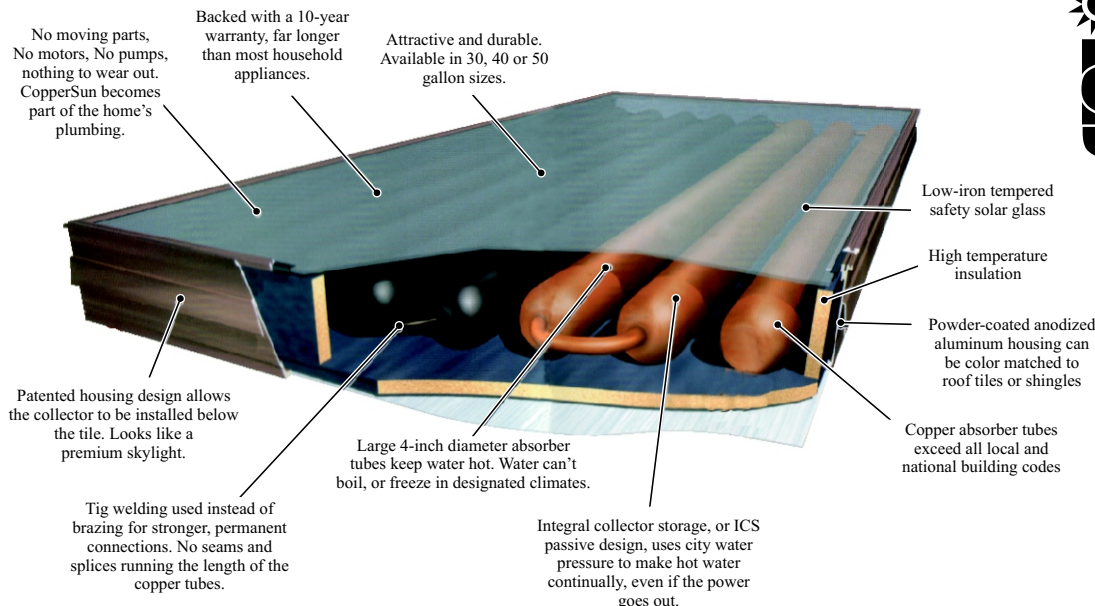


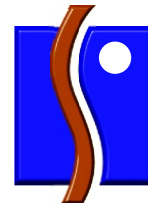


INTEGRATED SOLAR, LLC
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Solar Home Hot Water System



CopperSun

by Integrated Solar

Copper Sun Solar Collector Model No. CS-450S

Connection method: Side

Capacity: 50 gallons

Aperture area: 29.93 square feet

Gross Weight - Empty: 327.9 lbs (148.7 kg)

Gross Weight - Filled: 745.15 lbs (338 kg)

Foot Print Area: 33.43 square ft

Aperture Length: 95.25 inches (2.42 m)

Aperture Width: 35.25 inches (.9 m)

Frame Width: 48.75 inches (1.238 m)

Frame Length: 98.75 inches (2.508 m)

Connection:

- 1) **Center to center dimension:** 37.12 inches (.9 m)
- 2) **Center to edge of frame:** 5.12 inches (.13 m)
- 3) **Center to bottom of frame:** 3.25 inches (.083 m)
- 4) **Solder joint:** 3/4 inch, 2-3/4 inch Nom. Type K copper tube 7.8" O.D.

Collector Height: 6.437 inches (.164 m)

Working fluid: potable/domestic tap water

Absorber tube: a) Material: 4 inch nominal diameter DWV copper tubing, 0.058 inch wall thickness, with selective coating. b) Tubing shall not be a rolled seam welded tube. c) End of absorber tube shall be machine spun to form a perfect bullet nose round end. d) Absorber shall be TIG welded in a progressive serpentine configuration that allows for a maximum efficiency with minimum of water mixing.

Selective coating: Solkote a) Minimum absorptivity: 95 percent b) Maximum emissivity: 56%

Header Tube: 3/4 inch nominal type "K" copper formed copper tube .062 inch wall.

Glazing: 1/8 inch thick, low-iron tempered glass with minimum transmissibility of 91%

Gasket material: EPDM

Frame material: 6063 T-5 aluminum. Frame for bottom connected units shall have integral patented counter flashing.

Frame Finish: Powder coated paint

Insulation: polysocyanurate, minimum one inch thickness conforming to ICBO Research report #3223 with 0.012 inch thick laminated aluminum sheet.

Flashing: CopeprSun segmented roof flashing pan. a) Length: 110 inches. b) Width: 48 inches for CS330B and CS340B/60 inches for CS440B and CS450B. c) Material 24 gauge galvanized sheet metal. d) Flashing pan only weight: 43.2 lbs. For CS430B and CS440B: 43.2 lbs. For CS440B and CS 450B: 52.7 lbs e) Flashing pan assembled weight: 48.5 lbs. f) Flashing pan upright height: 3.5 inches.

Certification: This solar hot water heating system is certified by the Solar Rating Certification Corporation (SRCC) under system standard OG-300.