



”

Before using the thermal mats, we had to spend a lot of energy to heat up the production hall.

*Michael Klaus,
Weber Betonwerk.*

April 2023

Saving energy with thermal concrete duvets

For more than 60 years, Weber Betonwerk GmbH has stood for innovative products and comprehensive service at all levels. The company offer a wide range of high-quality precast concrete elements for residential and commercial construction. Whether single-family homes, agricultural or industrial buildings, commercial buildings, supermarkets, or garages: Weber Betonwerk GmbH is a competent and flexible partner for almost all areas of modern construction.

Rising energy costs require new initiatives

To counteract the increasing energy costs, the concrete plant Weber Betonwerk in Ippesheim, Germany has thought of new ways in the production of balconies and stairs. When producing approx. 50 balconies and 30 stairs daily, the concrete elements are now covered with thermal concrete duvets from the Danish company Combitherm to optimise the curing process and keep excess heat in the component.

”Last year, we were looking for new ways to reduce our heating costs in the production hall. When we became aware of the thermal concrete duvets from Combitherm, we made initial tests with a total of three mats to cover the finished concrete balcony elements,” explains Michael Klaus, Weber Betonwerk.

”The first tests were so satisfactory that we ordered 50 thermal concrete duvets in different sizes during the winter, to be able to cover our daily production completely,” adds Kevin Knobloch, Quality Manager, Weber Betonwerk.

Find more cases here
en.combitherm.dk



Optimized curing process and savings

In order not to place the thermal concrete duvets directly on the fresh concrete, Weber employees use wooden spacers that are placed over the concrete balconies.

"We clearly see the advantages of using thermal concrete duvets, as opposed to PE foil," says Knobloch. "The heat for the curing process is kept more stable and condensate is not a problem". "We only have to think about a feasible way to dry the mats, as we cannot simply fold the damp mats after use."

"Before using the thermal mats, we had to spend a lot of energy to heat up the production hall. However, the period that has passed since we started using the concrete duvets is still too short for us to be able to put figures on the potential savings, but it will definitely have a positive effect," Michael Klaus sums up.

"To what extent it will be possible to take the elements out of the molds earlier, must also be investigated," adds Knobloch. "But for this, we will need a phase with constant outside temperatures."

Thermal covers must ensure a uniform quality

Since the end of the year, the entire daily production of the balconies, approx. 50 pieces, has been covered with the thermal concrete duvets.

The approximately 10 mm thick insulation of the thermal mats is made of Polywool, a material made from 78% recycled PET bottles. The different formats and sizes are manufactured according to individual customer requirements.

"We are now using the concrete duvets for all balconies, in order to ensure a uniform quality on the underside of the balcony and to avoid quality differences in the surface structure of the individual balconies," says Kevin Knobloch. "Also, there are no problems with cracks caused by shrinkage." We work with lightly compacting concretes of strength class C45/55 and higher, which develop a higher heat of hydration. The thermal concrete duvets help to keep the heat in the components.



World-class temperature control

Combitherm is amongst the leading European manufacturers of flexible, tailor-made and energy-saving thermal solutions for a wide range of industries working with temperature-sensitive products and processes and where temperature fluctuations must be kept to a minimum.

Our products include thermal covers, truck partitions, insulating mats, winter, concrete and asphalt mats as well as composite covers, all of which are important elements in the cooling chain in the transport and storage of e.g., foods and medicine or in relation to companies wishing to stabilise casting and curing processes within concrete and composite.

All development and production take place in Denmark, and with more than 40 years of experience, Combitherm offers advice and sparring thereby ensuring that our customers get an optimal, customized solution with long durability and consideration for the environment.