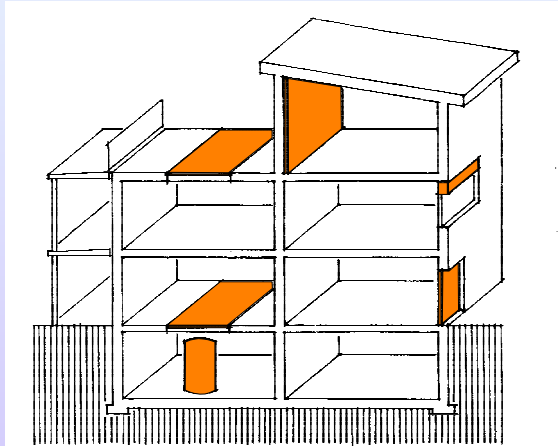


IEA Annex 39, Subtask B System Development and Applications with VIP



VIP Producer and Researcher in Europe Switzerland to Become a Test Market

■ VIP - Production and Trade

- Porextherm AG, Kempten → ZZ Wancor AG, Regensdorf
- Wacker AG, Kempten → SWISSPOR, Alcopor
- Va-Q-tec, Wuerzburg → Schneider Dämmtechnik AG
- Thyssen Vakuumtechnik AG → Haering AG, Pratteln
- Microtherm (Degussa) → ?

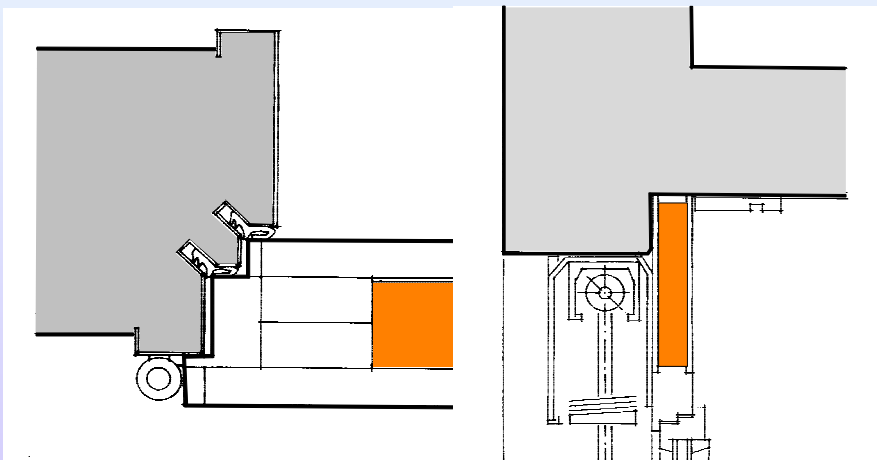
■ Research, Pilot- and Demo-Objects

- Institute of Energy, FHBB, Muttenz
- Eicher + Pauli AG, Liestal
- EMPA-ZEN, Duebendorf

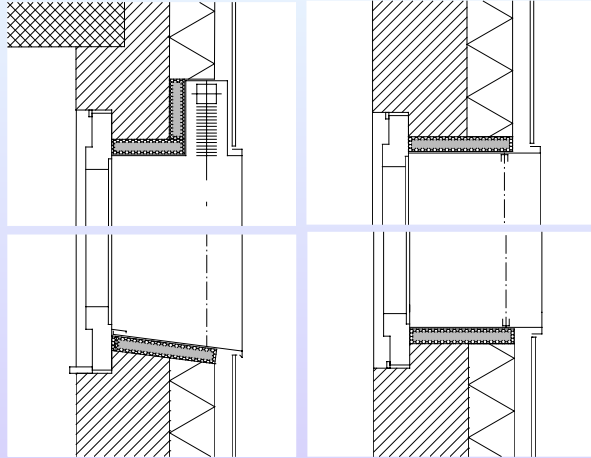
Rules for the Application of VIP

- Protected (commercial and industrial) manufacturing (not on construction site)
- Trained and informed personnel
- Careful handling while being processed
- Protected position in building element
- Controlability of vacuum status of built in VIP
- Easy replacement of VIP in case of failure

