

Media release

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Improving the indoor environment, reducing energy consumption

New moisture-buffering plaster «sucks up» water vapour

Water vapour generated by cooking, taking a shower or drying damp clothes can condense on cold walls, encouraging the growth of mildew and microbes. The company Sto AG, in collaboration with Empa, has developed a special wall plaster to deal with this problem. Its ability to absorb moisture from the air is significantly better than that of conventional lime plaster and even that of clay rendering.

The new wall plaster that Empa building physicist Thomas Stahl was looking for needed to be humidity regulating, mineral-based, easy to use and not much more expensive than alternative products. The newly developed moisture-buffering plaster can in fact absorb 90 g of water vapour per square meter, measured by the standardized «Nordtest» method. This exceeds the capacity of the best clay rendering, measured for comparison purposes, by about 30 per cent.

The health and economic advantages offered by a relatively stable air humidity are enormous. Occupants and furnishings are less stressed, and energy consumption (and therefore heating costs) drops because dry air can be brought to a comfortable room temperature more quickly.

In order to achieve the required level of humidity storage capacity, the moisture-buffering plaster has to be applied with a thickness of 1 to 2 cm. This significantly reduces the risk of water vapour condensing on cold areas of the wall and on thermal bridges. The moisture absorbing plaster draws in the excess humidity from the room air and stores it, releasing it back to the environment hours later. The room - for example a windowless bathroom - only need be aired and then warmed up again.

New range of products thanks to Empa innovation

Sto AG has created an entire range of indoor rendering products based on the Empa innovation, which it called «StoCalce Functio». The range includes a regulating base layer, a functional filling layer and two finishing coatings. These mineral-based products unite the positive characteristics of lime and clay renderings

– in combination they absorb more than twice as much moisture as conventional lime-based plasters and about 50 per cent more than clay renderings. In addition, the environmentally friendly material is water resistant and hard wearing, as well as being easy to handle and use.

Information on the new moisture buffering plaster can be found (in German) here: <http://www.Sto.de>

Further information

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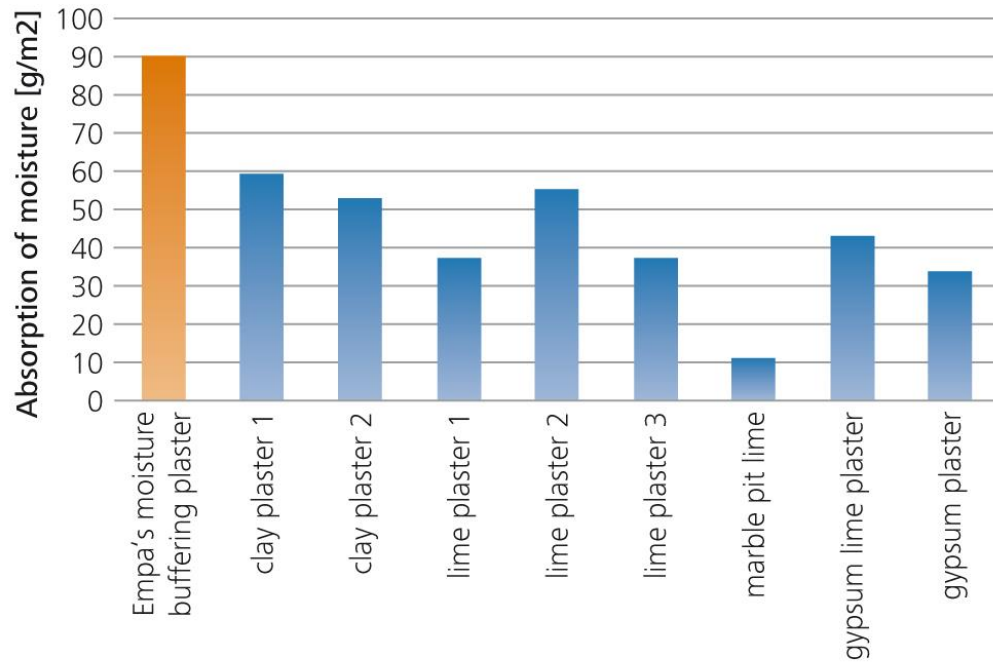
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Empa researcher Thomas Stahl developed very Meister buffering plaster together with Sto AG.



The moisture absorbing capacity of the novel Empa rendering system in comparison with competing products – the so-called «Nordtest».

Images can be downloaded from <http://flic.kr/s/aHsjRrDfVt>.