



SUNSTAR
Solar Pool Heating



Capture the Power...



CORPORATE PROFILE

SunStar solar collectors are produced by the world's leading solar collector manufacturer. Plastic Magen has been producing solar pool collectors since 1977 and has sold hundreds of thousands worldwide. They have been installed in all kinds of climatic conditions, from hot, arid climates like those found in the Mohave and Sinai deserts, to cold harsh climates like those found in Switzerland and Canada.

Plastic Magen and its associated American based marketing and distribution corporation employ over eighty people and have a net worth of approximately ten million dollars. All of its manufacturing facilities, office buildings, machinery, equipment, and vehicles are owned outright, free and clear of any debt. The whole organization is virtually debt-free and has a credit line of over one million dollars available to it at any time.

SunStar's engineers, chemists, manufacturing personnel, and commercial design engineers are highly qualified individuals who are dedicated to providing the best, most advanced, solar pool heating product possible. Most of them have been with the company since its inception and over the years they have developed an extremely advanced manufacturing process. A computerized, highly automated manufacturing line enables SunStar to produce a very uniform solar collector with superior and consistent quality. Its equipment is maintained in top order, constantly checked and monitored by an engineering staff. SunStar is proud to be the only solar pool heating manufacturer to receive the ISO 9001 : 2000 certification.

SunStar Solar Pool Collectors are manufactured utilizing an "overmoulding" process whereby the riser tubes and headers actually become one piece of plastic. It was this technological breakthrough that enabled Magen to be the first solar pool panel manufacturer to offer a non-prorated warranty. Magen was also the first and still one of few manufacturers to warranty collectors against internal freeze damage.

SunStar's warranty is straight forward and easy to understand. Some manufacturers have recently come out with similar sounding warranties, but the fine print reveals exclusions or limitations not found in the SunStar warranty. SunStar's commitment to quality, and unwavering confidence in the durability of its product, continues to enable them to offer the best warranty in the industry.

Last year, Magen Plastics, through its worldwide network of distributors, sold more solar swimming pool collectors than any other solar collector manufacturer. Well over 1,500,000 sq. ft. of product was sold in the United States alone.

SunStar is dedicated to providing the best, most reliable, and most serviceable product possible.

SUNSTARTM



FEATURES & BENEFITS

The SunStar Solar collector is the technology of tomorrow available today. Innovative design, rugged construction and reliable operation make SunStar the perfect choice for your swimming pool heating needs. You benefit from each design feature!

ADVANCED DESIGN

"Individual tube design" allows wind load to be virtually eliminated.

The individual tubes also prevents moisture from being trapped under the collector. Cracks and leaks due to thermal expansion and contraction are reduced since each tube is able to expand and contract independently.

SINGLE PIECE CONSTRUCTION

Headers and risers are molded together forming one solid piece of plastic.

One piece plastic construction makes SunStar collectors rugged and reliable. There are no seams or welds between the header and risers that can crack with age and stress.

SQUARE HEADER

The SunStar collector's unique square header creates added hydraulic turbulence.

This unique header shape maximizes flow characteristics and increases efficiency.

ONLY TWO ROOF PENETRATIONS

The innovative plastic pad installation method minimizes roof penetrations.

Years of research and testing have led to an integrated panel mounting system that in most cases requires only two roof penetrations per collector.

MOUNTING

SunStar has eliminated the need for hoses and hose clamps.

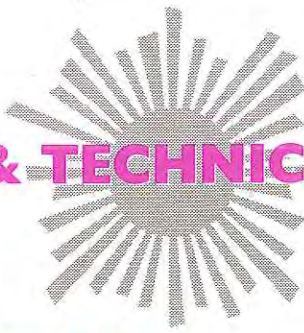
This makes a SunStar installation aesthetically pleasing, sleek and strong. A simple, virtually trouble free system is the result of SunStar's commitment to design excellence.

WARRANTY

Limited Lifetime warranty is non-prorated for the first twelve years and includes freeze protection.

This warranty is simply the best in the industry. No other solar collector manufacturer offers this kind of protection and peace of mind.

SPECIFICATIONS & TECHNICAL INFORMATION



UNIQUE TECHNICAL FEATURES:

- The individual tube design allows for expansion and contraction eliminating cracks and leaks.
- One piece 'overmoulded' construction eliminates welds.
- No moisture build-up under collectors to cause roof deterioration.
- Integrally pigmented for efficiency and appearance.
- Design certified to withstand hurricane wind load.
- Low collector head loss rate reduces pump requirements.

COLLECTOR DATA:

Collector Model	STR-40	STR-50
Size, Nominal	4' x 10.5'	4' x 12.5'
Overall Width	49"	49"
Overall Length	127"	151.5"
Area (Sq. Ft.)	40.7	48.7
Manifold Dimension	2"	2"
Weight, Dry	19 lbs.	22 lbs.
Volume Capacity	3.3 gal.	3.7 gal.
Max. Working Pressure	90 PSI	90 PSI
Burst Pressure	270 PSI	270 PSI
Recommended Flow	4 GPM	5 GPM

CERTIFICATION DATA:

Ortech Data: Equivalent of 948 BTU/sq. ft.
 STR 50=46,150 BTU/Day
 STR 40=38,550 BTU/Day
 $.872-3.729 (T_i - T_A)/l$
 $KAX = 1.00-.041(S)$

S.R.C.C. Data: Equivalent of 948 BTU/sq. ft.
 STR 50=46,150 BTU/Day
 STR 40=38,550 BTU/Day
 $.87-3.735 (T_i - T_A)/l$
 $KAX = 1.00-.0316(S)-.0104(S)^2$

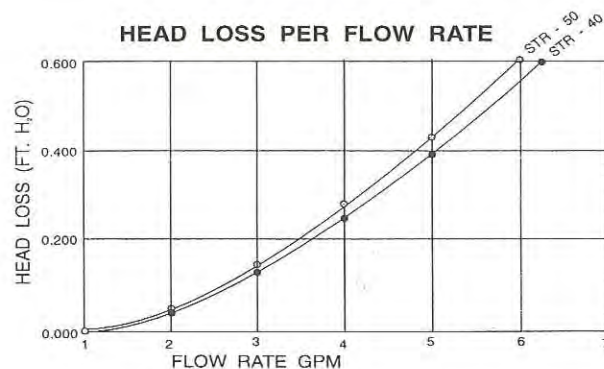
FSEC Data: 956 BTU/sq. ft.
 $.828 - 3.26 (T_i - T_A)/l$
 $KAX = 1.00-.11(S)$

SUNSTAR STR - 50

COLLECTOR RATING NUMBERS				
Thousands of BTU's per Day per Panel				
Category	ΔT (°F)	Solar Insolation		
		2,000 BTU/ft ²	1,500 BTU/ft ²	1,000 BTU/ft ²
Water Temp.	A (-9)	98.74	78.07	57.49
	B (+9)	64.13	44.01	23.96
minus	C (+36)	22.91	7.64	0
	D (+90)	0	0	0
Air Temp.	E (+144)	0	0	0

SUNSTAR STR - 40

COLLECTOR RATING NUMBERS				
Thousands of BTU's per Day per Panel				
Category	ΔT (°F)	Solar Insolation		
		2,000 BTU/ft ²	1,500 BTU/ft ²	1,000 BTU/ft ²
Water Temp.	A (-9)	82.16	64.96	47.83
	B (+9)	53.37	36.62	19.94
minus	C (+36)	19.04	6.36	0
	D (+90)	0	0	0
Air Temp.	E (+144)	0	0	0



SUNSTAR™