



INNOVATIVE
SOLUTIONS

EXCELLENT
PRODUCTS

USER-ORIENTED
SERVICE

WE CAN
INSPIRE YOU!

always one step ahead

hotset[®]



RE-IMAGINE!

*The most important and responsible task
of our time is to re-invent our companies
and institutions, both public and private.
(Tom Peters)*

No, we're not happy when you're satisfied. "Satisfied" isn't enough for us. We can inspire you:

- With innovative solutions in heating technology, which will surprise you and open up unbeatable advantages in your market.
- With excellent products, which are worth their price and delivered just when you need them.
- With our user-oriented service, which gives you professional support throughout all phases; from initial contact over design and during implementation.

Achieving all this will take continuous re-invention – of ourselves, our products, our processes, our knowledge of applications and production. This "image"-brochure can only present the essence of our company: our culture, our core skills, our passions.

Everything else depends on what you do with it. Try us, challenge us, re-invent us – re-draw the picture you have of hotset.

Ralf Schwarzkopf
(Managing Director)



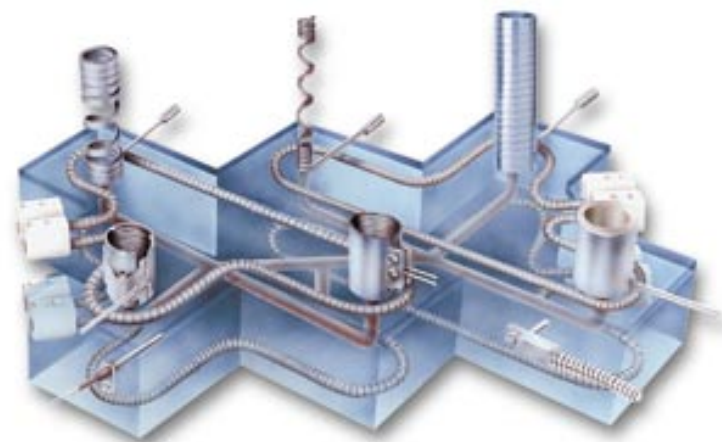
RE-VIEW!

hotset has been developing and manufacturing heating elements since it was founded in 1973. The enthusiastic response of many clients for hotset products and services, both in Germany and abroad, grew quickly thanks to our commitment to and vigorous development of heating elements for numerous industrial applications according to customer need.



The unstoppable growth and expansion of the company, which operates production facilities in Lüdenscheid/Germany and on Malta, continues today: hotset has repeatedly set benchmarks, has been the pioneer of new paths, has generated significant competitive benefits for its customers.

hotset has established itself as the innovative market leader by coming up with novel products like hotflex®, the flexible tubular heater, and hotslot®, a heating element, offering individually configurable wattage distribution. hotset is the brand which covers the entire spectrum: from off-the-shelf stock



...always one step ahead

products comprising standard heating elements through to special designs built to individual customer requirements. hotset also stands for outstanding quality, high levels of production know-how and qualified solution-oriented consultation.

Customers in Germany and 30 other countries across the globe believe that hotset will continue along its development path, backed by highly motivated and qualified staff.

Be prepared to be amazed!





RE-INVENT!

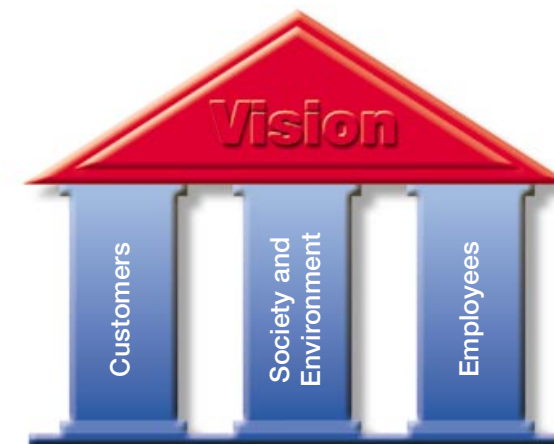
There is no need to re-invent the wheel every day. Having said that, hotset re-invents projects, processes and activities anew every day. The driving force at hotset for this daily “reinvention” of itself is a vision:

“hotset achieves strong growth as the preferred partner for enthusiastic customers at home and abroad. hotset is developing into an international brand standing for quality and innovation, a genuine global player.”

hotset's goal to offer its customers products with premium cost-benefit ratios and short delivery times. The aspiration to be the innovation leader will continue into the future as hotset successfully markets genuine innovations. A first class customer service is guaranteed by fast response times and rapid implementation of customer wishes.

