

SOLUTION FACADE

FACADE INSULATION OF A SOLID CONSTRUCTION
PLASTERED OR SUSPENDED FACADES



ISOCELL

INSULATION WORK IN PRACTICE

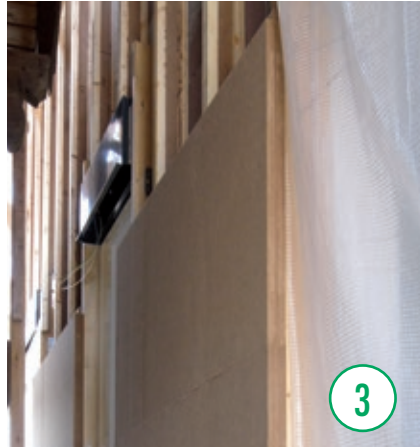


Depending on the thickness of the insulation, timber laths, TJI beams or timber constructions are fastened to the solid wall. The centre-centre distance depends on the requirements of the respectively employed plaster base material.





Window and door soffits must be closed all round. Hollow spaces of less than 10 cm are stuffed by hand.



The respective plaster base material is mounted on the perpendicularly aligned spacers. In the case of rear-ventilated facades, a diffusion-open wood-based panel is attached.



Holes are drilled into the hollow spaces for the injection hose shortly before installing the ISOCELL cellulose insulation.

The injection specialist comes with his truck to the building site and bring along everything he needs: the injection machine and the material. Only the injection hose needs to be brought to the place of installation, not enormous amounts of material.

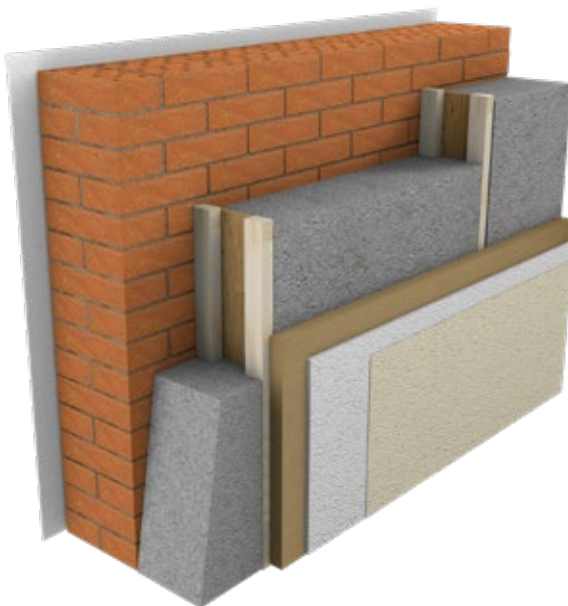
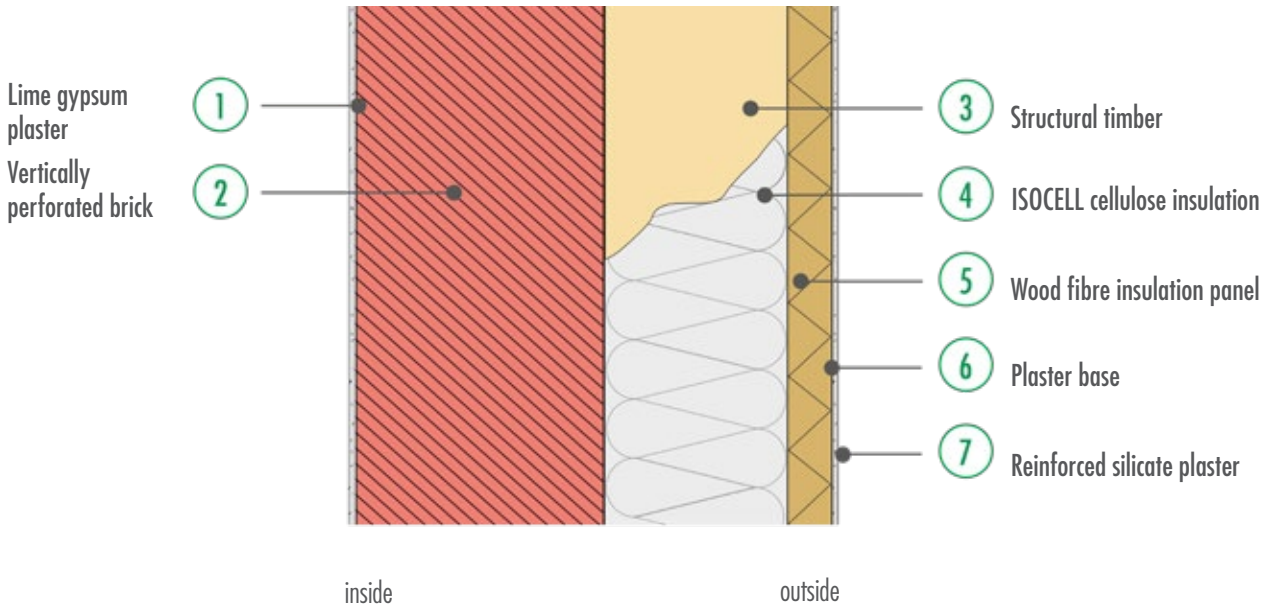
By means of radio control the injection specialist controls the injection machine on the truck, which an assistant fills with cellulose. The hollow spaces are insulated without joints and settlement-free in just a few hours.



