



Compare HSE Pool Heater  
Features & Benefits

## **And Get the World's Best Solar Pool Heater!**

Extends your swimming season  
and makes your pool more  
comfortable.

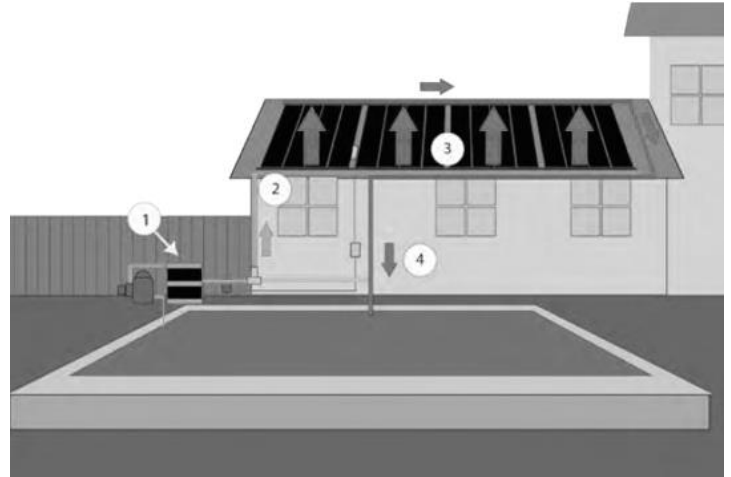
Pays for itself in 2-3 years  
compared to a heat pump or  
gas heater.

Most efficient model available.  
Beats all others on cooler or  
windy days.

Environmentally friendly.

Easy to install.

Lifetime Warranty.



### **How it Works**

1. Pool pump moves the water to the solar collectors.
  2. Cool water enters the solar collector from the bottom.
  3. Water is heated as it flows upwards through the collector tubes to the top header pipe.
  4. The warm water is then returned to your pool.
- This process continues until the desired water temperature is reached.

**Why do we say our solar pool  
panels are the world's best?**

Read on to find out why....  
and ask us for the official  
SRCC data that proves it.



The goal of a solar pool heating system is twofold - to extend the swimming season so that the user gets more time each year to enjoy the pool and to make the pool more comfortable throughout the swim season. The HSE pool panels excel in both areas. Following are some of the features of the HSE pool system.

### **Top Heating Performance**

On a hot sunny day with no wind, all top brands of the black EPDM absorber pool panels have similar performance, with the HSE panel ranked in the top 1%. But what about a cooler or windy day when pool heat is needed the most? No other solar pool panels can compare with the HSE collector under cool or windy conditions.

### **Patented Design**

HSE solar pool heating panels use a special channel design with no round tubes. It's not a square tube either. The shape is actually a superellipse design, which compared to a round tube, allows about 17% more thermodynamic transfer from the black absorber material into water at the same volume of water flow. At the same time, the superellipse design allows for a flat absorber surface that sharply reduces emissivity (heat loss to the atmosphere). All pool collectors of the same size (eg. 4 x 10) receive the same amount of solar thermal energy; the ones that are better at transferring more heat into the water and losing less heat back into the air will perform better. The superellipse tube design is one thing that's responsible for the industry leading cooler day or windy day performance of the HSE pool heat collectors.

These pool panels provide the same amount of absorber surface area exposed to the sun as other equally sized panels, but with 25-50% less total surface area exposed to ambient air/wind. This means that while all panels collect about the same amount of BTUs per square foot, HSE panels lose less heat re-radiated back into the atmosphere due to their design. This design delivers more heat into the pool. Panels should be selected based on delivered heat, not simply the amount collected.



The flat panel surface means that while the total amount of surface exposed to the sun's angle of incidence is the same as all other pool panels of the same size, the flat design provides less surface area in contact with ambient air, therefore less heat loss. See cutaway image at left.

