

Insulation

Solar protection

Thermal solar collector

Natural daylighting

Innovation

ROBIN SUN
SOLAR THERMAL GLASS

THERMAL SOLAR FAÇADE INTEGRATED AS GLAZING

Robin Sun Solar Thermal Glass is a **multi-function glazing system**.

Its construction facilitates:

- the building's **thermal and acoustic insulation**
- sun in the winter and **solar protection** in the summer
- **hot water production** throughout the year
- **comfort** in natural daylighting
- **light distribution** at the back of rooms

TRANSPARENT INSULATION FOR HOT WATER PRODUCTION

As **semi-transparent active insulation** the solar thermal glass has **similar thermal properties to a highly insulated wall** all year round. Consequently, it reduces heating periods and requirements while providing comfort in the summer.

Its construction using mirror strips creates comfort in natural light and light reaches the back of rooms. In all seasons the shade produced in the building corresponds to the energy intercepted by the thermal solar collector integrated into the glass. This energy is transferred by water circulation into storage until it is required to supply various functions, such as **domestic hot water, heating, and so on**.

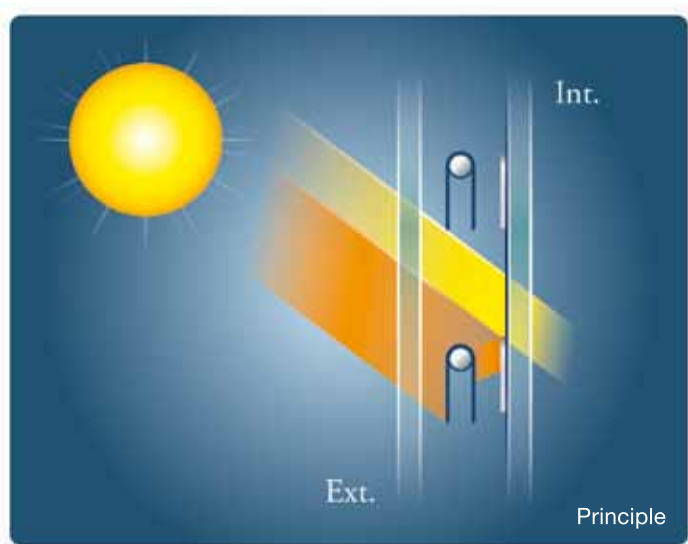
Robin Sun Solar Thermal Glass is entirely integrated into the building shell and is fitted as **insulated glass unit in construction frameworks**. It is fitted using instantaneous connections, and flexible tubing facilitates the use of **a simple seal that is accessible on the same level** from ducts fitted into the frames.

Robin Sun Solar Thermal Glass - interior view





Robin Sun Solar Thermal Glass is entirely recyclable and produces a net energy gain after two years. **The future lies in solar construction!**



DOMESTIC HOT WATER

Depending on the region and orientations, **1 to 2 m² of solar thermal glass per person is enough to cover around 2/3 of the building's annual hot water requirements.**

HEATING

1 m² of Solar Thermal Glass on the façade per 10 m² of surface to be heated will cover (depending on the insulation) between **15 to 60% of the building's annual heating requirements.**

Therefore, 1m² of Robin Sun thermal glazing can produce between **300 (DHW+Heating) and 400 kWh/m²/year (DHW)**. This represents a saving of 30 to 40 litres of fuel per year and for every 2.51 m² **one tonne/year less of CO₂ emitted into the environment.**

TECHNICAL CHARACTERISTICS

SOLAR KEYMARK N° 011-7S918

Type		H - 732	H - 1292	H - 1432
DIMENSIONS				
Width	mm	1016	1016	1016
Height	mm	732	1292	1432
Thickness 4/27/44.4	mm	40,5	40,5	40,5
Total surface (glass)	m ²	0,370	0,669	0,743
Weight of complete unit 4/27/44.4	kg	28	49	55
INSULATED GLASS UNIT				
Insulation value - Ug	W/m ² °K	1,1 maxi.	1,1 maxi.	1,1 maxi.
Percentage of transparency	%	35	35	35
Light transmission 0° / 30° / 60°	%	35 / 29 / 7	35 / 29 / 7	35 / 29 / 7
Winter solar factor	%	25	25	25
Summer solar factor	%	11	11	11
SOLAR COLECTOR				
Operative surface	m ²	0,692	1,244	1,382
Absorber surface	m ²	0,87	1,56	1,74
Optical yield - Eta 0	%	50,6	not measured	52,5
Collector primary heat losses coefficient - a ₁	W/m ² °K	3,839	not measured	4,746
Collector primary heat losses coefficient - a ₂	W/m ² °K ²	0,0555	not measured	0,04
Liquid volume	liters	0,37	0,67	0,74
Load losses - flow rate of 15 l/h, m ²	kPa	0,30	1,42	1,90
Load losses - flow rate of 40 l/h, m ²	kPa	1,55	7,3	9,66
Pipe connection diameter	mm	8	8	8