



CREAGH
INNOVATION IN CONCRETE

Climaspan™

THERMALLY ACTIVE HOLLOWCORE SOLUTIONS WITH **uponor**



Climaspan™

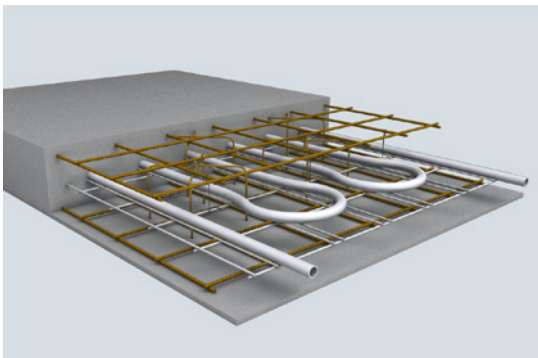
uponor

With a growing demand for sustainable heating and cooling and a greater emphasis on BREEAM, Creagh Concrete Products, as a leading manufacturer of pre-stressed Hollowcore flooring has formed a partnership with Uponor, an innovator in surface heating and cooling solutions with an unrivalled specialism in Thermally Active Building Systems (TABS) to deliver Climaspan.

The construction sector today is characterised by the principles of sustainability and the need for environmental energy efficiency.

During the design phase it is necessary to assess the impact that various design choices will have throughout a building's life cycle, pre-production, off-site production and on-site production.

Increasingly, the use of building components which are delivered to the construction site as finished or semi-finished products ready for installation gives architects greater technological flexibility in their buildings and allows them to choose solutions with the best environmental credentials, which will have a strategic impact on the building's overall performance.



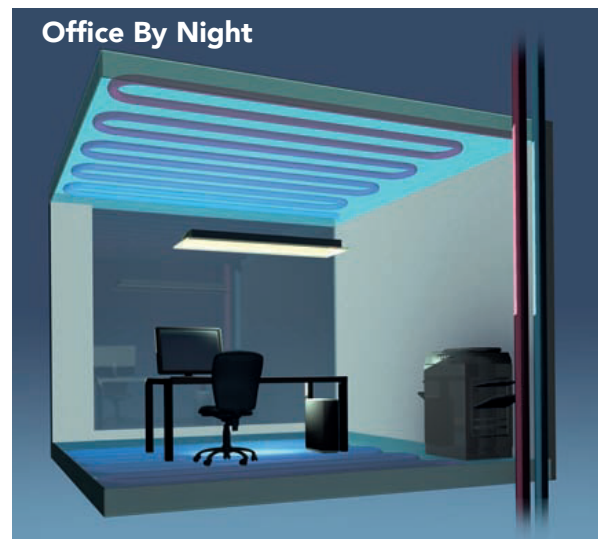
KEY ADVANTAGES:

- Reduced costs with maintenance of the system, as most elements are within the Climaspan precast unit.
- The Climaspan system provides an invisible cooling and heating system which delivers a comfortable and healthy indoor environment.
- Comfort is ensured by optimal temperatures provided by a silent system that does not circulate air: no dust circulation, no draughts - ensuring a healthy indoor environment.
- The invisible system also gives freedom of space and flexible indoor design.
- Low energy use is achieved by mean operating water temperature close to the ambient environment. This increases heat source efficiency and enables the use of renewable and free cooling sources in accordance with a low energy design principle.
- The Climaspan system is cost effective.
- Low installation costs: 30-50% savings.
- Low maintenance and operating costs: up to 50% savings compared to conventional air conditioning systems.
- Fast installation and improved quality control with prefabricated construction techniques.
- Structurally efficient solutions which allows more efficient use of space.
- Reduced dead weights allow lower requirements for foundations and structural load bearings.
- More than 12 years experience, 3 million m² installed and in excess of 1,000 operational buildings, make Uponor a leading authority in TABS solutions.



Office By Day

During the day the cooled ceiling slab accumulates the thermal loads from the room or direct sunshine.



Office By Night

During the night the concrete core of the ceiling slab is cooled by the free cooling source or the chiller.

THE PRINCIPAL

Climaspan is a factory produced precast Hollowcore unit incorporating embedded Uponor PE-Xa pipework. The exposed soffit of the Climaspan unit is activated, providing cooling and heating, using minimum energy and providing maximum comfort to large commercial buildings including, offices, universities and public buildings.