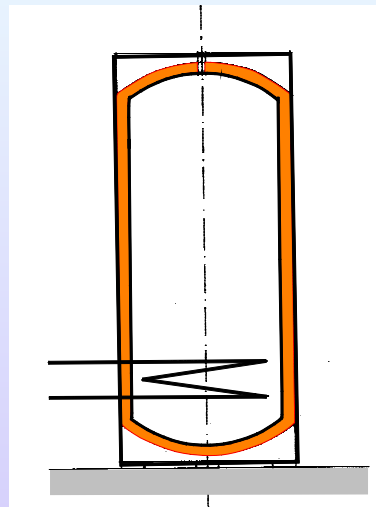
VIP for Doors and Window Frame Enlargements



Windows



Domestic Hot Water Storage Tank



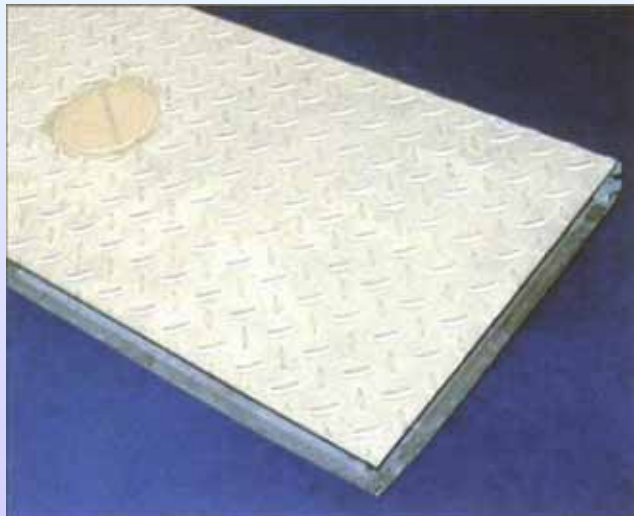
Vacupact by ZZ Wancor

Vacuum Insulation Panels, foamed into expand. Polystyrene

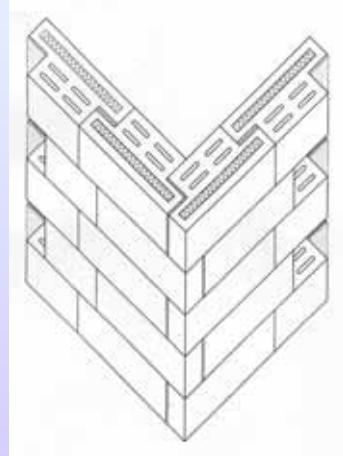
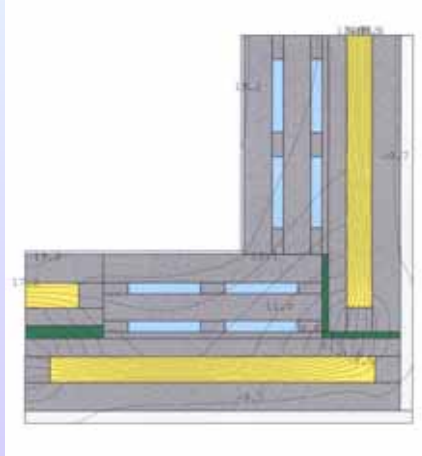


Vacuum Insulation

Steel Box Type,
Temptsafe Floor
by Thyssen



BAB - Foamglas-Brick with VIP

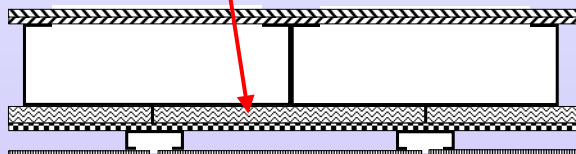


INOSTEEL - Single Family Houses as Steel Panel Construction with VIP

Vacuum Insulation Panels

Horizontal Section
Indoors

Plaster Board



Outdoors



Multifamily Houses in Itingen (Project)

