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fermacell Project & Solution

EnergiePLUS house Leonberg, Germany

- Detached house
- Project completed in 2011
- **fermacell** greenline Gypsum Fibreboards and Dry Flooring Elements with wood fibre
fermacell Powerpanel H₂O

EnergiePLUS house Leonberg, Germany

The Project

A single-family home has been built in Leonberg. The house is geared for the future, since it incorporates solutions for the generation of renewable energy and a healthy home. It has a floor area of 267 m² and is located on a sloping 900 m² plot. The house is also used for research purposes by Braunschweig Technical University.

Due to the combination of ultra-modern building technology and construction materials, the family of four is not only independent of mains electricity, but even generates sufficient electricity to run two electric cars.

The product chosen for dry lining was **fermacell** greenline.



Project Requirement

The concept was designed to relieve the mains supply by generating electricity and thereby minimising the client's energy costs for heating, hot water and the entire power supply.

The overall design also considered a healthy home and this was a critical factor in determining the choice of building materials.

Solution

The home was built as a conventional house with an external insulation composite system 20 cm thick and triple-glazed windows. The monopitch roof has an area of 120 m², all of which is utilised for a 15 kW photovoltaic peak power system and a 7 m²



solar thermal collector. The roof space is insulated with 22 cm mineral fibre and 5 cm polystyrene, and the ceilings below are lined with **fermacell** greenline. Heating is provided by 100 m deep earth sensors.

fermacell greenline Gypsum Fibreboards with their special coating and Dry Flooring Elements laminated with wood fibre were used for dry lining.

Keratin, a natural active ingredient that is also found in lamb's wool, permanently binds pollutants, such as aldehydes and ketones found in room air – and also under wallpaper and carpets as well as paint that is open to diffusion. This is a product developed in line with the latest research into a healthy home. Its effectiveness has been verified by the eco Institute in Cologne.

The special **fermacell** H₂O boards were installed in the bathroom. These glass-fibre reinforced lightweight concrete boards are mould-resistant and water-resistant.

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Overview	
Investor / Client	Mrs. Karin Fisch & Prof. Dr. M. Norbert Fisch
Architect	Berschneider & Berschneider, Pilsach
Energy concept / Building engineering	EGS-Plan, Stuttgart
Building contractor	
Carpentry	Lug ins Land Holzbau GmbH, Grafenau
Roofing contractor	Schleip GmbH, Neumarkt i.d. Oberfalz

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