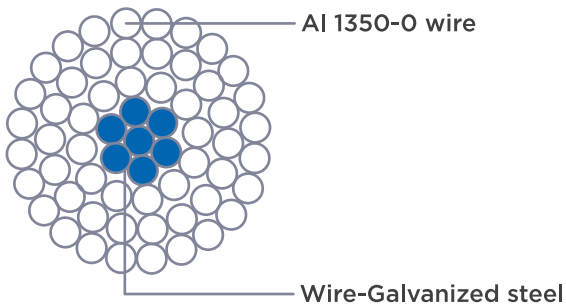


STER-ACSS™

Sterlite® Aluminium Conductor Steel Supported (ACSS) conductor is a composite concentric lay-stranded conductor consisting of a stranded steel central core with one or more layers of 1350-O (High Temperature) aluminium wires.



APPLICATION

ACSS conductors can be used as a low loss solution, as part of efficient transmission networks. These conductors are suitable for lines that transmit very high or fluctuating loads.

BENEFITS

- Improved self-damping characteristics and high degree of resistance to vibration fatigue.
- Can operate continuously at high temperatures up to 250°C (482°F) with appropriate steel core coating v/s 100°C (212°F) for standard ACSR, hence can carry twice as much current as ACSR conductor.
- No creep.
- Less susceptible to Aeolian vibration fatigue due to very low mechanical load on the annealed aluminium wire.
- Requires conventional installation techniques.
- Allows for lower overall transmission cost.

TECHNICAL SPECIFICATIONS

PROPERTIES	ACSS CURLEW		ACSS DRAKE		ACSS HAWK	
Typical factors	3.51 mm	0.1383 in	4.44 mm/ 3.45 mm	0.1749 in/ 0.136 in	3.51mm/ 2.67 mm	0.1383 in/ 0.1051 in
Reference specifications	ASTM B856		ASTM B856		ASTM B856	
Total cross section area	591.00 mm ²	0.9161 in ²	468.50 mm ²	0.7262 in ²	281.50 mm ²	0.4356 in ²
Conductive wire	Al1350-O (Fully Annealed Al wires)		Al1350-O (Fully Annealed Al wires)		Al1350-O (Fully Annealed Al wires)	
Core wire	Mischmetal Alloy Coated Steel		Mischmetal Alloy Coated Steel		Mischmetal Alloy Coated Steel	
Conductor diameter	31.62mm	1.2449 in	28.13 mm	1.1075 in	21.77 mm	0.8571 in
Weight	1981 kg/km	1331.2 lbs/mile	1629 kg/km	1094.6 lbs/mile	976 kg/km	655.8 lbs/mile
Ultimate tensile strength	13807 kg	30439.19 lbs	12742 kg	28091.27 lbs	7779 kg	17149.74 lbs
DC resistance at 20°C temperature	0.05 Ω/km	0.09 Ω/mile	0.07 Ω/km	0.11 Ω/mile	0.12 Ω/km	0.19 Ω/mile
Maximum operating temperature	210°C	410°F	210°C	410°F	210°C	410°F
Current carrying capacity at maximum operating temperature	1854 Amp		1564 Amp		1120 Amp	

Assumptions: Ampacity is calculated based on, 45°C (113°F) ambient temperature, 0.6 m/s wind velocity, 0.5 as coefficient of solar absorption, 0.6 as coefficient of emmissivity and 1200 wt/sqm coefficient for solar radiation, at sea level.