Economic use of resources – also in the sense of environmentally-friendly production – is only one illustration of the fact that hotset fully accepts and exercises its social responsibility.

hotset generates secure jobs in Germany and internationally. Having staff who are qualified, who are motivated and with a customer-oriented mindset is perhaps the key factor in corporate success. hotset offers its employees the best possible scenario for getting on with their daily work.



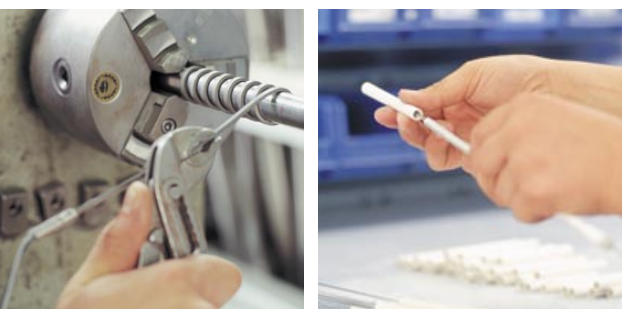


RE-DESIGN!

WHAT IS A HEATING ELEMENT? A heating element is an intelligently “integrated” resistance wire (thermal conductor). When a current passes through this wire, it heats up – just like the filament in a light bulb.

During the production stages of heating elements, the heat conductor is – e.g. regarding the hotrod® cartridge heaters – first wound around a ceramic tubular core. To prevent electricity passing through the cartridge jacket (a stainless steel sleeve) the heating element is filled with an insulating, heat-conducting magnesium oxide sand.

When a circuit is now made with the heating element, heat is generated which is transferred via the heating element jacket onto, e.g., a tool. The lack of an industrial standard has resulted in there being an almost infinite number of different designs and models of heating elements, with a huge variety of diameters, profiles, lengths and outputs.



WHERE ARE HEATING ELEMENTS USED?

Basically, heating elements are used wherever industrial production processes require heat, or where certain components (e.g. switching enclosures) require a constant temperature level.

Tools or fabricated components can be warmed to a specific temperature using heating elements, for example when working with plastics. In order to guarantee optimum temperature management, hotset, via its customer service segment, seeks to offer the “optimum heating element” as well as the appropriate location on the tool/component, and by so doing, can frequently offer a significant input to improve a production process.

Other heating elements – like the hotcast® seal heater (type GMH) – themselves become

an integral part of the industrial process chain. The need is often to raise a certain medium (plastic, metal, liquid...) to a certain temperature for processing. Having said that, the field of applications for heating elements is almost unlimited.



RE-PLACE!



PLASTICS
PROCESSING

SEALING

FORMING

EXTRUSION
TECHNOLOGY

HOT RUNNER
TECHNOLOGY





PLASTICS
PROCESSING

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(FIRST) RE-PORT!

There can be any number of different application phases requiring heating elements in the production of for example one single end product.

A yoghurt carton passes through many different stages of plastics processing (granulate fluidisation, deep drawing,...) in which process heat is provided by heating elements. The yogourth carton itself is finally sealed with a cap, again using a heating element.

Consider the PET plastic bottle: this is manufactured from plastic granulate which is heated and then worked into PET pre-forms as a liquid in a hot runner production system. Money is saved by transporting the small PET pre-forms to their ultimate destination before they are inflated into the full-size PET bottle, again using heat.

The plastic cap of the PET bottle is usually also manufactured using heating elements.

