



BACKER

NORSKE BACKER PROCESS HEATING

HISTORY

Ever since it began in 1969, Norske Backer has been in continuous development, its products and solutions based on years of focus on innovation and creativity.



We are based in 5,000m² premises in the SIVA industrial area in Kongsvinger.



Our 50 employees are the key to our success; they all have a genuine interest in achieving our goals and that customers should feel well looked after and satisfied.

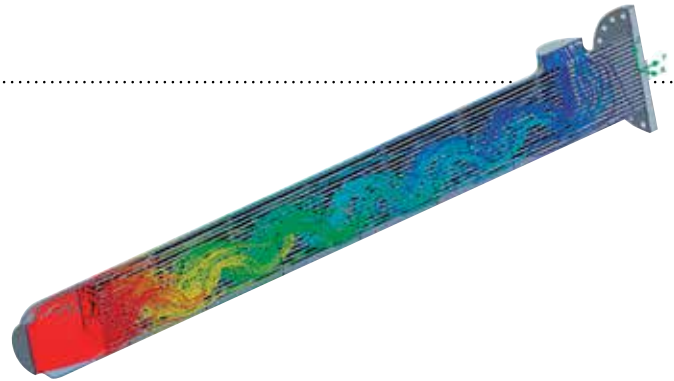
DESIGN / DEVELOPMENT

Norske Backer has software for technical calculation that is being continuously expanded as we develop new heat technology solutions. In addition to our products developed in house, we do a great deal of work on solutions adapted for customers. Tell us your heating needs and we will do our best to tailor a good solution just for you.



SIMULATION

Our development department uses advanced software to be able to simulate each individual heating process in the best possible way. This means that we can quickly take the right decisions on design and construction.



PRODUCTION

Norske Backer has been producing electrical heating products since 1969. We are continuously adapting to the market and, in addition to producing heating elements, we now have a modern mechanical workshop and our own electrics department for control and regulation.



CERTIFICATION/DOCUMENTATION

Norske Backer is certified in accordance with ISO9001:2008. We are also approved to design and produce ATEX and IECEx certified products. Our product certificates also enable us to tailor-make Ex-certified solutions for our customers.

We have extensive experience of supplying completely documented products. The documentation packages can be adapted to our customers and satisfy the requirements of, for example, Statoil's TR 2381 where needed.





©Foto: Jon Fjeldstad

>> Air heating

Norske Backer develops and produces duct heaters and heating systems for industrial processes and the oil & gas sector.

EXPLOSION-PROOF EQUIPMENT



Explosion-proof equipment is needed when media are processed and stored in hazardous areas. These areas are most often found in offshore, chemical and petrochemical industry. Our explosionproof solutions are produced in accordance with ATEX and IECEx, which are directives covering electrical and mechanical equipment for use in areas with an explosive atmospheres.

APPLICATIONS

- Offshore
- HVAC systems
- Oil and gas
- Drying/curing processes
- Drying kilns

PREHEATING OF ELECTRODES

Complete with control cabinet, temperature sensors and fan.

Vertical air direction
 Power: 60kW
 Voltage: 3x480V



Horizontal air direction
 Power: 120kW
 Voltage: 3x400V


ELECTRICAL HEATERS FOR GOLIAT

Duct heaters for working and living quarters

Power: 0,3-10 kW
 Classification: T3 and ATEX



MOBILE FANHEATER

Power: 18kW
 Voltage: 3x480V
 ATEX-approved



DUCT UNIT FOR AIRHEATING

Power: 300kW
Voltage: 3x400V
Operation temp.: 350°C



VENTILATION SYSTEM FOR MINING INDUSTRY

Double insulated duct heaters for the Russian mining industry

Power: 12x2,2MW
Voltage: 3x660V
Temperature in: -40°C.
Temperature out: 2°C




HEATING UNIT FOR AIR-DRYING

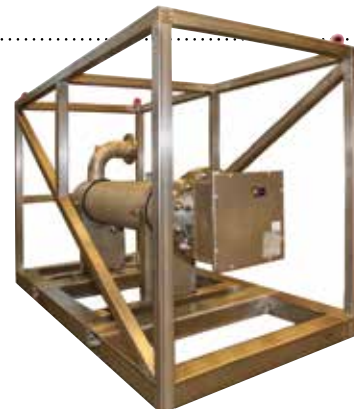
Power: 35kW
Voltage: 3x690V



PREHEATER FOR COMPRESSED AIR

Power: 70kW
Voltage: 3x400V
Operating pressure: 10 bar
Flow: 70m³/min
Temperature in: 10°C
Temperature out: 45°C
The framework is designed according to DNV 2.7-1

 ATEX-approved





>> Immersion heaters for industrial use

Norske Backer develops and produces electric immersion heaters and heating systems for industrial processes and the oil & gas sector.

