Solar Decathlon TU Darmstadt

City:
Darmstadt

Country:
Germany

Kind of construction:
Residential building

Year of construction:
2007

Application of vacuum insulation panels:
Vacupor® NT 2x30mm, 260m² – wall-, roof- and floor insulation

Planning and Handling of VIPs:
TU Darmstadt

20 teams have been invited by the `U.S. Department of Energy`, to compete against each other. The teams of universities from all around the world took part at the Solar Decathlon to design, build and operate the most attractive and energy saving solar-house. For that competition a maximum space was given with 75m². To create as much living space as possible, given the small area, an innovative concept of living was required. All furniture is included in the floor construction. It can be setup or down as necessary.
The high requirements to the house, referring to aesthetic architecture, comfortableness and living comfort, had to get all together and all required energy for the daily living must be generated by the sun.
For the insulation of the building envelope the team at TU Darmstadt counted on Vacupor® vacuum insulation panels by Porextherm Dämmstoffe GmbH – with success. The VIPs with a thickness of 30mm had been put between a ‘Purenit’ battening in a 2-layer construction. The Vacupor® vacuum insulation panels have been integrated into wall, roof and floor segments of the solar-house.

Finally, the team at ‘TU Darmstadt’ won the competition ‘Solar Decathlon 2007’ of the most attractive and energy-efficient construction at the faculty of Architecture, Prof. Manfred Hegger, showed its number one ranking in the final week in front of the White House in Washington DC. The competitors were from 19 top universities all over the world.

Sources:
pic 1, 2, 3, 4, 5; Flicker