

COMMERCIAL-GRADE CONSTRUCTION



Manufactured in Florida, USA, Techno-Solis collectors are commercial-grade, unglazed polymer panels. Current manufacturer literature describes the panels as 35% thicker than competing panels for increased durability and service life. The header and absorber are made from virgin black polypropylene/polyethylene co-polymer containing a proprietary ultraviolet stabilizer, using an in-house continuous extrusion and vacuum-forming process.

The fully wetted absorber is formed from four longitudinally heat-sealed extrusions containing 104 interconnected elliptical channels. The absorber is welded to the header and reinforced with a 1/8-inch bead at the junction. Independent laboratory testing was terminated at 1,000 psi without rupture. A subaqueous diffuser manifold provides one opening per channel to improve flow distribution and turbulence. Panels connect with EPDM expansion couplings and stainless-steel gear clamps. Roof or rack attachment uses 5/8-inch polypropylene strap and stainless-steel hardware.

1,006

BTU/FT²/DAY - FSEC

62.9%

EFFICIENCY VS. 1,600 BTU/FT²

170

MPH RATED WIND LOAD

104

ELLIPTICAL FLOW CHANNELS

DIMENSIONS

DIMENSION	4 × 8	4 × 10	4 × 12
Model / part number	C15TS08	C15TS10	C15TS12
Nominal size (ft / m)	4 × 8 ft / 1.22 × 2.44 m	4 × 10 ft / 1.22 × 3.05 m	4 × 12 ft / 1.22 × 3.66 m
Collector length "A" (in / cm)	95.18 in / 241.8 cm	119.55 in / 303.7 cm	143.30 in / 364.0 cm
Absorber width "B" (in / cm)	47.63 in / 121.0 cm	47.63 in / 121.0 cm	47.63 in / 121.0 cm
Header length "C" (in / cm)	50.75 in / 128.9 cm	50.75 in / 128.9 cm	50.75 in / 128.9 cm
Header O.D. (in / cm)	1.90 in / 4.83 cm	1.90 in / 4.83 cm	1.90 in / 4.83 cm
Header I.D. (in / cm)	1.48 in / 3.76 cm	1.48 in / 3.76 cm	1.48 in / 3.76 cm
Gross collector area (ft ² / m ²)	31.40 ft ² / 2.92 m ²	39.46 ft ² / 3.67 m ²	47.31 ft ² / 4.40 m ²

THERMAL PERFORMANCE RATING

THERMAL PERFORMANCE	4 × 8	4 × 10	4 × 12
Panel output* (Btu/day / kJ/day)	31,588 / 33,327	39,697 / 41,883	47,594 / 50,214
Square-foot output* (Btu/ft ² /day / kJ/m ² /day)	1,006 / 11,425	1,006 / 11,425	1,006 / 11,425
Efficiency (output ÷ 1,600 Btu/ft ² avg.)	62.9%	62.9%	62.9%

*Derived from the current Techno-Solis published Florida Solar Energy Center (FSEC) rating of 1,006 Btu/ft²/day. Panel output is calculated using the published gross collector area; metric values are unit conversions.

WEIGHT AND FLUID CAPACITY

WEIGHT / CAPACITY	4 × 8	4 × 10	4 × 12
Dry weight (lb / kg)	19 lb / 8.62 kg	24 lb / 10.89 kg	29 lb / 13.15 kg
Wet weight (lb / kg)	44.7 lb / 20.28 kg	53.6 lb / 24.31 kg	62.5 lb / 28.35 kg
Wet loading (lb/ft² / kg/m²)	1.42 lb/ft² / 6.95 kg/m²	1.36 lb/ft² / 6.63 kg/m²	1.32 lb/ft² / 6.45 kg/m²
Fluid capacity (gal / L)	3.18 gal / 12.02 L	3.64 gal / 13.76 L	4.12 gal / 15.57 L

FLOW - PARALLEL FORCED CIRCULATION

FLOW RATE	4 × 8	4 × 10	4 × 12
Maximum (gpm / L/min)	10 / 37.86	10 / 37.86	10 / 37.86
Minimum (gpm / L/min)	2.5 / 9.47	2.5 / 9.47	3.0 / 11.36
Recommended (gpm / L/min)	5.0 / 18.93	5.0 / 18.93	5.0 / 18.93

PRESSURE

MAXIMUM PRESSURE RATING - ALL MODELS
35 psi / 241 kPa

OPTICAL PERFORMANCE - ALL MODELS

SOLAR RADIATION ABSORPTIVITY	95%
INFRARED RADIATION EMISSIVITY	92%
COLLECTOR TYPE	Unglazed polymer
TEST FLUID	Water

CONSTRUCTION AND CONNECTION DETAILS

• ABSORBER

Four heat-sealed extrusions form a fully wetted surface with 104 interconnected elliptical channels.

• DIFFUSER MANIFOLD

One opening per channel promotes balanced distribution and turbulence.

• ROOF / RACK ATTACHMENT

5/8-inch polypropylene strap with stainless-steel mounting hardware.

• REINFORCED WELD

A 1/8-inch bead reinforces the absorber-to-header junction.

• PANEL CONNECTIONS

EPDM expansion couplings secured with stainless-steel gear clamps.

• MATERIAL

Virgin black polypropylene/polyethylene co-polymer with proprietary UV stabilization.

The 5.0 gpm recommended flow and 35 psi maximum pressure rating are documented for all listed 1.5-inch and 2-inch models in ICC-ES PMG Listing PMG-1217 (effective November 1, 2013). That historical listing required periodic re-examination and is cited only as technical support, not as evidence of current active certification. Current dimensions, flow, FSEC performance, wind rating and weights follow the Techno-Solis online specifications. The online U.S. and metric weight entries contain internal inconsistencies; displayed metric values are mathematically converted from the stated U.S. weights.