

Report from the Construction site



Kind of insulation: Insulation of a facade

Construction: Schnös Trockenbau, Knetzgau

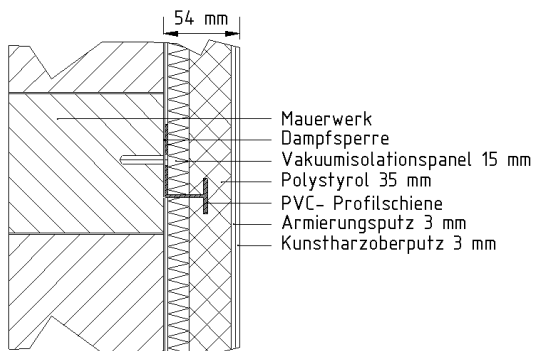
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VIP-product: WACKER CERAMICS, Kempten

Location: semi-detached house in Nuremberg

Date of realization: November 2000

Funding: Bavarian State Ministry of Economics, Infrastructure, Transport and Technology



Description of the construction:

At the gable side the eaves were very small. The Federal Department for Preservation of Historical Monuments ordered a limit of 6 cm for the thermal insulation. The facade had to be replastered. The 15 mm thick VIPs (0.5 x 0.5 m²) were mounted via a plastic rail and were covered with 35 mm polystyrene boards to apply the plaster. The U-value of the wall was improved from 0.6-0.75 W/(m²K) to 0.19 W/(m²K). The plastic rail simplified mounting the VIPs and the plastic rails caused hardly any thermal bridges. Even if the vacuum fails, the wall will be insulated because the thermal conductivity of the air-filled VIPs is only 0.02 W/mK and the layer of polystyrene boards provides extra insulation. This patented system, called "Vakudämm" can also be used as an internal insulation of walls.

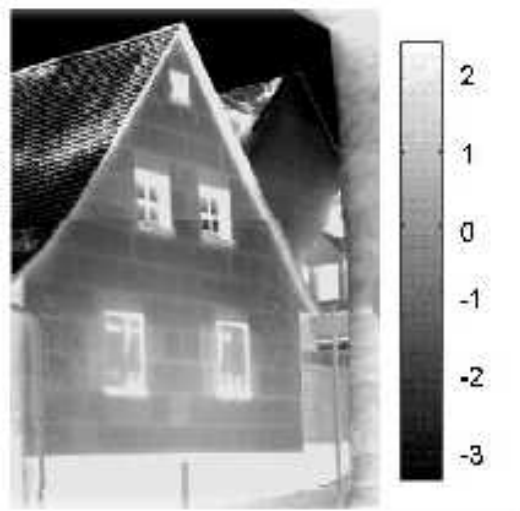


Figure 1: Gable during the installation. The shiny VIPs are already in the rail. The pale pink polystyrene boards have just been mounted.

Figure 2: Cross-section of the insulated wall.

Figure 3: Infra-red image of the gable after insulation. The border of the VIPs can be seen as lines (thermal bridges).