# HeatWork®

# HW Concrete Systems

Innovation and research result in rock-solid facts — concrete for the future!

HeatWork deliver a complete solution and materials!

## **HW Concrete Systems**

Hydronic heating - the most cost-effective, efficient and environmentally friendly solution



Rock drilling, mast foundations

HW Heating rod, 180 cm

### Total control of the curing process

HeatWork utilizes patented hydronic technology as an energy carrier. This means the solution can be used almost anywhere, providing the necessary heat, either by direct contact heat, or by exchange to hot air. Since HeatWork's systems are based on a closed loop design, no water or

humidity is introduced to the environment during the thawing or heating process. HeatWork's mobile heating solutions have excellent fuel efficiency and complies with the most stringent HSE requirements.

Cure concrete up to 4 times faster!



Control the temperature and quality before, during and after pouring





Pines in concrete



Read more: heatwork.com

pouring

Hoses on floor

or slab after



HeatWork Concrete Systems includes a patented technique to preheat rock and bedrock in connection with concrete and anchorage work. The method involves heating rods being inserted into drill holes, heating the bedrock vertically.

The benefits of preheating the bedrock are:

- Controlled temperature in drill holes during grouting of anchors and pitons
- Offsetting temperature differences between the rock and the concrete during pouring
- Heat accumulation in the rock means a controlled curing process in the poured concrete

Like the rest of HeatWork's product portfolio, the heating from the research project show that the temperature in rods have been designed for hydronic heating in a closed the rock can differ greatly from the air temperature, and loop system. Consequently, the rock can be heated most even after sustained periods of mild weather, the temperefficiently, without adding moisture to the bedrock during ature within the rock can still remain below the freezing the heating process. The heating rods can be adjusted to point. the desired length, and will heat the rock evenly. Results



**{{** Our research shows that when HeatWork's systems for hydronic heating are used in the pouring process, concrete can be poured regardless of the ambient temperature.  $\rangle$ 

Research Director and Concrete Expert, Northern Research Institute, Narvik

### Above-freezing temperatures for a month, still below-freezing temperatures in the rock



Research Institute (Norut) and HeatWork yielded remarkable results.

The results from the study showed concrete can be poured year-round with high-quality results.

Read more about the project here: heatwork.com









HW Heating rod in drill hole





# **HW Concrete Systems**

Take control of the curing process

# Cooling or heating easily solved

**Reference** projects



#### **Finland: Bridge Oulu**

Curing concrete during construction of a new bridge in Oulu. PEX rør installed at 40 cm intervals, 2200 m of pipes in total.

- The Finnish contractor shortened construction times
- and saved 14.000 litres of fuel on 600 sq.m 29 days, outside temperatures ranging
- from +7 to -20°C
- Alternative heating using hot air

#### Sweden, Bridge E4/E20 Stockholm

Controlled curing of concrete structures Preheating of bridge elements in connection with pouring, membrane installation and asphalt work

Swedish contractor shortened schedule by several months, which yielded significant savings

#### Norway, Drammen city bridge

Controlled concrete curing when rehabilitating city brigde pavement in cold weather period November/December.

- Adding heat during curing of concrete, installation
- of kerb stones and membranes, and paving 2200 m of PEX pipes were integrated in the concrete slab

#### **Remarkable research results**

A collaborative project, involving Statnett, Norut and HeatWork, yielded remarkable research results: Contractors now have complete control and ensure optimal conditions for concrete pours on rock—regardless of air temperatures and original temperatures in the rock.

**Christian Petrich** Project Manager, Norut AS

### Preserve a healthy indoor climate

### Frost control and insulation

### **Complete solution & materials**

For any project, large or small!

### Cost-effective, user friendly and reliable heating

HW Aerotemper is another key piece of equipment when dealing with concrete work. 103 kW is available for heating garages, buildings, tents, etc., in connection with newbuilds or rehabilitation.

By using hydronic energy and a heat exchanger to get hot air, the heating process is very energy-efficient without introducing moisture, smells or gases to the atmosphere.

When used with HeatWork's mobile heating solutions, reliable heating is always available. The system will continue to heat the structure, even if the power supply to the site is lost or unstable. This means costly delays in the project can be eliminated alltogether. The heating components can supplement or be combined with the other components in HeatWork Concrete Systems



Heating tent when pouring concrete slab.

HW Aerotempere.



Heating during guay rehabilitation.

### Winter insulation mats for frost prevention and insulation

**HW Winter Insulation** was developed in an extensive process; it has undergone comprehensive testing and has a strong market position in the construction industry. The product has high insulating capabilities, is extremely durable, with great potential for reuse and no materials absorbing moisture, and dries easily. The mats have either

3 or 7 layers of insulating material and a reflective aluminium coating, which means the mats have unique reflective properties, reflecting radiant heat. These properties means HW Winter Insulation is extremely well suited for concrete work and frost protection.





nsulating material

sulating material

Comes in the following sizes:

2 x 12 meter	(24 m²)
2 x 6 meter	(12 m <sup>2</sup> )
1,2 x 3 meter	$(3,6 \text{ m}^2)$ Also supplied with 7 layers of ir
1,2 x 6 meter	(7,2 m <sup>2</sup> ) Also supplied with 7 layers of in





All products and material in this brochure is available from our headquarter in Narvik.

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Isulation

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HeatWork headquarter and production site in Narvik, Norway - 3300 m<sup>2</sup> state of the art production facilities.

### Developed, manufactured and tested for operation under the toughest conditions

HeatWork develops, manufactures and tests its machines in rough winter conditions, north of the Arctic circle in Norway. Technology and expertise are key components in the development of high-quality products and efforts to satisfy our customers' needs.

HeatWork strives to be at the forefront of technology development in our focus area. Our designs are characterized by high performance, high quality and user-friendliness.

More and more customers are finding new areas of application for HeatWork machines, year-round, all over Europe. Our developments are the result of patented technology and a strong focus on R&D.

In addition, we always pay attention to the feedback we get from customers. Your opinion matters to us!

Our central location, in one of Norway's primary logistics hubs, means we have immediate access to shipping options—road, rail, air or sea, direct to our customers.



HeatWork provides technology that has earned EU's top score for energy efficiency.

The new standard – expect only the best!

All products and material in this brochure is available from our headquarter in Narvik.



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