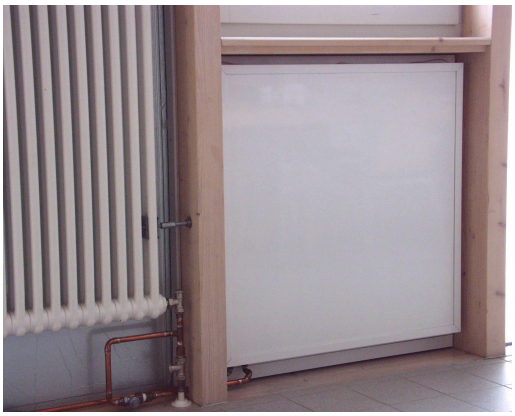
VIP-BAU.DE
Vakuum-Isolations-Paneele am Bau

Systems with built-in VIP



Kind of insulation: Integrated facade element

Construction: Metallbau Ralf Boetker GmbH

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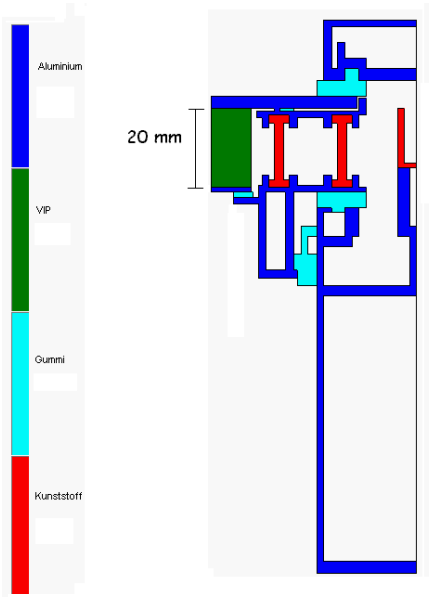
VIP-product: ZAE Bayern, Wuerzburg

Location: ZAE Bayern, Wuerzburg

Date of realization: February 2000

Funding: DBU



Description of the construction:
A slim facade system was developed which was insulated with vacuum panels and includes a radiator. The facade element represented here is only 24 mm thick. A 20 mm thick VIP is sandwiched between two aluminium plates (3 mm and 1 mm thick) and fixed inside a frame. Inside this system there are two VIPs measuring 50 cm x 100 cm. Although the U-value in the centre is only 0.24 W/(m²K), the U-value of the system is 1 W/(m²K).

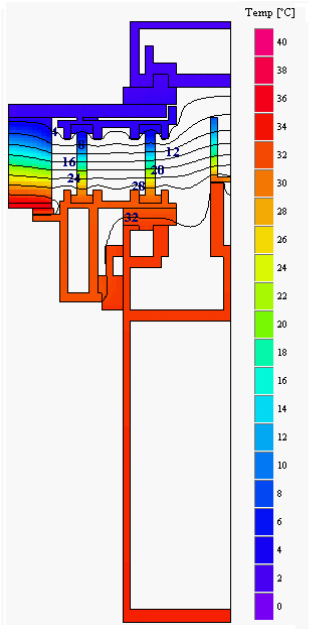


Figure 1: View of the integrated facade element from inside the room

Figure 2: Cross-section of the façade element without heating. The jamb-crossbar construction can be seen on the right hand side. The VIP is cut off on the left side.

Figure 3: A Finite-Element-Program was used to simulate the temperatures shown in this cross-section. The tem-peratures are colour-coded and the isotherms drawn in.