

### Solar energy for a housing estate

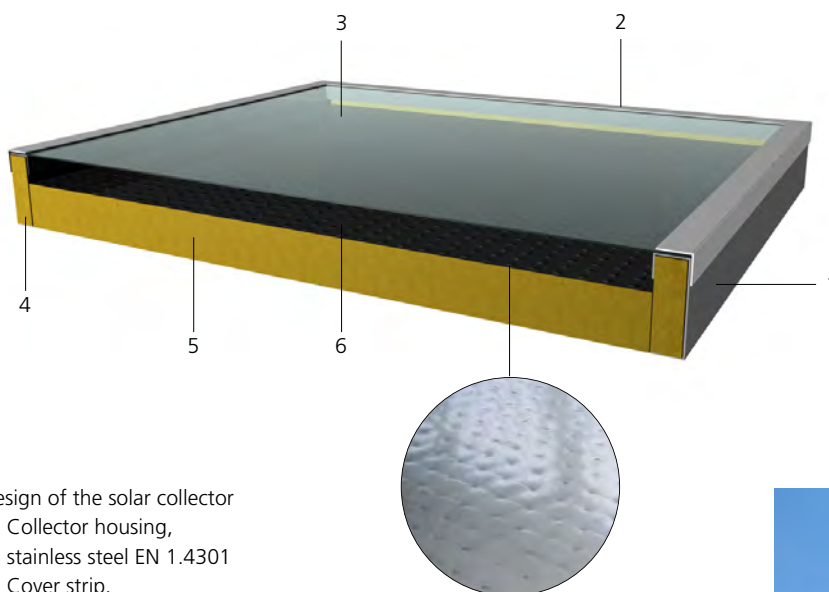
In an eco-housing complex in Valdepiélago, around 45 km northeast of Madrid, solar collectors integrated into the roof play a key role in energy supply. In contrast to conventional solar modules, however, the absorber panels here are not made of lightweight or nonferrous cuprous metal, but of stainless steel sheet (EN 1.4401).

Each panel consists of two 0.7 mm thick sheets spot-welded together and then expanded to create a wafer-like structure. This increases the surface area in contact with the water, resulting in significant performance improvements as compared to conventionally designed absorbers.



Photos: Eurotecama, El Casar, Guadalajara, E

*The new housing estate in Valdepiélago consists of 30 detached houses, all designed and built to strict ecological standards.*



*Four roof-mounted solar modules, each 1.06 × 2.05 m in size, are sufficient to cover 95 % of the hot water demand and 66 % of the space heating demand of a house.*

#### Design of the solar collector

- 1 Collector housing, stainless steel EN 1.4301
- 2 Cover strip, stainless steel EN 1.4301
- 3 Ultrawhite glass (low iron), 3.2 mm, inward face has a prism structure for internal reflection
- 4 Insulation, 25 mm rock wool
- 5 Insulation, 50 mm rock wool
- 6 Absorber, stainless steel sheet EN 1.4401, 2 × 0.7 mm, spot-welded,, nickel-oxide coated and black chromium plated, hollows for water circulation 2.5–3 × 50 × 50 mm

