



## Farm house Trins

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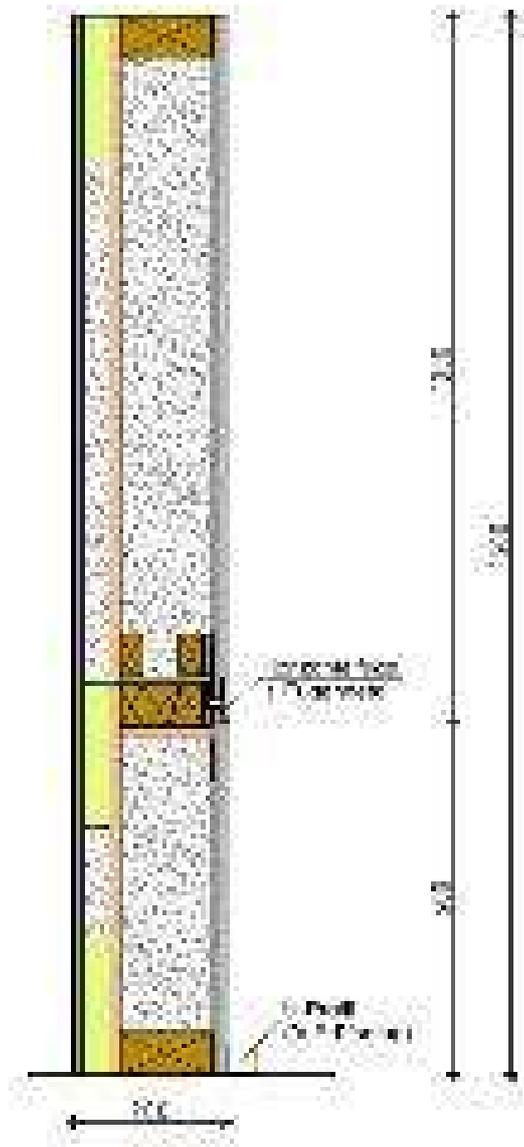
Reversible external insulation - facade with cellulose

## Walls

*What is the solution?*

The solution is a removable external insulated façade including windows. The insulation is made of blown cellulose. The façade is prefabricated, where the windows are also assembled in the factory. The connection is ensured by a steel console mounted on the existing wall and a steel counter piece on the new façade. In order that the distances between the flat new façade and the uneven existing façade can be adjusted, the existing façade is measured with a laser and any unevenness during installation is compensated. Some details can be finished in the building site, such as the adjustment layer in the window reveal and the plaster layer.

*Cross section of the wall build-up, available pictures of the solution:*



Cross section , © Michael Flach



Farmhouse before and after the refurbishment , © Michael Flach



Detail of the facade , © Michael Flach



Facade works , © Michael Flach



Facade prepared with the supports for the facade , © Michael Flach

Abb. 4: Montage des E.T.-Fassadensystemverbinders (Bauteil 1) an das bestehende Mauerwerk

*Why does the solution work in terms of compatibility with conservation, moisture safety and energy improvement?*

This solution gives the possibility to refurbish (with energy improvement) the existing façade of buildings with small building site's effort and high quality. The solution fits to historical building because it is reversible. The thermal bridges (window-wall) are also optimized, thanks to the prefabrication. The moisture safety is ensured by the plates of the façade.

*Description of the context:*

The building where the solution was built, is an old not listed farmer building. The wish of the building owner was to refurbish the building energetically. The old façade has no particular historical value apart from one painting. This was covered with the façade and in future will be available again.

*Pros and cons of the solution:*

The biggest pros are the small building site effort and the high quality reached thanks to the prefabrication. One cons is the covering of the existing façade, especially in case of historical value of it. The change of the outside volume of the building can also be considered as a cons for the conservation compatibility.

*Type of data available (level of information, simulation):*

The solution is well documented. A master thesis with hygrothermal simulations was done.

*Link to best practice example (Hiberatlas):*

<https://www.hiberatlas.com/en/farm-house-trins--2-40.html>