Architectural integration of solar thermal energy systems

Petersbergenstrasse, Austria

Picture source: AEE INTEC
PROJECT

The solar system at this two-family dwelling in Graz, contributes to domestic hot water preparation and space heating. The façade collector has been erected by the AEE INTEC on a timber frame construction. Total collector area is 55 m².

The solar installation consists of three collector fields, 18.3 m² each. These fields have been pre-manufactured. The wooden back wall of the collector is fixed to the timber frames with steel angles. Only about 10 steel angles for the fixation have been arranged for each 18.3 m² collector field. This type of fixing causes almost no effect on thermal bridges.

The house Petersbergenstrasse is heated 100% with renewable energy.
**Key figures**

- Heated area: 260 m$^2$
- 50 m$^2$ façade integrated solar collectors (10° south west oriented)
- 3750 l stratified water heat store
- Auxiliary heating: biomass boiler (pellets, 15 kW)
- Heat distribution: wall and floor heating

The solar system is a combined system, contributing to both domestic hot water preparation and space heating.

**Solar collector:**
Glazed flat plate water collector
Collector producer: AKS DOMA
• Built/Completion: 2001
• Architect: Arch. DI Albert Feldner
• Project management: Dipl.-Ing. Irene Bergmann/Ing. Werner Weiss, AEE INTEC, Arbeitsgemeinschaft ERNEUERBARE ENERGIE, Institut für Nachhaltige Technologien
• Address/Location: Petersbergenstrasse 194 Hart bei Graz, Austria
• Type of project: Two-family dwelling

Read more: http://www.aae-intec.at/0uploads/dateien18.pdf