance at 75°C 0.0261 ohm/km 0.0420 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 0.0253 ohm/km 0.0408 ohm/mile
AC Resistance at 75 <sup>o</sup> C 0.0292 ohm/km 0.0470 ohm/mile
AC Resistance at 180°C 0.0373 ohm/km 0.0601 ohm/mile
Ampacity 4) 3173 @180°C, & A
3367 @200°C, & A
GMR (estimated) 17.41 mm 0.0571 ft
Inductive Reactance (Xa: internal flux+external flux radius 1 ft) 0.2158 ohm/km 0.347 ohm/mile
Capacitive Reactance 0.1258 Mohm-km 0.078 Mohm-mile

<sup>\*</sup>TS Killdeer M3 10.5 (1.720) 2610 conductor is produced with Fully Annealed Al aluminum. The nominal Aluminum equivaeInt area is 1322.5 sq. mm (2609.9 kcmil)

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:29561 Date Produced: 12/5/2023

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

<sup>1)</sup> Fully Annealed Al rated tensile strength based on applicable standard. Core tensile strength based on 100% of its strength.

<sup>2)</sup> Strength at ambient temperature, Strength may be reduced to Rated Core Strength when temperature is above knee point

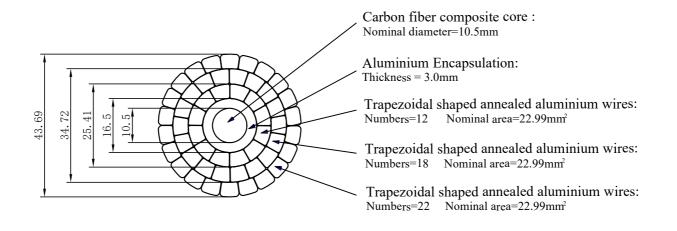
<sup>3)</sup> Maximum continuous operating temperature of TS Killdeer M3 10.5 (1.720) 2610 is 180°C and a maximum emergency temperature of 200°C

<sup>4).</sup> 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

Unit is mm

## TS Conductor Cross sectional drawing

## Expected value at production time



TS Conductor Corp.			
TS Killdeer M3 10.5 ID:29561			
Design			
Check			
Ratify			