EXPLOSION-PROOF EQUIPMENT



Explosion-proof equipment is needed when media are processed and stored in hazardous areas. These areas are most often found in offshore, chemical and petrochemical industry. Our explosion-proof solutions are produced in accordance with ATEX and IECEx, which are directives covering electrical and mechanical equipment for use in areas with an potentially explosive atmospheres.

APPLICATIONS

- Water heating
- Oil heating
- Process heating
- Load resistance

PROCESS HEATERS

Oilfilled heat exchangers for indirect heating of viscous liquids.

Explosion proof

ATEX and IECEx approved

Power: 40kW
Voltage: 3x440V




Power: 40kW
Voltage: 3x480V

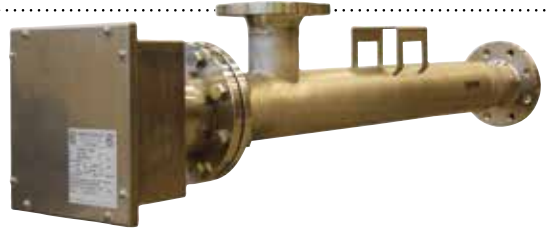


FLOW TUBE HEATERS

Power: 15kW


Voltage: 3x480V

 ATEX approved



WATER COOLED BRAKE RESISTORS

Voltage: -1250VDC

 ATEX approved and IECEx approved



WARM WATER MAKER (WWM)

Electric water heater for large water requirements in living quarters. Complete with control cabinet, mounted on skid.
Volum: 3600l.





>> Plastics industry

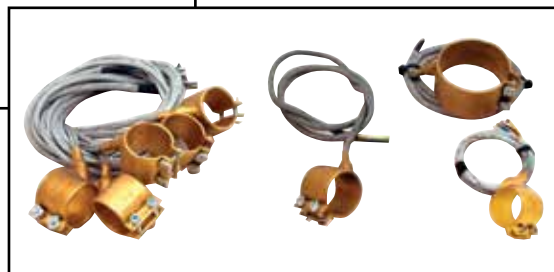
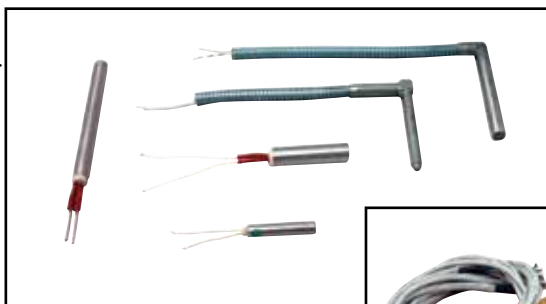
Norske Backer has a special department which focuses on the plastics industry.



MICA ELEMENTS

Mica elements are used in a variety of heating processes in the plastics industry. We tailor-make elements according to customer requirements.

We stock a number of nozzle and cartridge heaters.



We supply all necessary equipment for heat regulation. In addition to stocking standard control cabinets, we offer tailor-made designs based on customer needs.

VESSEL HEATERS

Vessel heaters are designed to keep fluids and oil-based products hot and liquid for further use. In standard designs, vessel heaters are supplied with operating lamp, thermostat 30–110°C, temperature limiter 165°C, 3 m cable and plug for connection to earthed socket. Other thermostats and temperature limiters can be fitted on request. Vessel heaters are produced in accordance with EN 60 335-1



HIJD INSULATION JACKET

The HIJD Jacket provides a cost effective method of minimising heat loss and therefore extending the process temperature of the product. When used in conjunction with the heated base unit (model type HBD) heating times are quicker and therefore reduce energy costs. The HIJD jacket can be fitted after heating whether it be by using a silicone side heater, insulated heating jacket, or when removed from an oven preventing/reducing temperature loss that has cost money to heat. The use of a jacket will help against



HIBC CONTAINER HEATERS

The HIBC/B container heater is designed to heat products stored in 1000 litre intermediate bulk containers. The HIBC/B is an insulated heater jacket, which covers all four sides of the IBC and has an optional insulated lid.