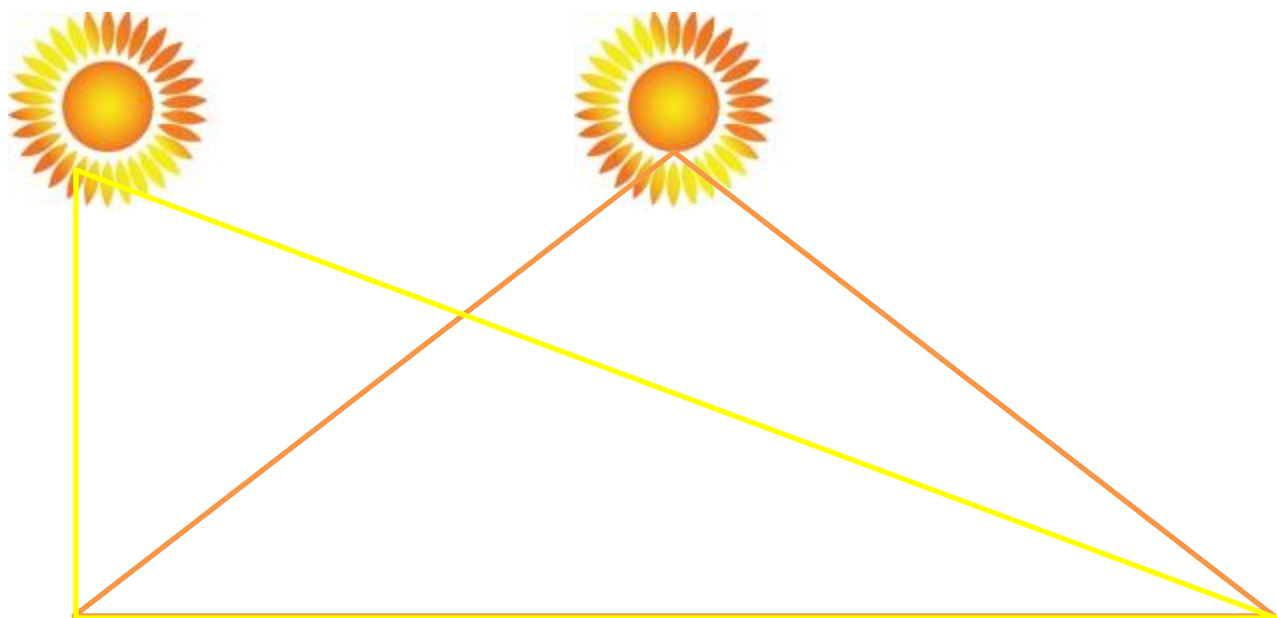
### **Superior Construction**

HSE pool heating panels are made in the USA and are the most heavy-duty pool panels available. The HSE solar pool panels are manufactured using EPDM and contain 35% more material and UV stabilizers than any other brand of panel. The panels are wind-rated at 150+ mph.

### **Warranty**

LIMITED LIFETIME WARRANTY includes a 10-YEAR FULL PANEL REPLACEMENT & LABOR WARRANTY.

## Leading Pool Heating Panel Performance Designs



Regardless of panel type or sun angle, equally sized black EPDM panels have equal solar aperture and collect about the same amount of energy. However, the commonly sold types of round tube panels have 25% to 50% more surface area than the HSE flat pool panel (below), meaning the tube type has more contact with ambient temperature air and more heat loss into the atmosphere.



Shown below is the “web tube” or “tube on fin” which has deep spacing between the tubes that can trap dirt and debris. This type has over 40% more surface area than a HSE panel and loses even more heat back into the atmosphere . Reference: Hi-Tec, Aquatherm



Shown below is the “loose tube” type. It has over 50% more air contact than a HSE panel and loses the most heat to ambient air flow of any other type. Reference: Helicol



Shown below is the “tube on tube” design. This design has 25% more surface area from which heat can be lost than HSE panels. Reference: Suntrek



**HSE. More efficient..... By design.**

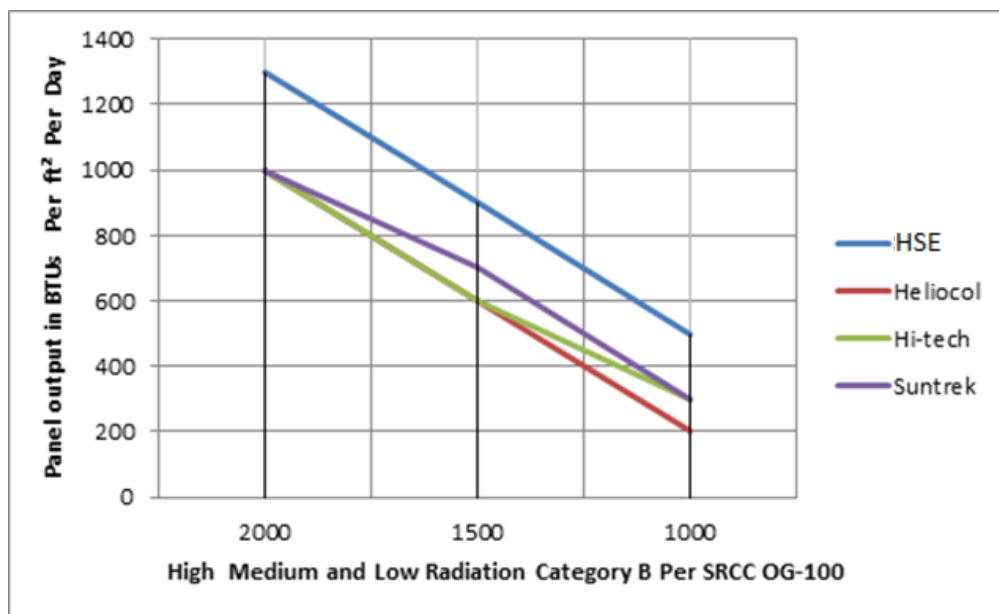
## Certified Panels & Officially Tested Performance

On a warm sunny day nearly all black EPDM (Ethylene Propylene) pool heating panels perform well, with the HSE panels about 25% better, and about 50% better on a warm cloudy day, compared to the highest rated panels under these conditions. (Top chart) Detailed official test results are located at [www.solar-rating.org](http://www.solar-rating.org).

But what really separates the HSE pool panels from the others is performance on a cooler day. For example, on a cool sunny day the HSE collectors collect almost double the nearest competitor, on a cool cloudy day HSE wins by 50-100% over the top 4 competitors. (Bottom chart)

### Warm Weather:

**HSE is 25-40% Better!**



### Official SRCC Data

Because there are no longer any federal tax credits available for solar pool heaters, we do not see any need to maintain an official SRCC certification.

However these panels have been tested by SRCC and we can provide the official test data upon request.

The charts to the left are derived from the official SRCC test data.

### Cool Weather:

**HSE is 50% to 100% Better!**

