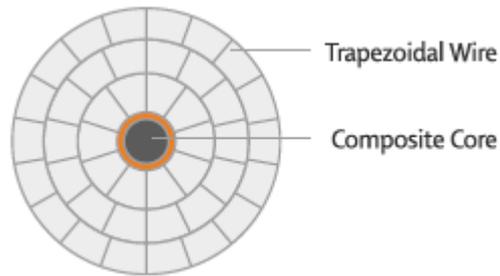


STERLITE® High Ampacity / Low Sag / Low Loss Conductor Series ACCC Conductors



Project Description

Sterlite Aluminum conductor Composite Core (ACCC) conductor consists of a hybrid carbon and glass fiber core which is wrapped with trapezoidal shaped aluminum strands. The high strength structural core carries most of the conductor's mechanical load, while the fully annealed aluminum strands carry all of the conductor's electrical current. ACCC conductor's composite core is much lighter and stronger than conventional or high-strength steel core.

Product Application

Reduced Line Losses in New Lines:

- Under equal load conditions reduces line losses by 30 to 40 % compared to conductors of the same diameter and weight.
- 100% capacity build towards future demand.

Ideal for Reconductoring:

- Increase capacity while improving line clearance and losses.
- Reduce strain on structures increasing life.

Product Benefits

- With 28% more annealed aluminum in a trapezoidal configuration the ACCC conductor of the same diameter as ACSR, can double the current (ampacity) rating; Higher operating efficiency reduces line losses and associated emissions by more the 35%, resulting in more power delivered and lower power generation costs.
- ACCC conductors use a patented carbon/glass/thermoset resin core that provides high strength and reduces high temperature sag. Can re-conductor existing pathways without structural modification and reduce capital expenses on new lines.
- Uses conventional installation methods, tools, and mostly conventional hardware- no special tools and limited special training.
- Resists environmental degradation – will not rust, corrode, or cause electrolysis with aluminum conductors and components

Product Specification

Properties	ACCC Mumbai	ACCC Kolkatta	ACCC Casablanca
Typical Factors	18 TW/12TW/8 TW/0.375 in	14TW.12 TW/8TW/0.375 in	10TW/6TW/0.280 in
Reference Specifications	ASTM B857, ASTM B609	ASTM B857, ASTM B609	ASTM B857, ASTM B609
Total Cross Section Area (sqin)	1.150 sq in	0.935 sq in	0.471 sq in
Conductive Wire	1350 0 temper Al	1350 0 temper Al	1350 0 temper Al
Core Wire	Composite Core	Composite Core	Composite Core

Conductor Diameter (in)	1.250 in	1.127 in	0.807 in
Weight (lbs/1000ft)	1337 lbs/1000ft	1079 lbs/1000ft	531 lbs/1000ft
Ultimate Tensile Strength (lbf)	39533 lbf	37370 lbf	22090 lbf
DC Resistance (ohms/1000ft) @ 68°F Temperature	0.0130 ohms/1000ft	0.0164 ohms/1000ft	0.0312 ohms/1000ft
Maximum Operating Temperature, °F	356°f	356°f	356°f
Current Carrying Capacity (Amp) at Maximum Operating Temperature	1983 Amp	1693 Amp	1070 Amp
Conductor Sag in feet at Maximum Operating Temperature	35.04 ft	24.04 ft	16.60 ft
Ruling Span	1312.33 ft	1230.31 ft	1099.08 ft

Assumptions: Ampacity is calculated based on Wind zone coefficient as 2, reliability level coefficient as 2, terrain category coefficient as 2, 0.2006 lbs/in as wind pressure for Moose equivalent conductors, 0.1938 lbs/in as wind pressure for 2 Zebra equivalent conductors, 0.1824 lbs/in as wind pressure for Panther equivalent conductors, starting condition for calculation of Sag tension for ACSR Moose as 22% of UTS at 89.6 °F, no wind and for ACSR Zebra & Panther as 25% of UTS at 89.6 °F, no wind, constant of mass temperature coefficient of resistance of conductor per °K as 0.0039 for Al59 otherwise 0.004, the values of Sag for conductors other than ACSR are calculated by maintaining the tension of ACSR conductor at 89.6 °F full wind, 113°F ambient temperature, 1.97 ft/s wind velocity, 0.5 as coefficient of solar absorption, 0.6 as coefficient of emmissivity and 0.7742Wt/sqin 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 a state of the art plant with top of the line machines enabling control of critical process and quality parameters. All Sterlite production lines are backed up with strong quality assurance systems. This is done by ensuring that all process and test equipments are periodically calibrated with defined benchmarks.

International Standards

These conductors comply with ASTM B857 and ASTM B609 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).