

## Report from the Construction site



**Kind of insulation: Facade insulation with vacuum insulation panels**

**Construction:** System: Sto AG, Germany

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**VIP-product:** Sto AG / Porextherm Dämmstoffe GmbH

**Location:** Passivhaus Bersenbrück, Germany

**Date of realization:** 2002/2003

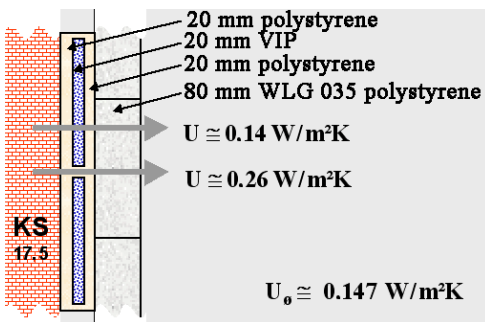
**Funding:** ---

### Description of the construction:

1st layer: VIPs in polystyrene

2nd layer: conventional insulation

The passive house in Bersenbrück was completely insulated with vacuum insulation panels set in polystyrene. The VIPs are 20 mm thick and encased by 20 mm thick WLG 035 polystyrene on each side. A second, 80 mm thick layer of insulation was also mounted to minimize any joint porosity or thermal bridge effects. The target specification of 0.15 W/(m<sup>2</sup>K) was therefore achieved with a theoretical average U-value of 0.147 W/(m<sup>2</sup>K). Thermographic images taken of the building before and after the second layer of insulation was mounted clearly show that the initial thermal bridges in the joint areas can be reduced.



**Figure 1:** View of the house from the south-west; several polystyrene-encased VIPs are already mounted.

**Figure 2:** Cross-section of the facade insulation. The given U-values correspond to (top to bottom): the centre of the panels, the joints and the average for the total area.

**Figure 3:** Thermographic image taken after the second layer of insulation was mounted.