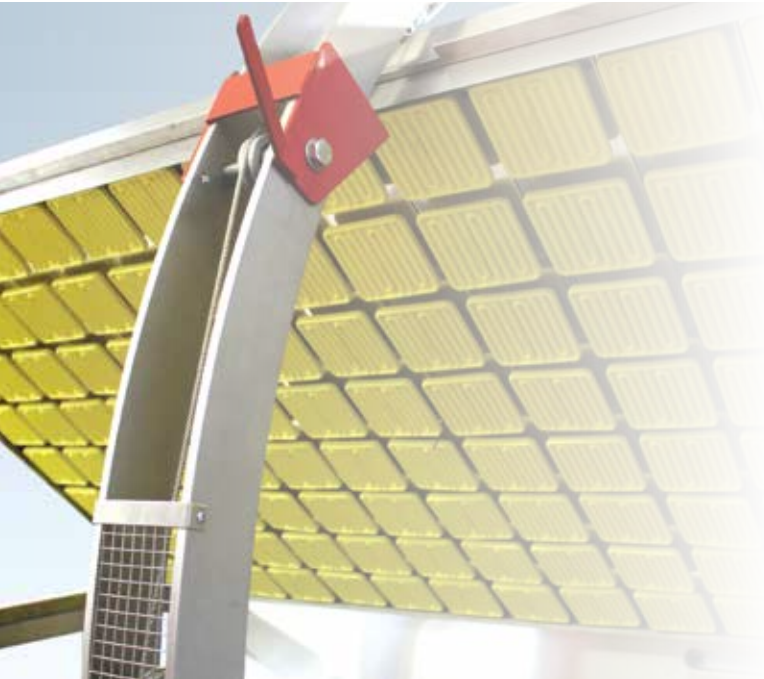
The heating element of the HIBC/B container heater is stitched into an insulated jacket made from a water resistant, Teflon/Polyester material, insulated with a stitched blanket of needled silica glass complete with quick release buckles for ease of installation and removal. The heating element is shielded with a tinned copper earth braid for safety.



BASE HEATERS

Base heaters have a maximum diameter than enables heating sizes up to 200 l. They are supplied on 900W silicon/rubber insulated matting, which gives an even heat distribution. If media are to be heated quickly or are solid, a higher input effect is needed, in which case supplementary heaters or thermally insulated covers can be used.





>> IR heating

Effective energy efficiency solutions. IR elements are produced in ceramic materials, quartz glass and quartz glass with halogen. Elements in ceramic material or quartz glass emit infra red radiation of long to medium wavelength at a working temperature between 150° - 760°C. Elements in quartz glass with halogen emit infra red radiation of short wavelength and give a working temperature up to 2,400°C.

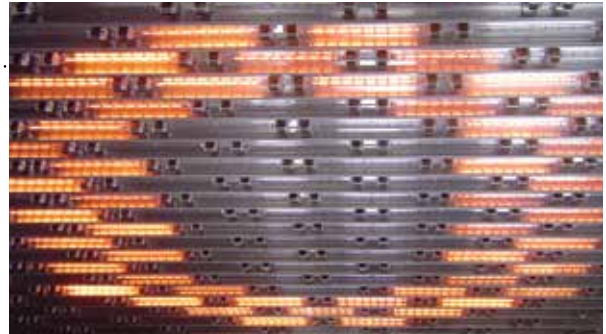
These elements can be used in environments with a vacuum or where there is convection. Infra red radiation gives fast and effective heating at low investment cost and is especially suitable where brief heating at intervals is needed.

APPLICATIONS

IR elements are used for radiant heating, primarily in the plastics, paint, food, textile and workshop industries.

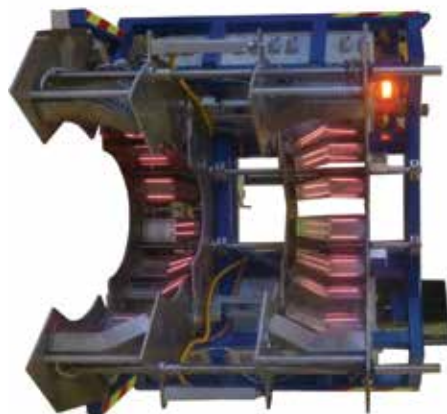
SHORT WAVE HALOGEN HEATING PLATEN

121.2kW, 1.7 x 1.3m
Prototype system used
for windscreen removal



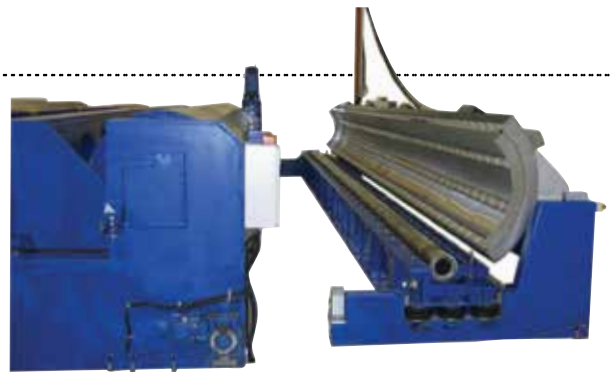
PREHEATER FOR LINEPIPE INSULATION COATING