Architecture: Jeker Blanckarts Architects, Basel

Holzbau: Huerzeler Holzbau AG, Magden

Konstruktion: E. Diethelm, R. Ebri, St. Schwyn, NDS-Energie



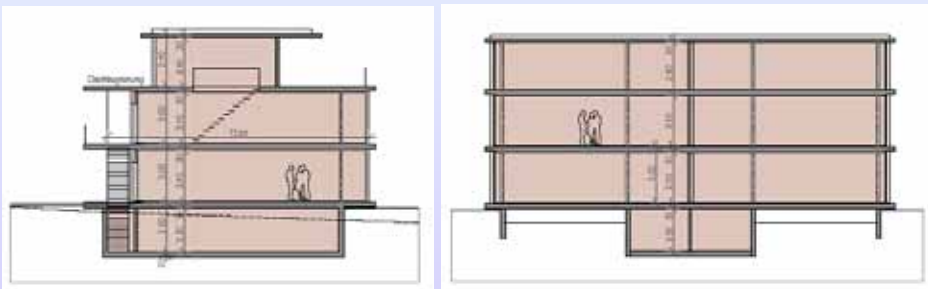
Multifamily Houses in Itingen - Situation



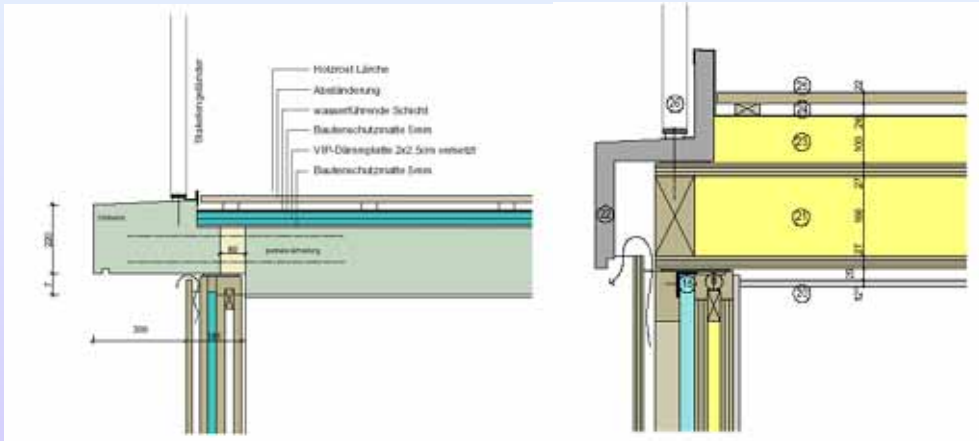
Multifamily Houses in Itingen - Typical Dwelling Floor Plan



Multifamily Houses in Itingen - Sections



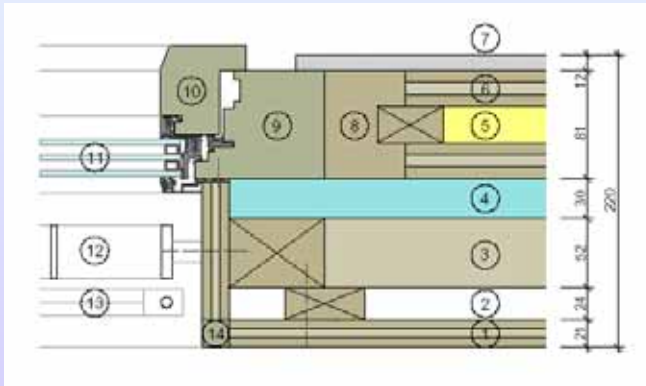
Multi Family Houses in Itingen BL - Terrace and Roof