Climaspan is an energy efficient system with minimal environmental impact. Due to the low operating temperatures, the system lends itself particularly well to be combined with heat pumps, ground heat exchangers, solar energy and other alternative energy sources.

THE TECHNOLOGY

The thermal activation of the Climaspan unit, with the embedded pipework, allows the entire exposed soffit to be used as the heating or cooling medium.

The system operates with low temperature water heating and high temperature water for cooling, maintaining the concrete surface temperature close to the room air temperature, which results in a high degree of self regulation from the system.

FREE COOLING

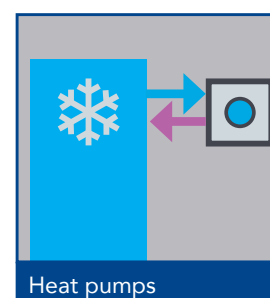
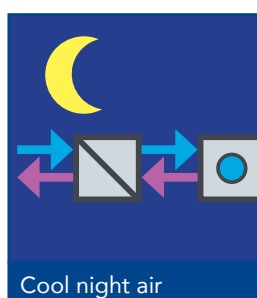
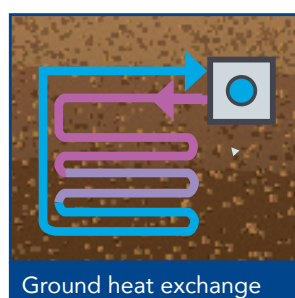
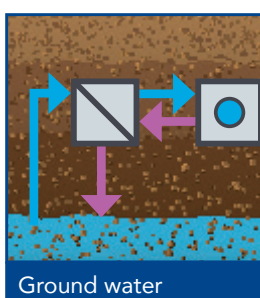
Due to the high temperature of the cooling water required for the Climaspan system low cost cooling is possible. External and internal heat gains should be reduced through appropriate measures,

such as effective shading and glazing to minimise the output required from the system and maximise comfort.

APPLICATION

The Climaspan solution is delivered and installed on site, where Uponor site installation engineers connect all pipework from the individual Climaspan units back to dedicated distribution pipework or manifolds. As the pipes are pre-integrated into the Climaspan units, on site programme times can be reduced.

Working with the project design team Creagh and Uponor provide cost effective solutions from feasibility through to installation and support under one contract.



The Climaspan/Uponor TAB systems works perfectly with ground energy sources – a truly sustainable way to supply commercial buildings.

JOINT EXPERTISE



uponor

RELIABILITY - trust a proven system, installed in more than 1,000 buildings since 1997 in different climatic regions.

LOW ENERGY - save energy (and money) during operation. Our system uses free and low value energy in accordance with low energy design principles.

COMFORT - create a better, healthier indoor environment our system is silent, creates neither dust nor indoor draughts. For a perfect place to live or work.

1: Feasibility

Working closely with our clients and their chosen design team from an early stage allows us to provide a consultancy service which determines the most appropriate solution for their specific building contract.

2: Develop Solutions

We offer in-depth modelling to determine whether a system would meet the client's needs and we use computer assisted engineering software to determine a project's viability for a specific type of system.

3: Design & Engineer

We turn development ideas into technical development by collecting and analysing data from the design team responsible for the project

4: Installation/Contract Management

Contracts Managers liaise with the client's project team to discuss the planning, organisation and management of resources to bring about the successful completion of the project.

5: Test Commission & Handover

Our systems undergo full testing and commissioning, by trained engineers, before we hand the system over to the client.

6: Support

We pride ourselves on the post installation support that we provide for all our clients. Each system is unique and we are always on hand with help and advice throughout the life of the system.



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CREAGH CONCRETE PRODUCTS LTD

HEAD QUARTERS

38 Blackpark Road,
Toomebridge,
Co. Antrim, N. Ireland
BT41 3SL

Tel: 028 7965 0500
ROI: 048 7965 0500

info@creaghconcrete.com
Creaghconcrete.co.uk

ENGLAND

Thurgarton Lane,
Hoveringham,
Nottinghamshire
NG14 7JX

Tel: 016 3683 1043

SCOTLAND

Cliftonhall Road,
14 Newbridge Industrial Estate
Newbridge, Edinburgh
EH28 8PJ

Tel: 0131 333 5405