

Low energy housing estate "Sundays", Austria



Picture source: AEE INTEC

Architectural integration of solar thermal energy systems

Low energy housing estate "Sundays", Six terraced houses and one office building with solar collectors integrated in an extended façade

PROJECT

The low-energy housing estate "SUNDAYS" was developed with the goal to find a prefabricated building standard with normal cost but very low energy demand. As a demonstration project in Gleisdorf/Styria in Austria, six terraced houses and one office building were realised.

The energy concept includes high insulation standard, passive solar gains by a conservatory and earth to air heat exchanger, active solar gains using thermal collectors and also biomass operating a pellets-boiler. A central waste air ventilator sucks the air out of the rooms and therefore fresh air comes into the conservatory directly or pre-warmed (pre-cooled) through the earth to air heat exchanger. The remaining space-heating demand is covered by a low-temperature wall- and floor heating system.

Apart from optimising energy and costs, the development of an innovative and ecological wood prefabricated part concept was a major focus of the project.



Picture source: AEE INTEC

Key figures

- 6 terraced houses and 1 office building
- Heated area: 1100 m²
- 213 m² roof integrated solar collectors
- 14 m³ water heat store
- Solar gain: 60 % of total heat demand
- Auxiliary heating: biomass boiler

The solar system is a combined system, contributing to both domestic hot water preparation and space heating (low temperature heat distribution - floor and wall heating).

The middle wall and separation walls were designed as solid concrete walls plastered with clay. Thus corresponding energy storage masses are available for the solar energy gained passively which also have an evening out effect on the climate in the room.

Solar collector:

Glazed flat plate water collector



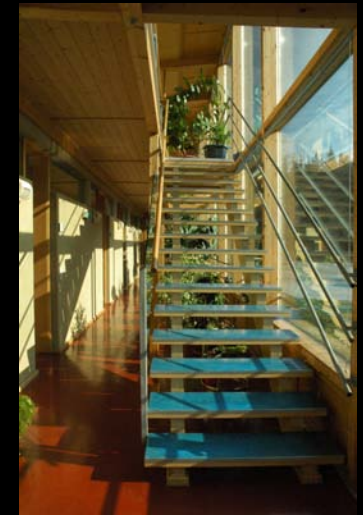
Picture source: AEE INTEC

GALLERY



PHOTOS; AEE INTEC

- Built/Completion:
1997
- Client:
AEE INTEC
- Architect::
Architekturburo
Reinberg ZT GmbH
- Project consultants:
AEE INTEC
- Address/Location:
Feldgasse 19, Gleisdorf,
Austria
- Type of project:
Multi-family house and
commercial building



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