



Thermally well isolated solar collectors with Basotect®

Case Study

On the sunny side: BASF special foam keeps solar installations warm for a long time

Energy-efficient and environmentally friendly living is an increasingly worthwhile pursuit given the increasing energy prices. Owners of detached and semi-detached houses in particular are presented with numerous possible ways of retrofitting their buildings so that they can save energy. One of these possibilities is to fit solar collectors on the roof which – thermally well insulated with the BASF melamine resin foam Basotect® – trap the solar radiation, convert it into heat, and thus heat the drinking water. In Europe, so-called flat collectors are in widespread use. They consist primarily of a pane of safety glass, an absorber (usually a sheet of metal with a dark coating) and metal pipelines in which a mixture of water and antifreeze circulates. If sunlight shines through the pane of glass onto the absorber, it collects the thermal radiation and releases it to the water in the pipes. These pipes transport the heat into the associated hot water circuit of the house.

Thermal management is crucial

The most important aspect of this environmentally friendly technique is the thermal management. The installation should absorb as much sunlight as possible and only reflect back a small amount. And this is where Basotect® comes in because the light, fire-resistant foam from BASF boasts excellent thermal insulation properties and does so reliably at temperatures which are very high for plastics even over a prolonged period – ultimately solar collectors have to be able to withstand wind and weathering for at least 20 years without suffering any damage. The BASF material, which belongs to fire protection class B1, is employed primarily on the side walls and back of the flat collectors, but is also used to insulate the hot-water boiler and the pipework. Basotect® gives off virtually no volatile substances which might prevent solar radiation, for example through condensation behind the collector glass pane, and therefore reduce the efficiency of the solar installation. This is another advantage which the foam offers when used over a prolonged period of time. As solar collectors represent a high-end technology, the individual materials also need to be able to keep up. The BASF melamine resin foam is very suitable here primarily because of the ease with which it can be fitted: it is flexible, very light, fiber-free and can be cut into panels easily with a knife. These are all advantages which benefit the processor, the client and the environment in equal measure – from the roof right down to the heating cellar.

