

eco-Spark's Unique Features

Over-Molding Injection Technology

One of a kind injection process connects riser tubes to the header, creating a seamless joint to form a single polymer panel with extreme pressure stability.

Square Manifold Header

Unique square design to assure tight fastening and mounting of the panel to any roof type.

Sealing Panel

Patent pending mechanism that allows the absorber to expand / contract and simultaneously prevents water and dust ingress into the glazing.

Multiwall Encapsulation Glazing

Produces greenhouse effect and back insulation for each individual tube. Significantly improves the thermal efficiency of the panel.

PC Glazing

Coated with durable and sustainable UV blocking layer, that ensures high transparency over long period of time.

Modular Structure

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

Specially Formulated Polymer Material

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

Innovative Engineering

A combination of a special header and mounting features eliminates possible tile damage caused by the constant contraction and expansion of the materials, while preserving flow characteristics with minimum pressure drop.

Binders

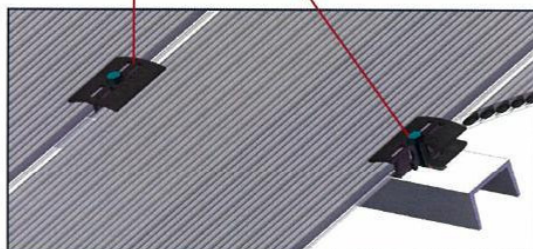
Made of composite polymeric material, strengthens the collector, creates constant space between modules and allows simple connection to a metal rack in order to absorb lift forces caused from strong winds.

Mounting Pad

Almost invisible when installed. Simple and fast assembly. Assures minimum roof penetration (only one drill needed).

Parts & Fittings

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



Potable Water & Foodstuffs Contact Certification

The eco-Spark™ collector is manufactured from materials certified by the NSF-61 and the German standard DVGW-W270 laboratories for contact with potable water; and for foodstuffs contact, as specified in the Swiss standard KsV-817041 and the British standard SI2000-3162.

Chemical Resistance

The Polymeric absorber is highly durable against: Corrosion, Lime scale, Chlorine, Bromine, Iodine, HCl, Salts (even seawater!) and other swimming pool disinfectants.

Thermal Performance & Daily Energy Output



Water Temperature	Model/Units	Spark 40	Spark 30	Spark 20
Pool heating	BTU/day	55,200	39,800	23,200
	Kcal/day	13,900	10,000	5,800
DHW heating	BTU/day	40,000	28,800	19,200
	Kcal/day	10,100	7,300	4,800

Dimensions & Design Parameters

Collectors Type		Spark 40	Spark 30	Spark 20
M.E.E. Cat No.		1237111	1237108	1237306
Length	m	3.23	2.31	2.00
Width	m	1.2	1.2	0.92
Area	m ²	3.85	2.77	1.85
Weight "Dry"	Kg.	17	13.1	8.8
Volume Capacity	Lit.	11.7	9	6.1
Weight "Wet"	Kg.	28.7	22.1	14.9
No. of binders	#	12	9	4
Weight "full"	Kg. / m ²	7.5	8	8.1
Rec. Flow Rate	Lit. / hr	900	720	150

Mechanical Stability

Water Temperature	°C	20	40	60	80
	°F	68	104	140	176
Maximum Recommended Operating Pressure	bar	8	6	4	2
	psi	120	90	60	30
Burst Pressure	bar	25	18	14	10
	psi	360	260	200	145

Panel Pressure Drop Vs. Flow Rate

$$\Delta P = 3 \times 10^{-5} Q + 0.0134 Q + 0.2343$$

