TATE MODERN, LONDON
REHAU Thermally Activated Building Structure (TABS)

Over 24,000m of REHAU pipework
REHAU’s Thermally Activated Building System (TABS) is at the heart of the newly opened £260m extension to Tate Modern on London’s South Bank.

In what is the highest profile TABS installation in the UK yet, REHAU’s PE-Xa pipework has been embedded in the concrete slabs which make up each floor of the new building to circulate cooled water and provide environmentally sustainable comfort cooling throughout.

Work began on the project in 2012 when REHAU originally began supplying the pipework and fittings to Byrne Bros Formwork who were producing all of the pre-cast concrete slabs for the 10 storey building off site at their facility in Beckton, East London.

Loops of more than 24,000m of pipework were installed on the reinforcement before the concrete was cast, and REHAU’s EVERLOC compression sleeve fittings were used to joint the embedded pipework when the slabs were delivered to site.

The TABS concrete core tempering solution effectively transforms the slabs into huge thermal stores for cooling of the gallery space. Groundwater is even being used to circulate through the pipework to optimise the sustainability of the installation.

The benefits of the TABS technology - most notably low investment costs, high levels of comfort and performance, ‘soft cooling’ with no draughts and the ability to reduce the output of other cooling devices, are ideally suited to the requirements of the huge gallery spaces which are expected to receive in the region of 5m visitors per year.

TABS was a key element in the M&E design of the building carried out by consultants Max Fordham, which also uses waste heat from the EDF Energy’s on-site transformers. Scoring a BREEAM ‘Very Good’ rating, the new Tate building is predicted to use 50% less energy than a typical gallery and generate 44% less carbon than current building regulations demand.

The TABS system was specified by Max Fordham and the REHAU solution was chosen in conjunction with Byrne Bros Formwork on the basis of the quality and durability of the pipework and fittings and REHAU’s proven experience on similar projects worldwide.

The new 64.5m high Tate Modern building with its distinctive perforated brick lattice façade was designed by architects Herzog & de Meuron and main contractors were MACE Ltd.