Multi Family Houses in Itingen BL - Wall



Multi Family Houses in Itingen BL - Wall and Window

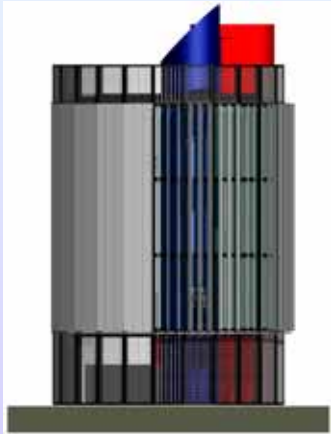


- 7 Gypsum Board
- 6 Triple Layer Wood Panel
- 5 Installation Space
- 4 VIP
- 3 Wood Fibre Insulation
- 2 Air
- 1 Façade Panel

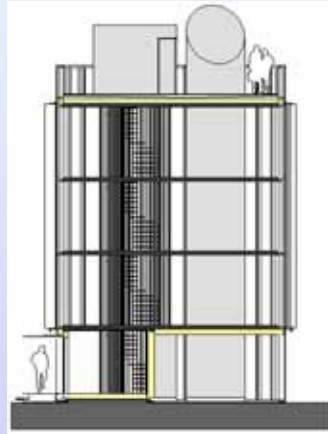
NEWSPIRIT - A Demo-Project with VIP



NEWSPIRIT - Metallic Lightweight Construction

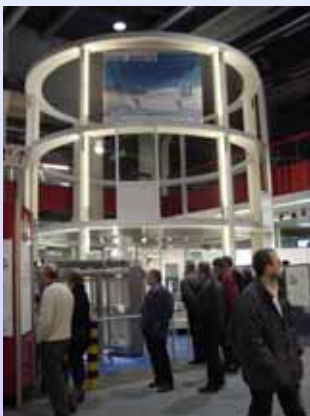


FASSADE



SCHNITT

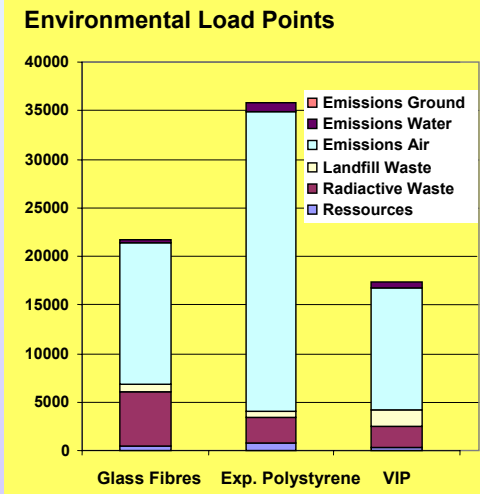
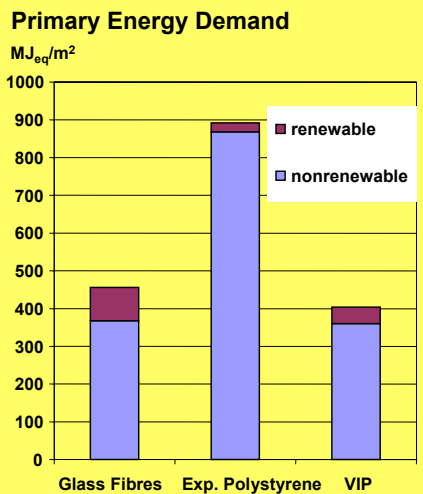
NEWSPIRIT - First Demonstration at SWISSBAU 2002



„Frequently Asked Questions...“

- Does the vacuum last... and if not, what is going to happen, who is to blame etc. ?
- What is the price... And how will it be in the future ?
- Are VIP's allowed as building material and with what U- resp. λ -value?
- Do VIP create a faraday-cage ? Do mobile phones work in a VIP-insulated house?
- How about fire resistance and fire protective qualities ?
- Are VIP efficient for noise protection ?
- Are VIP environment-friendly ?

Life Cycle Analysis of VIP



Life Cycle Analysis of VIP