HEATING ELEMENTS — EXAMPLES OF USE

hotrod® cartridge heaters (types HHP + LHT)

Sealing yoghurt cartons

hotspring® coil heaters (type WRP)

Heating hot runner nozzles

hotflex® flexible tubular heater

Heating hot runner beams

hotcone® nozzle heaters (type BMD)

Heating of plastics

hotslot®/hotslight®

Heating hot runner nozzles



hotset®

FASTENING
TECHNOLOGY

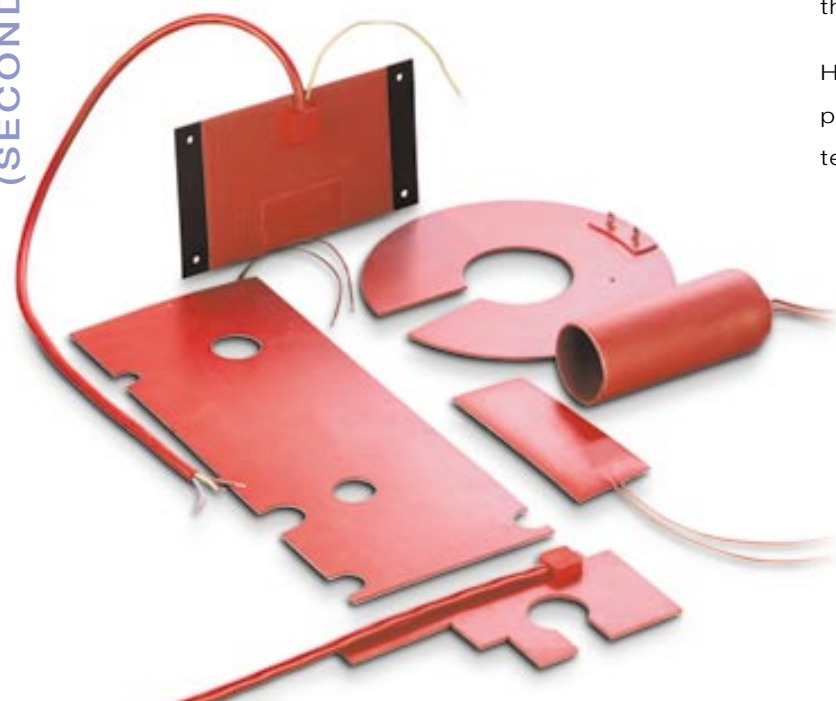
WELDING

FOOD
PROCESSING

CUTTING

PLASTIC
PROCESSING





Cardboard boxes, paper and blister packs require gluing. Heating elements are ideal when heating and applying the adhesive. Cutting, stamping or welding plastic bags (for gummy bears, sweets, potato crisps): heating elements are also found in the cutting knives and welding lines.

Heating elements are also employed in food processing, basically wherever a specific temperature is required.

FASTENING
TECHNOLOGY

WELDING

FOOD
PROCESSING

CUTTING

PLASTIC
PROCESSING



HEATING ELEMENTS EXAMPLES OF USE

hotrod® Heizpatronen (Typ HHP + LHT)
Heating of welding lines and cutting blades

hotform® Silikon-Heizelemente
Food processing



CONTOUR
HEATING

PLASTIC
PROCESSING

DIE CASTING





CONTOUR
HEATING

PLASTIC
PROCESSING

DIE CASTING



(THIRD) RE-PORT!

The body of small toy cars are made using zinc die-casting methods, with the zinc melted using heating elements; the interior is injection moulded plastic.

In the world of "real" cars, heating elements are used not only in the production of components but also in components themselves. In the production of switches, small components, rear lamps or dashboards, gluing of carpets and interior trim panels, or oil pre-heating for auxiliary heating systems: they all use heating elements – there are virtually not limits on the use of heating elements in and around modern day cars!



