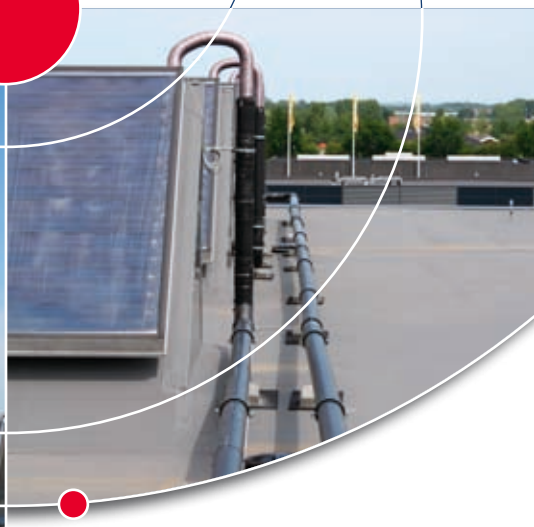
From solar energy to comfort cooling via pre-insulated pipes



The wind- and weather-resistant casing obviates inspection of the pipe run for years to come

Facts about OBH
The installed pre-insulated pipes are of the type SolarPipe with Ø 42 mm copper service pipe in Ø 110 mm casing. They are joined by means of pre-insulated T-pieces and bends and Geberit Mapress couplings.

OBH Gruppen A/S in Denmark uses solar energy to create a comfortable working climate in their new 2200 m² large office building

When OBH Gruppen chose to create a sustainable cooling solution for the staff, they were also careful in choosing the best systems and products to ensure optimal utilization of the energy and thereby the lowest possible energy loss.

This applies to the production plant as well as the pipe system, transporting the energy to the cooling plant.

The solar panel plant
The production plant comprises 150 m² solar panels of the HT-SA type with FEP film, resulting in the highest output at the lowest insulation. They are produced by ARCON Solvarme A/S, one of Denmark's largest manufacturers of solar panels.

These solar panels are installed at the top of the office building. Here the water is heated to the required 55°C, used by the up to 18,000 m³ air volume of the cooling plant. Even on a cool day in March the solar panels can heat the water to run the cooling plant.

The cooling plant
The cooling plant is of the type DesiCool from Munters in Sweden. It works without coolants and compressors and can be operated by means of heat/surplus heat from e.g. district heating or as in this case 100% solar heat.

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Transport system

The solar panel plant is connected to the cooling plant by means of a LOGSTOR SolarPipe system. Approximately 80 meters straight, pre-insulated pipes and 25 fittings ensure that the water is circulated in the closed system without wasting heat on the way – or interruptions due to moisture in the pipe system.

The LOGSTOR SolarPipe system consists of a service pipe of copper or electroplated steel, embedded in an insulating, CO_2 friendly polyurethane foam and a 100% UV-resistant and watertight outer casing of polyethylene.

Compared to other solutions it is advantageous that the straight pipes, T-pieces as well as the bends are delivered pre-insulated from the factory, and that jointing takes place with a simple but still strong – and insulated – casing joint. As a result the pipe system is quick to install, durable throughout the entire service life of the plant, maintenance-free and with an absolute minimum heat loss.

" – when choosing pipe supplier it was important to us that the pipes did not only have a technically good and stable insulation, were pre-insulated and therefore quick and easy to join, but also that their service life matched that of the entire plant. We are convinced that LOGSTOR SolarPipe meets the requirements we have to a pipe system and that LOGSTOR also provides the necessary back-up service", says René Rubak, project manager at ARCON.

Pre-insulated pipes for both large and small solar heating systems

LOGSTOR is the world leading manufacturer of pre-insulated pipes and has more than 40 years' experience with solutions, primarily for district heating pipe systems. This experience is the foundation of the development of the product LOGSTOR SolarPipe, which includes all necessary pipes and fittings, used in a solar heating system.

"It is not new to LOGSTOR to deliver pre-insulated pipes for solar heating systems", says Eg Andersen, International Sales Manager in LOGSTOR's Solar Division. "Already in 1996 our pre-insulated pipe systems were used in a solar panel plant, established by Marstal Fjernvarme. Today they have 18,365 m^2 solar panels, which produce 30% of Marstal's district heating supplies plus hot domestic water to 1,406 households."
To learn more about the project, visit www.solarmarstal.dk.

The straight pipes are available in 5 meters for copper pipes and 6 meters for electroplated steel pipes.

The many daily movements are absorbed in the bends, designed for this purpose, just like the pipe supports absorb forces.

The pipes are jointed with press couplings, encased in PUR insulating shells and 100% sealed with shrinkable joints.

The immediate advantages of pre-insulated pipe systems for solar panel plants:

- Complete pipe system (straight pipes, fittings and casing joints)
- Quick, easy and safe to install
- No subsequent insulation during the service life of the system
- Wind- and weather-resistant
- Condensation- and diffusion-proof
- Maintenance-free
- Minimum heat loss

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