



## Basotect® helps harness solar energy

### Case Study

BASF's Basotect® melamine foam is in use for insulating the "Gobi" line of solar flat plate collectors by Heliodyne, Richmond, California, one of the oldest and largest manufacturers of solar collectors in the US. The "Gobi" line is Heliodyne's flagship product that has continuously been refined and optimized for over 30 years. Heliodyne chose insulating Basotect® parts, custom cut by the thermal and acoustic composite manufacturer Polymer Technologies of Newark, Delaware, over other foam materials as the insulation to line the back and the sides of their collectors. The BASF foam shows excellent insulation capabilities as well as long-term, high temperature resistance.

### Highly efficient and thermally stable insulation

Flat plate solar collectors use solar energy to produce hot water for residential and commercial buildings. Water or heat transfer fluid is heated as it passes through panels that are designed to collect heat from the sun. One essential aspect of the collector design is the thermal insulation that is used to retain the heat in the collector. Solar collectors that are stagnant, meaning that the liquid is not flowing through the collector, can reach temperatures that exceed 350 °F. Basotect® can withstand these temperatures unlike other polymeric foam insulating materials that usually start to degrade at considerably lower temperatures. "The new "Gobi" line of collectors has the thinnest profile available in the US. This improves the aesthetics of the collectors and makes them easier to transport and install", explains Ole Pilgaard, president and CEO of Heliodyne. "With the smaller profile, though, we only had room for a very efficient and thermally stable layer of insulation. By using Basotect®, we not only maintained the product line's efficiency, we actually improved the overall performance of the collector."

### Lightweight, flexible and free of fibers

In addition to that, Basotect® provides other benefits for Heliodyne's solar collectors. Because the foam is lightweight, flexible and free of fibers, it is easier to store and assemble than other insulation materials. While other materials may off-gas at higher temperatures, Basotect® releases practically no substances that could fog the glass and block solar radiation. The BASF material can also be easily shaped. Polymer Technologies is able to manufacture parts that are customized to fit perfectly during assembly. Heliodyne uses Basotect® on three different sized flat plate collectors so that the optimal design can be found for both residential and commercial customers. The panels were tested and certified by the Solar Ratings and Certification Corporation (SRCC).