SOLUTIONS IN DETAIL

SIDE VIEW AND SECTION

BRICK WALL WITH PLASTERED FACADE



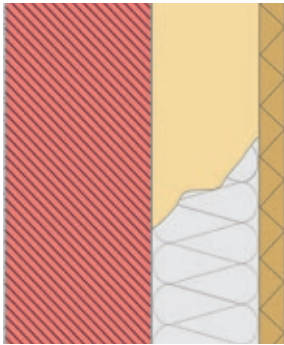
ADVANTAGE

- energy savings of up to 40%
- diffusion-open and capillary
- many different facade design options
- high fire protection
- dry masonry
- outstanding protection against heat
- high sound insulation
- construction materials from renewable resources

TECHNICAL DATA

FOR THE STRUCTURAL ELEMENT ILLUSTRATED

BRICK WALL WITH PLASTERED FACADE



Building material	Layer thickness (mm)	λ (W/m K)	Fire class (EN)
Lime gypsum plaster	10	0,8	A1
Vertically perforated brick	250	0,25	A1
ISOCELL cellulose insulation		0,038 0,039 (D)	B-s2,d0
Structural construction	120	0,13	D
Wood fibre insulating panel	60	0,055	E
Plaster base	7	0,8	A1
Reinforced silicate plaster	3	0,8	A1

Thickness of insulating material (mm)	Insulation material density (kg/m ³)	*GWP (kg CO ₂ äqv./m ²) for overall structure	PHI (Phase shift in hours)	**U-Value (W / m ² K)
120	50	27,08	18,5	0,203
140	50	24,98	19,2	0,187
160	50	22,87	19,9	0,173
180	52	20,51	20,8	0,161
200	52	18,37	21,6	0,151
220	52	16,24	22,4	0,142
260	54	11,59	24,1	0,126
320	58	4,18	26,5	0,109

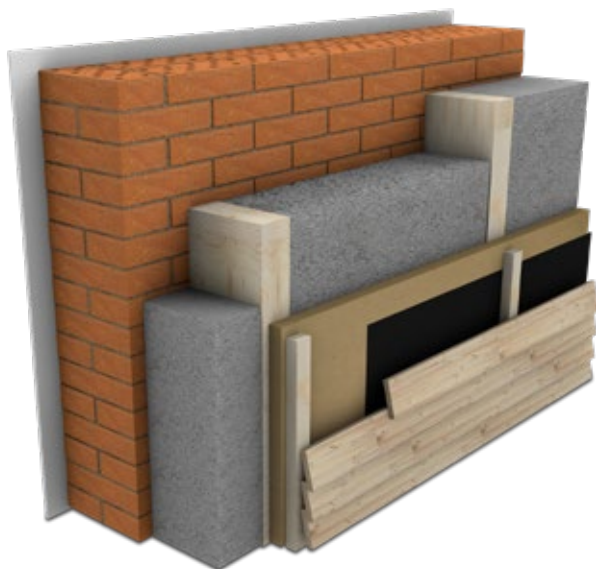
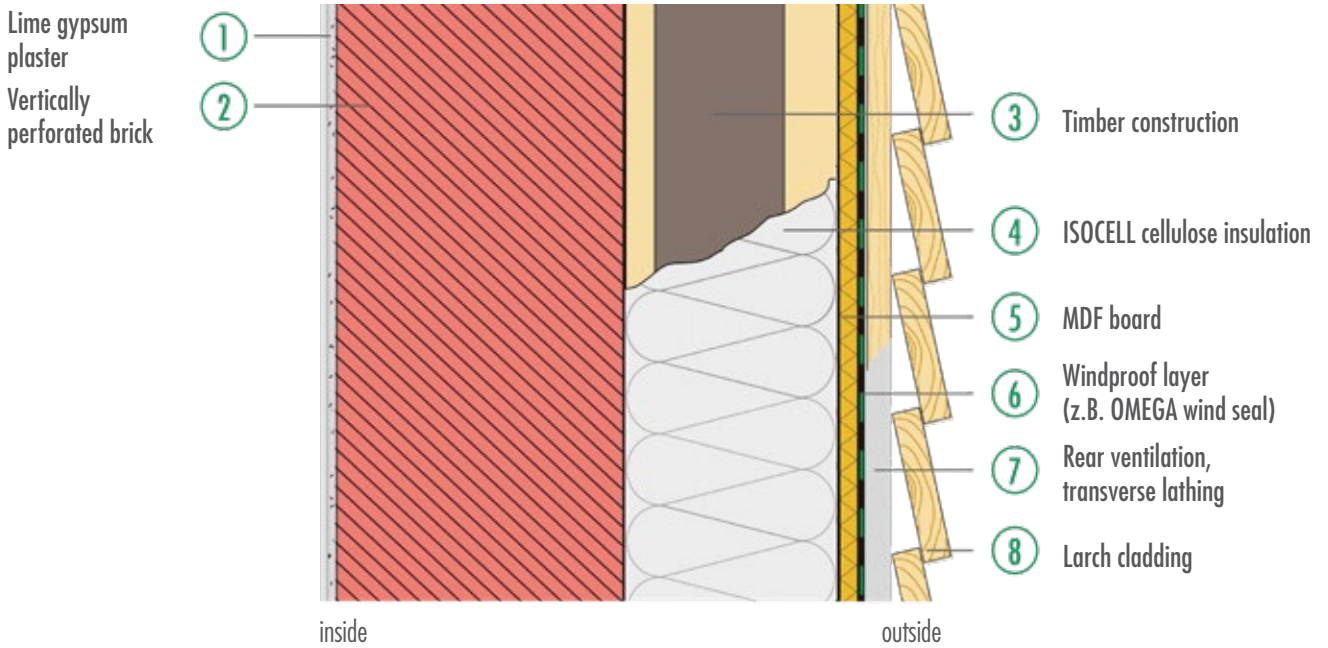
* Total GWP (Global Warming Potential)

