

STER-ECO™

Eco Series conductors consists of trapezoidal shaped special aluminium alloy containing magnesium, silicon and copper stranded with round core. The trapezoidal shape provides upto 96% compactness.



APPLICATION

Eco Series conductors are innovative, efficient, low loss & most importantly an economical solution for re-conductoring power lines and constructing new lines. The higher efficiency of Eco Series conductors enables significant saving when substituted in grid systems for normal ACSR or AAAC conductors. Also, for delivery of same power to the customers, Eco Series conductors enable power generators to reduce the amount of power they must generate and hence lower emissions.

BENEFITS

- Trapezoidal Shaped give additional advantage of Self Damping which improves the conductor Fatigue Properties to Aeolian Vibration.
- Eco conductor operate unto 95 deg.C where as ACSR limited to 75 deg.C. Hence Additional Power Transfer.
- No any Special Tools, Hardware required .
- Stringing and Installation similar to Conventional Conductors.
- Delivery of same power to the customers, Eco conductors enable power generators to reduce the amount of power they must generate and hence lower emissions.
- Up to 30% less I²R losses for same sized conductor → Reduction in Transmission Loss/ Power Generation /Carbon Emission (Green Effect).
- For same output runs cooler by 5-10 deg.C, hence lower carbon emissions.
- Contributing to greenhouse gases.
- Can be deployed with existing structural designs.

TECHNICAL SPECIFICATIONS

PROPERTIES	UNIT	ECO DOG	ECO PANTHER 310 SQ,MM	ECO PANTHER 353 SQ,MM
Appropriate System Voltage	kV	≤110 kV	≤132 kV	≤132 kV
Equivalent ACSR	--	DOG	PANTHER	PANTHER
Reference Standards		SS 42401813, SS 42401814 & IEC 62219 & IS 398 Part IV		
Conductor diameter	mm	14.15	21.20	22.00
Weight	kg/km	380	855	973
Ultimate tensile strength	KN	31.0	64.8	81.95
DC resistance at 20°C temperature	Ohm/km	0.2181	0.0987	0.0846
Current carrying capacity at maximum operating temperature	A	393	641	698
Power Transfer Capacity (at 33 kV at 0.95 PF)	MW/CKT	21	34	37

Assumptions: Ampacity is calculated based on, 45°C ambient temperature, 0.56 m/s wind velocity, 0.8 as coefficient of solar absorption, 0.45 as coefficient of emissivity and 1045 W/sq.m coefficient for solar radiation, 0 m Elevation.

ADVANCE ECO - LOW LOSS SOLUTION :

Sterlite Power Unveils Innovative Solution to Trim Losses in RE Segment: With an aim to significantly reduce losses in the renewable energy (RE) space, Sterlite Power has developed an innovative solution called 'ECO MAX'. "It can reduce I²R losses in the transmission line by 40 percent compared to ACSR conductor and up to 30 percent compared to Al59 conductor."

Disclaimer:

* Parameters mentioned in the document are indicative and can vary subject to different standards

* Customizations are available on select products. Please indicate your interest by reaching out to the sales team

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