



Standards and Certifications

ISO 9001:2008
 ISO 14001:2004
 Solar Keymark Certification - EN12975
 Solar Rating and Certification Corporation (S.R.C.C) - OG100
 AS/NZS 2712:2007
 NMX-ES-001-NORMEX-2005

HELIOLCOL Was Tested In:

SPF - Institut fur Solartechnik
 NCSR Demokritos
 Florida Solar Energy Center (F.S.E.C) Florida
 Ortech, Ontario
 Instituto Nacional de Tecnica Aeroespacial (I.N.T.A)
 INMETRO, Laboratories, Minas Gerais
 Bodycote materials testing Canada inc.

Memberships:

SEIA - Solar Energies Industries Association
 FlaSEIA - Florida Solar Energies Industries Association
 CalSEIA - California Solar Energies Industries Association
 The Association of Pool & Spa Professionals (APSP)

International
 International
 Europe
 U.S.A
 Australia / New-Zealand
 Mexico

Europe
 Europe
 U.S.A
 Canada
 Spain
 Brazil
 U.S.A

U.S.A
 U.S.A
 U.S.A
 U.S.A



November 2012

Heliocol®

Solar collector



caring for the world we live in.



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Heliocol Unique Features

Over-Molding Injection Technology

One of a kind injection process connects riser tubes to the manifold header, creating a single polymer panel with no leaks.

Individual Tube Design

Minimizes wind effects on the panel and creates extreme mechanical stability.

Spacer Bars

Prevent warping of the panel over time, as well as prevents abrasion of the riser tubes due to thermal expansion of the panel.

Modular Structure

Enables fast and firm connection between panels, creating any size absorption area over any type of roof imaginable.

Cylindric Shape

All parts are rounded, with no sharp angles, in order to avoid stress concentration or the risk of bursting at high pressure.

Fins

Provide added strength to the unit while preventing differential thermal expansion and distortion of the system.

Specially Formulated Polymer Material

As tested in authorized laboratories, a unique polymer formula stabilizes against sustained ultraviolet radiation, extreme weather and aging.

Alligator Clamp

Firmly mounts the panel to any roof type with minimum roof penetration.

Parts & Fittings

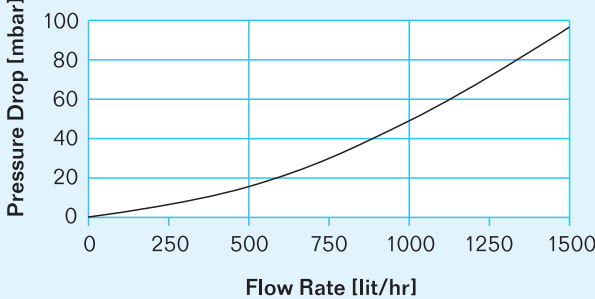
All-Polymer parts, creating simple connection between panels and standard plumbing pipes.

Dimensions & Design Parameters

Collectors Type		HC-50 1.2x3.85m 4'x12.5'	HC-40 1.2x3.23m 4'x10.5'	HC-38 1.2x2.92m 4'x10'	HC-30 1.2x2.31m 4'x8'
M.E.E. Cat No.		127112	127111	127110	127108
Length	m	3.85	3.23	2.92	2.31
Width	m	1.2	1.2	1.2	1.2
Area	m ²	4.65	3.85	3.52	2.77
Weight "Dry"	Kg.	10	8.5	8.2	6.8
Volume Capacity	Lit.	14.4	11.7	11.4	7.1
Weight "Wet"	Kg.	24	20.5	19.6	15.8
No. of Spacers	#	12	10	9	7
Filled Area Weight	Kg. / m ²	5.16	5.3	5.3	5.7
Rec. Flow Rate	Lit. / hr	1200	900	900	720

Panel Pressure Drop Vs. Flow Rate

$$[\text{mbar}] = 0.00003 \times (l/h)^2 + 0.0134(l/h) + 0.2343$$



Potable Water & Foodstuffs Contact Certification

Polypropylene is certified for use with potable water, as specified in the US standard NSF-61, German standard DVGW-W270, and for foodstuffs contact as specified in the Swiss standard KsV-817041 and the British standard SI2000-3162.

Chemical Resistance

The Polymer, polypropylene material is highly durable against: Corrosion, Lime scale, Chlorine, Bromine, Iodine, HCL, Salts and Sea water, and other swimming pool disinfectants.

F.S.E.C. Performance Rating & Daily Energy Output

Water Temperature	Model / Units	H.C - 50	H.C - 40	H.C - 38	H.C - 30
Cool 35°C (95°F)	kJ / day	48,600	41,000	37,000	29,400
	Btu / day	46,100	38,900	35,100	27,900
Medium 50°C (122°F)	kJ / day	17,400	14,700	13,300	10,500
	Btu / day	16,500	14,000	12,600	10,000

Collector Efficiency Graph & Equations

(Tested by F.S.E.C. according to ASHRAE standard 96-1989)

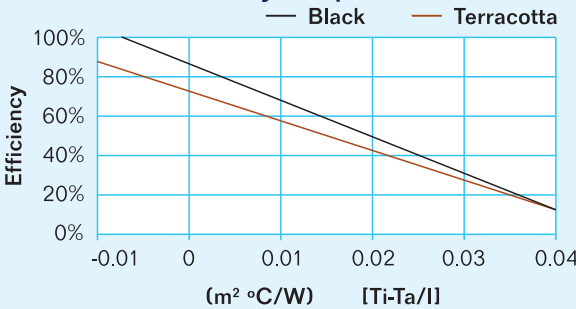
Black	Terracotta
$\eta = 0.828 - 18.52 (T_i - T_a) / I$	$\eta = 0.727 - 15.59 (T_i - T_a) / I$
Units of $(T_i - T_a) / I$ are $[m^2 C/Watt]$	
$\eta = 0.828 - 3.26 (T_i - T_a) / I$	$\eta = 0.727 - 2.75 (T_i - T_a) / I$
Units of $(T_i - T_a) / I$ are $[hr ft^2 F/ BTU]$	

Mechanical Stability

Water Temperature	°C	20	40	60
	°F	68	104	140
Maximum Recommended Operating Pressure	bar	8	6	4
	psi	120	90	60
Burst Pressure	bar	25	18	14
	psi	360	260	200



Heliocol Efficiency Graph



How Does the Solar System Work?

1. The existing pool pump directs pool water via a controlled motorized valve to the solar collector.
2. Pool water enters the solar collector at the bottom and rises to the top through the individual tubes of the collector.
3. Solar energy heats the water as it flows through the collector.
4. The Vacuum release/air evacuation protects the system from freezing.
5. The heated water then returns to the pool, and the cycle is repeated until the pool has been sufficiently warmed by the sun.
6. The solar heating process is fully automatic, using temperature sensors and a differential controller.