** U-Value (W/m²K) was calculated with $\lambda = 0,039$ W/m²K and with an assumed wood content (structural timber) of 9,6%

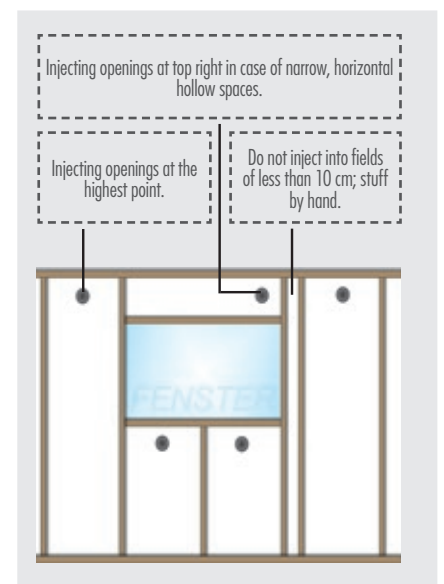
SOLUTIONS IN DETAIL

SIDE VIEW AND SECTION

BRICK WALL WITH SUSPENDED FACADE



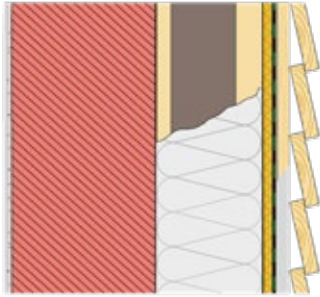
INJECTION OPENINGS



TECHNICAL DATA

FOR THE STRUCTURAL ELEMENT ILLUSTRATED

BRICK WALL WITH SUSPENDED FACADE



Building material	Layer thickness (mm)	λ (W/m K)	Fire class (EN)
Lime gypsum plaster	10	0,8	A1
Vertically perforated brick	250	0,25	A1
ISOCELL cellulose insulation		0,038 0,039 (D)	B-s2, d0
Timber construction	120	0,13	D
MDF board	15	0,09	D
Windproof layer	0,5	0,8	E
Rear ventilation, transverse lathing	30	0,13	D
Larch cladding	20	0,15	D

Thickness of insulating material (mm)	Insulating material density (kg/m ³)	* GWP (kg CO ₂ äqv./m ²) for overall structure	PHI (Phase shift in hours)	** U-Value (W / m ² K)
120	50	-0,98	15,8	0,250
140	50	-3,09	16,5	0,228
160	50	-5,19	17,2	0,208
180	52	-7,56	18,1	0,191
200	52	-9,69	18,8	0,176
220	52	-11,83	19,6	0,164
260	54	-16,47	21,4	0,144
320	58	-23,89	24,2	0,122

* Total GWP (Global Warming Potential)

** U-Value (W/m²K) was calculated with $\lambda = 0,039$ W/m²K and with an assumed wood content (structural timber) of 9.6%

REFERENCES

CONSTRUCTION OF NEW DETACHED HOUSE IN EUGENDORF



In the construction of the new detached house it was not only the outstanding insulating characteristics that were particularly important to the young family man, but also safety in the event of fire.

ISOCELL cellulose insulation is classified under fire class B-s2, d0 – which means that it is flame resistant, unlike EPS insulating materials.

In addition, the sound insulation is significantly better.

THERMAL RENOVATION OF HOUSE IN MATTSEE



In the thermal renovation of the detached house, the roof and the facade were insulated in addition to installing new windows.

“I wanted to offer the hard-working ISOCELL installers a cake in the afternoon, but the facade was finished so quickly that they were already done and on the way to the next building site”, said the house owner.

The U-value of the house was about 0.8 W/m²K before the renovation, now it is 0.15 W/m²K.

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