



Solar Process Heat Installation

LEITL Beton, Upper Austria

Summary description

The company Leitl Beton in Hörsching, Upper Austria produces pre-fabricated concrete ceilings and components. The company realised one of the first solar process heat installations in the region.

Background

When constructing a new production hall, Leitl looked for possibilities to use renewable energy sources. As Leitl Beton has a daughter company in Germany which produces solar thermal collectors, they were able to integrate solar know-how into the planning process from the very beginning. A deep analysis of the processes was done which showed that the temperature levels required are mostly below 45°C which are ideal conditions for the use of solar process heat.

Technical data

- year of construction production hall: 2008, in operation since 2009
- year of construction solar thermal system: 2009, in operation since 2010
- size of production hall: 102 m x 29 m x 16,5 m
- total heating demand: 530,000 kWh/a (~ 53,000 litre heating oil)
- heating system: 400 kW wood chip boiler

Technical data

- 150 solar thermal collectors, 315 m²
- inclination: 45°, deviation from South-orientation: 12°
- mounted on pillars on the roof
- 3 buffer storage tanks, 12,000 litre each
- in total 36,000 litre storage plus 500 litre hot water tank

Technical description

315 m² solar thermal collectors were installed together with 3 x 12,000 l buffer storage & 500 l hot water tank. The total heat demand of 530,000 kWh is covered by the solar thermal and a wood chip installation of 400 kW.

The total investment was 300,000 Euro. If a new oil boiler had been installed, the investment would have been about 135,000 Euro less than for the solar thermal installation. However, financial support of about 44% of the investment costs was received, which covered the additional costs for the solar thermal system.

Results & conclusions

Annual CO₂ savings of 422 t (taking into account both solar thermal and wood chip installations) can be achieved and up to 70% of the annual costs for process heat can be saved.

