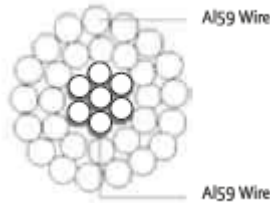


STERLITE® Low Loss Alloy Conductor Series AL 59 Conductor



Project Description

Sterlite® Al59 conductors are low resistance conductors, with conductivity of 59%. Al59 conductor belongs to Al-Mg-Si alloy type.

Product Application

Al59 alloy conductors are used in power transmission and distribution lines for a wide voltage range (low voltage to ultra-high Voltage). These conductors have higher current carrying capacity & lower losses due to DC resistance. Al59 conductors have high corrosion resistance, making them most suited for deployment in coastal regions.

Product Benefits

- 26% to 31% more current carrying capacity as that of ACSR of the same size, while maximum sag remains the same & working tension is lesser than that of ACSR
- Resistivity is substantially lesser than that of ACSR/ AAAC conductors, resulting in lower I²R losses.
- Higher corrosion resistance than 6201 alloy series (AAAC).

Product Specification

Properties	Al59 (ACSR Moose Equivalent)	Al59 (ACSR Zebra Equivalent)	Al59 (ACSR Panther Equivalent)
Typical Factors	61/3.50mm	61/3.18mm	37.3.00mm
Reference Specifications	SS 4240814	SS 4240814	SS 4240814
Total Cross Section Area (sqmm)	587 sqmm	484.25 sqmm	261.5 sqmm
Conductive Wire	Al59	Al59	Al59
Core Wire	Al59	Al59	Al59
Conductor Diameter (mm)	31.5	28.62	21
Weight (kg/km)	1618 kg/km	1336 kg/km	720 kg/km
Ultimate Tensile Strength (kgf)	14350 kgf	12340kgf	6661kgf
DC Resistance (ohms/km) @ 20°C Temperature	0.0506ohms/km	0.06120 ohms/km	0.11330ohms/km
Maximum Operating Temperature, °C	95°C	95°C	95°C
Current Carrying Capacity (Amp) at Maximum Operating Temperature	1094 Amp	958 Amp	654 Amp
Conductor Sag in meters at Maximum Operating Temperature	13.33 m	10.9 m	7.67 m
Ruling Span	400 m	375 m	335 m

Assumptions: Ampacity is calculated based on wind zone coefficient as 2, terrain category coefficient as 2, 141.08kg/m² as wind pressure for Moose equivalent conductors, 136.32 kg/m² as wind pressure for Zebra equivalent conductors, 128.28 Kg/m² as wind pressure for Panther equivalent conductors, starting condition of calculations of Dag tension for ACSR Moose at 22% of UTS at 32° C, no wind and for ACSR Zebra & Panther as 25% of UTS at 32° C, no wind, ambient temperature, 0.6 m/s wind velocity, 0.5 as coefficient of solar absorption, 0.6 as coefficient of emissivity and 1200Wt/sqm coefficient for solar radiation, at sea level

Supply Length

As per customer requirements.

Manufacturing Process

To ensure the accuracy and precision of the manufacturing process, Sterlite has state of the art plant with top of the line machines enabling control of critical process and quality parameters. All Sterlite Power production lines are backed up with strong quality assurance systems. This is done by ensuring that all process and test equipment are periodically calibrated with defined benchmarks.

International Standards

These conductors comply with SS4240814 specification standards.

Service USP's

- Complete range of power transmission conductors.
- World-wide sales support.
- Web-based order tracking & customers support.
- Specialised technical support.

Technical Specifications

The above designs are only a sample of the options available from Sterlite Power. Contact our sales team for a cable designed to your exact specifications.

Disclaimer

Sterlite Power's policy of continuous improvement may result in a change in specification without prior notice. Any warranty of any nature relating to any Sterlite Power products is only contained in the written agreement between Sterlite Power Transmission Limited and the direct purchaser of such products(s).