57,6 kw



LONG WAVE CERAMIC SEMI-CIRCULAR SYSTEM

147.2kW
12m x Ø630mm
Drying of synthetic



LONG WAVE CERAMIC TUNNEL OVEN

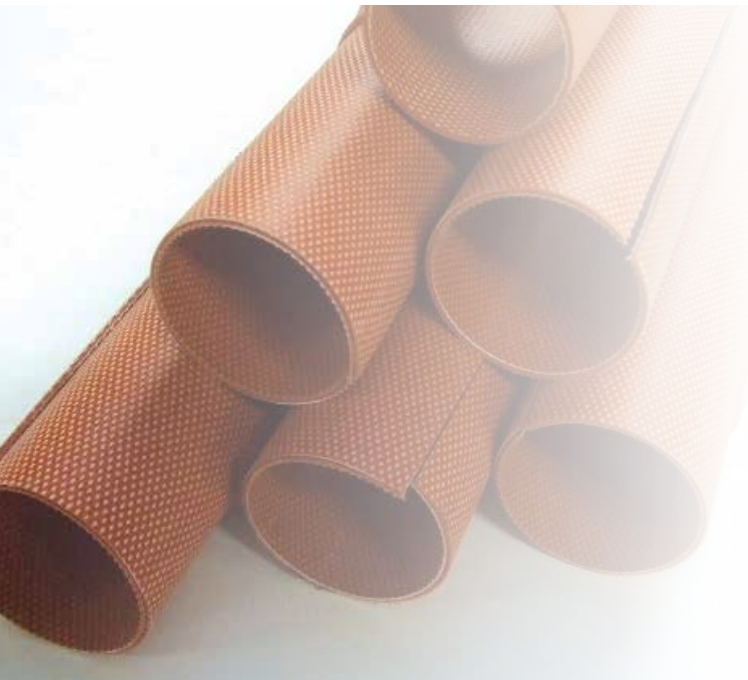
61kW, 2.1 x 7.25 x 1m (outside)
Foil shrinking in horticultural application.



FOCUSED INFRARED PLATEN

7.8kW
3000 x 150 mm





>> Silicon

Heating element moulded into glass fibre reinforced silicon rubber. It is damp and chemical resistant. Silicon heaters are thin and flexible, designed to suit practically any type of equipment. They can be used for the most complex shapes, geometries, curves and pipes without having to think about efficiency or reliability suffering. Fastened with loops, ties, magnets, self-adhesive, velcro, hooks, springs, clamps or straps. Can be supplied with built-in temperature sensor PT1000/ sensor/ Clicson thermostat. Electronic thermostat ± 120 degrees/ control box as desired. An almost unlimited selection of shapes and sizes can be produced to the customer's requirements.

SILICON AND RUBBER VESSEL HEATERS

The heating element is moulded into glass fibre reinforced silicon rubber and is damp and chemical resistant. 1.5m earthed connection cable. With thermostat adjustable from 0-180 °C.



CONTAINER HEATER HIBC/A

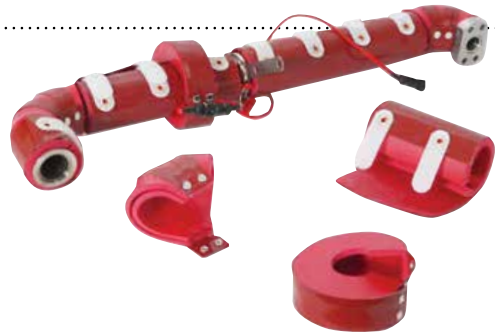
A silicon mat that is placed under the container before it is filled with media; combined with a digital temperature regulator, this provides direct and precise heating of the contents of the container. An insulation cloak that covers four sides and the lid reduces the heating time.



