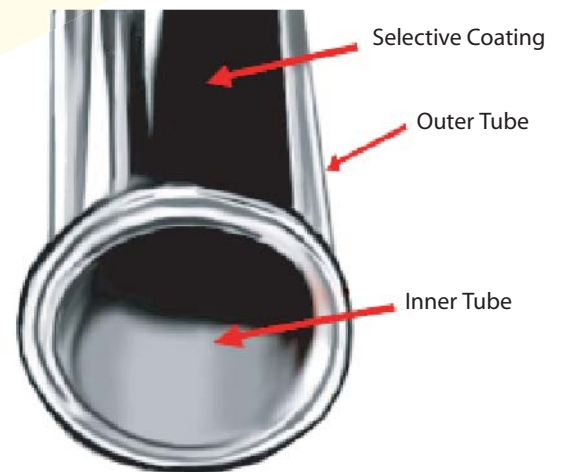


ESS Vacuum Tube

Each ESS solar tube consists of two glass tubes made from extremely strong borosilicate glass. The outer tube is transparent allowing light rays to pass through with minimal reflection. The inner tube is coated with a special selective coating (Al-N/Al) which features excellent solar radiation absorption and minimal reflection properties. The top of the two tubes are fused together. The air contained in the space between the two layers of glass is pumped out while exposing the tube to high temperatures. This "evacuation" of the gasses forms a vacuum and is an important factor in the performance of the solar tubes.

Solar Tube Basic Specifications	
Length (nominal)	1500mm/1800mm
Outer tube diameter	58mm
Inner tube diameter	47mm
Glass thickness	1.6mm
Thermal expansion	$3.3 \times 10^{-6} \text{ } ^\circ\text{C}$
Material	Borosilicate Glass 3.3
Absorptive Coating	Graded Al-N/Al
Absorption	>92% (AM1.5)
Emission	<8% (80 °C)
Vacuum	$P < 5 \times 10^{-3} \text{ Pa}$
Stagnation Temperature	>200 °C
Heat Loss	<0.8W/ (m ² °C)
Maximum Strength	0.8MPa



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Specifications and technical data are subject to change