



SUMMARY INFORMATION SHEET

April 2009
FSEC # 00092N

MANUFACTURER

Ezinc Metal Sanayi ve Ticaret A.S.
Organize Sanayi Bolgesi 23. Cadde No: 31
38070 Kayseri - Turkey

System Model
Superline "L"

This thermosiphon system was evaluated by the Florida Solar Energy Center (FSEC) in accordance with the prescribed method and was found to meet the minimum standards established by FSEC. This evaluation was based on solar system tests performed at Bodycote Materials Testing Canada Inc., Mississauga, Ontario, Canada. The purpose of the tests is to verify initial performance conditions and quality of construction only. The resulting certification is not a guarantee of long term performance or durability.

TIERMOSIPHON SOLAR SYSTEM DESCRIPTION

COLLECTOR				STORAGE					
Gross Length	1.893	m	6.21	ft	Type	Mantle heat exchanger tank			
Gross Width	1.207	m	3.96	ft	Length	1.231	m	4.04	ft
Gross Depth	0.110	m	0.36	ft	Diameter	0.559	m	1.83	ft
Gross Area	2.283	m ²	24.57	ft ²	Volumetric Capacity	174.0	l	45.9	gal
Transparent Frontal Area	2.166	m ²	23.32	ft ²	Weight (empty)	87.5	kgs	193.0	lbs
Volumetric capacity	5.3	l	1.4	gal	Maximum Pressure	1199	kPa	174	psi
Weight (empty)	19.9	kgs	43.9	lbs	Material	Enamel coated steel			
Test Pressure	552	kPa	80	psig	Insulation	Polyurethane foam			
Number of Cover Plate	One				Auxiliary input	None			
Flow Pattern	Parallel								
Number of Flow Tubes	11								

MATERIALS

Enclosure	Aluminum frame, aluminum back
Glazing	Tempered low iron glass, 0.40 cm thick
Absorber	Copper tubes mechanically bonded to copper sheet
Absorber Coating	Selective coating
Insulation	Polyurethane, 3.0 cm thick; Mineral wool, 2.0 cm thick

SYSTEM THERMAL PERFORMANCE

System consists of one unit as described above.

A performance test was conducted indoors in accordance with the SRCC Document TM-1. The data was used to develop a TRNSYS model for this thermosiphon system. The model was then used to calculate the system's performance under a set of standard weather conditions and loads. The standard day had 0.49 kilowatt hours/m² (1500 Btu/ft²) of solar energy, a 22°C (71.6°F) air and water temperature and a 11.75 kilowatt hour (40120 Btu) load.

Net Energy Delivered (Q _{NET}):	6.79	kWh	23,200	Btu
Heat Loss Coefficient (L):	1.90	W/°C	3.6	Btu/hr°F