ADVANTAGES OF PREFORMED HEATERS

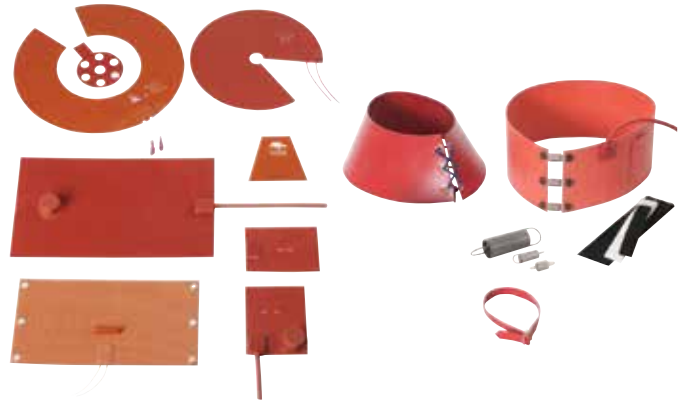
Being thin and lightweight, silicone heater mats have a low thermal mass and hence have rapid heat up characteristics and fast response to temperature control.

Silicone's wide operating temperature range of -60 to $+230^{\circ}\text{C}$ and superb electrical properties give it a distinct advantage over other forms of heating.



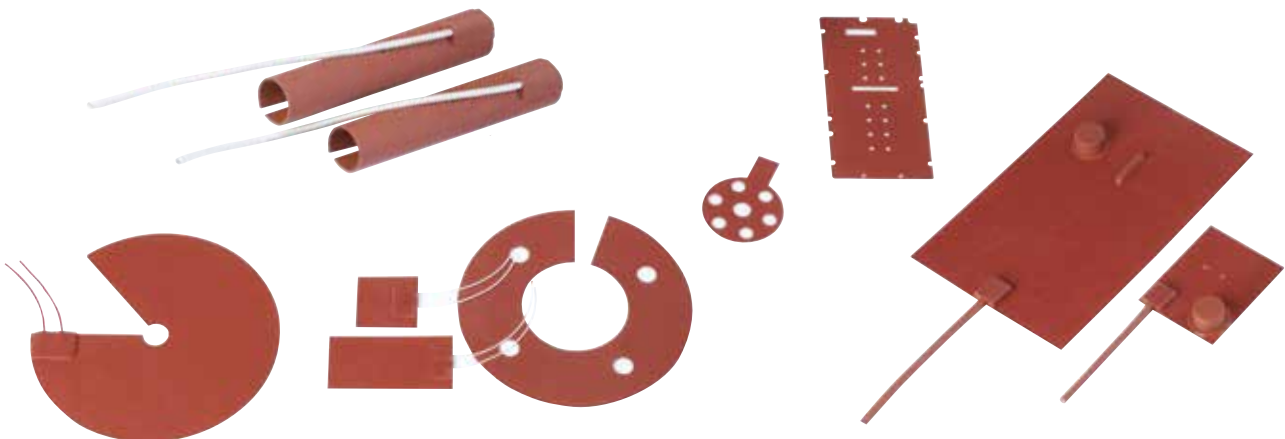
VARIOUS FIX

For a permanent bond a high temperature self adhesive backing can be applied which allows for simple fixing and gives superb adhesion to most surfaces including low energy materials such as plastics. Room temperature vulcanising (RTV) adhesive and factory bonding to components is also available where a permanent bond is necessary. Where removal of a heater is required, fixings such as hooks and springs, Velcro and magnetic backings are available. These can be incorporated on almost any part of the product to provide ease of operation and accessibility.



HEATING MATS

Light, thin silicon heating mats have a low thermal mass and properties that include quickly heating up and quickly responding to temperature control. Silicon heating mats have operating temperatures from -60 to $+230^{\circ}\text{C}$ and excellent electrical properties, giving a clear advantage over other forms of heating.





>> Electro



BACKER

We develop and produce control cabinets to suit our heating elements. This means that our customers can use a single supplier that offers the complete system. Deliveries include complete control systems, which are often tailor-made solutions for the individual customer. Our control panels and systems can be used for all our heating elements. This means that rather than having to buy a heater, temperature sensor and automation system from three different suppliers, you can get the entire system from one place. You can also rest assured that you will end up with a solution that suits your needs and specifications. We deliver to the offshore and marine sector, the building and construction industry, and onshore industry.

As a comprehensive supplier we also offer a wide range of components for your control system, including thyristors, solid state relays, regulators and temperature sensors, to name but a few.





CONTROL CABINETS

We are supplying all necessary equipment for thermal regulation. In addition to having standard control cabinets in stock, we are designing special according to customer requirements.





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PROCESS HEATING