HEATING ELEMENTS

EXAMPLES OF USE

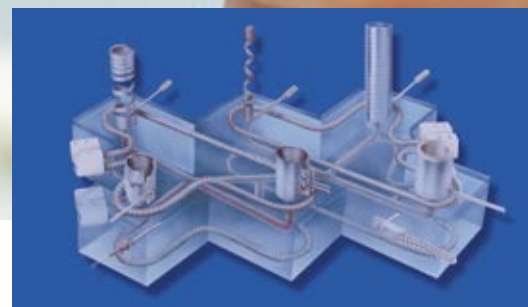
- hotstream® air stream heater (type LSE)
- Gluing carpets and trim panels**
- hotrod® cartridge heaters (type HHP)
- Oil pre-heating in auxiliary heating systems**
- hotflex® flexible tubular heaters
- Contour heating for lighting-systems**
- hotspring® coil heaters (type WRP)
- Plastic processing**
- hotcast® sealed heaters (type GMH)
- Zinc die-casting**



hotset's ability to meet client needs is perhaps best demonstrated by its corporate business unit structure. This structure represents an optimum organisation when responding to and meeting customer requirements. It is an organisation which detects market developments early on, can rapidly and flexibly respond to customer needs and quickly escalate special client needs into a top priority. The company's in-depth industry knowledge in the individual segments expedites an intimate relationship with customers and ultimately creates the platform for persuasive individual solutions.



INDUSTRIAL APPLICATIONS The "industrial applications" business unit has a sales team comprising application engineers and a nation-wide field service in Germany. hotset's premium consulting expertise, for example in the plastics processing industry, the foundry industry and in the packaging industry have boosted hotset into a preferred co-operation partner for many big names wherever industrial applications are the issue. Its scope - covering first contacts, technical consultation through to individual designs and commissioning at client premises - means "industrial applications" really does offer a full customer service.



HOT RUNNER The "hot runner" unit, i.e. heating systems and elements for hot runner plant, is synonymous with a very special field of skill. Many years of experience and ongoing further development married to individual specialisations within the product portfolio have been the blocks on which hotset has repeatedly built competitive advantages for its customers. Direct key account management for hot runner customers both at home and abroad is cultivating a spirit of partnership and co-operation which will generate further innovations, now and in the future as well.



INDUSTRIAL APPLICATIONS / REPRESENTATIVES hotset knows no borders! hotset markets heating elements in more than 30 countries on all continents via its network of agents. Management of this global distribution organisation is undertaken by individual professional partners in the "industrial applications" business segment underpinned by a varied marketing toolkit (sales materials, training, fair and exhibition support...). A special focus is on extending this sales organisation into new countries.



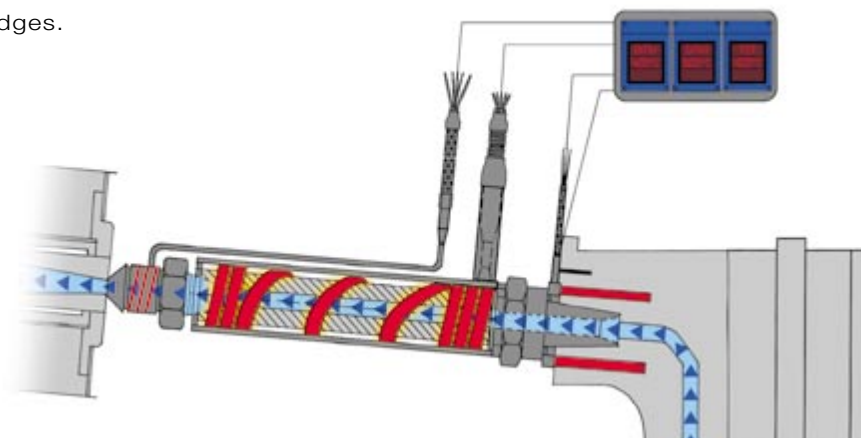
RE-CREATE!

WELL-CONNECTED! hotset offers a broad product spectrum to cover the many challenges in the packaging industry: special products here are hotrod® heating cartridges, heaters and hotspring® coil heaters, ideal for applications such as sealing jaws, sealing heads, welding lines and cutting blades.

Manufacturers of packaging plant and other users benefit from hotset's knowledge of the packaging industry. We can help create solutions with very individual specifications, such as meeting humidity and ex-proof specs with hotrod® heating cartridges.

EVERYTHING FROM A SINGLE SOURCE! Many products for the casting industry, for example the hotcast® sealed heater (type GMH) and the hotrod® cartridge heater (type HHP/G) together with a complementary range of matching control technologies mean hotset can supply, e.g., total system heating for hot chamber zinc die-casting.

