



## Reversible external insulation – Sto Ges.m.b.H

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### Walls

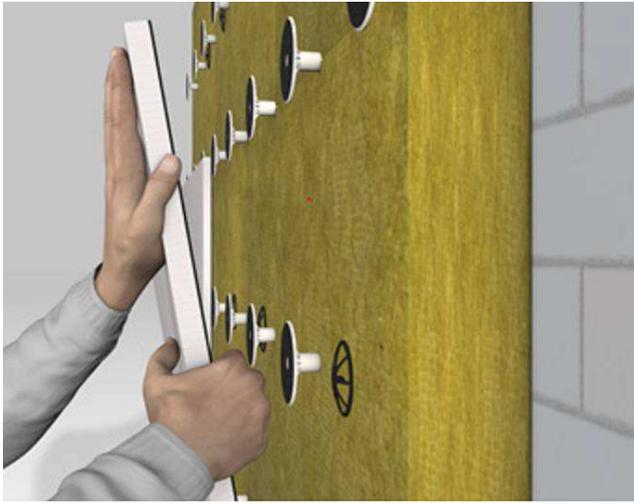
#### *What is the solution?*

If you want to install a reversible external insulation, there is the possibility to connect the insulation boards to the existing facade with a Velcro connection instead of the conventional fastening with glue. In order to achieve this, the first step is to apply mushroom heads to the façade, which have a Velcro head. The second element of the Velcro fleece is located on the insulation board and is hooked in. By avoiding the use of adhesive mortar, faster construction times and weather-independent installation are achieved.

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



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Velcro connection, © Sto Ges.m.b.H

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

The problem with the system is the void-free installation of the insulation boards on the existing wall. Those walls are usually not flat. With conventional thermal insulation composite systems, these unevennesses are evened out with the adhesive mortar. With the Velcro system, this is achieved with adjustable dowels. However, the adjustment is not made on the existing wall, rather at the front level. If the adjustment of the panel would take place between the wall and the insulation, convective backwashing of the insulation level would be possible and the energetic benefit of the additional insulation would shrink considerably.

*Description of the context:*

If the aim is to refurbish facades worthy of preservation with external insulation, this is usually not possible with common solutions, as the original facade is destroyed by the adhesive. With the help of the Velcro system, such facades could still be renovated and a subsequent uncovering of historical facade parts would be possible at any time with almost no damage.

*Pros and cons of the solution:*

The great advantage of the system is its ecology. The system can be dismantled very easily, separated according to type of waste and recycled to a large extent. There is less waste because no adhesive mortar is used. Further advantages are the fast installation and the elimination of waiting times due to the drying of the adhesive mortar. As a disadvantage, the flat surface of the insulation must be mentioned. Especially with regard to the renovation of historical buildings. While a flat surface is desired in a new building, the uneven surface of the plaster is often a special feature in a historical building. The

system is still in development and unfortunately not yet available on the market.

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

The company STO is currently engaged in the development and brand launch of this system. Further information about the system can be found under the following link.

*Is there any related publication? If yes, please provide any available link or document for further reading*

[https://www.hiberatlas.com/smarteredit/projects/158/sto\\_systain\\_klettfassade.pdf](https://www.hiberatlas.com/smarteredit/projects/158/sto_systain_klettfassade.pdf)