Many name manufacturers have placed their trust in hotset technologies for many years.



RELIABLE PROCESS SYSTEM HEATING! hotset's in-depth industrial expertise in the plastics processing industries is reflected not only in the professional consultation services but above all in a broad product portfolio:

The hotcone® heated machine nozzle (type BMD), a full range of hotspring® coil heaters and novel products (hotflex® and hotslot®) prove that hotset matches sophisticated needs for reliable process and precise system heating.

hotset heating elements are one yet crucial aspect in securing the outstanding quality of plastic end products.

HOT RUNNER SYSTEM HEATING! Hot runner systems help a single machine produce plastic components in many diverse form nests. hotflex® products ensure precise temperature control in distribution beams and guarantee even and constant distribution of the liquid plastic up to the various form nests. Optimised temperature, even immediately upstream of the injection process at the hot runner nozzle, is frequently achieved using very specialised, for example clampable hotspring® coil heaters or hotslot® heating elements customised with individually configurable wattage distribution: developments which have evolved directly in partnerships and which guarantee many hot runner system manufacturers decisive competitive advantages.

hotset®



RE-FRESH!

RESEARCH AND DEVELOPMENT hotset puts its money on innovation. It now looks back over a long tradition of refreshing innovations by virtue of which the field of heating technologies has been nothing short of revolutionised. It remains the goal to continue introducing new, exciting ideas – securing technological advantages for our clients by way of our innovative drive. The central research and development segment is the platform for these innovations – working independently of day-to-day business and demonstrating impressive levels of inventiveness and pioneering spirit.

PROCUREMENT As a globally active innovative power, hotset works together with its suppliers, seeking to enhance existing products via intensive strategic partnerships and evolve and contribute to new products, new materials and ideas.

HUMAN RESOURCES hotset seeks to promote the abilities, the creativeness and the ideas of its employees by fostering an appropriate corporate atmosphere. hotset has done away with rigid hierarchies and implements a culture oriented towards processes and learning. Teamwork, short decision chains and customer-orientation in thought and deed: that is what makes hotset a strong and globally present partner.



The ideal time to start a successful career is during studies, combining theory with practise at an early stage. These are the kind of options and opportunities which hotset seeks to encourage by offering a diverse range of activities and projects concurrent to courses of study.

hotset is fully aware of the need to promote qualifications and ongoing further education of present and future staff members in order to satisfy the broad spectrum of tasks within the company. hotset therefore provides training programmes in all regular commercial vocations.

QMS (QUALITY MANAGEMENT SYSTEM) The implementation of a quality policy with a rigorous focus on customer needs is typified by a comprehensive quality management system.

Quality goals are subjected to annual review and break-down in the individual segments, with full follow-up and regular audits.

hotset has a quality management system with DIN EN ISO 9001:2000 certification.



RE-FLECT!

THE HIGHEST FLYING HEATING ELEMENT?

A hotrod® cartridge heater enabled the Sojourner space vehicle to de-couple from the Pathfinder space probe on 4 July 1997 and explore Mars.

THE MOST NORTHERLY HEATING ELEMENT?

hotset mastered an ice-cold challenge near the arctic circle: hotform® silicon heating elements are used to protect the parabolic antennae of satellite down-link receiving stations from ice and cold.

THE DEEPEST HEATING ELEMENT?

Submarines, military and civil, can dive down to great depths. With exterior temperatures near freezing point and interior temperatures of over 20 °C, hotset heating elements protect port hole seals from porosity.

RE-FERENCE!

Famous companies enthuse about hotset heating elements:

- Procter & Gamble GmbH
- Wilkinson Sword GmbH
- Daimler Chrysler AG
- Johnson & Johnson GmbH
- Hella Leuchten-Systeme GmbH
- BMW AG
- Danone GmbH
- Audi AG
- Rovema GmbH
- Volkswagen AG
- CFS Germany GmbH
- Müller Weingarten AG
- Oskar Frech GmbH & Co. KG

RE-START

“(...) IT ALL DEPENDS ON WHAT YOU DO WITH IT.
TRY US. (...).”

Ralf Schwarzkopf (Managing Director)