

Infrared heat for food

NobleLight

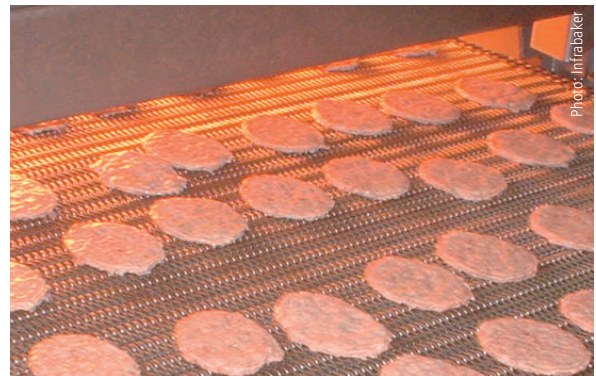

excelitas®

Meat

Appetisingly Brown

Hams are browned and hamburgers are roasted so that they taste better to us. Chicken and other poultry meat is browned on the outside before being used in sandwiches.

Infrared heat finds particular application in modern meat preparation. Medium wave carbon infrared emitters heat meat surfaces in a targeted fashion. Sandwich meat, hamburgers and hams are made to look even more appetising without additional fat.



Hamburger meat is browned



Infrared is used to brown chicken meat for sandwiches



Infrared heat makes cooked ham look appetising

Desserts | Cakes | Biscuits

Looking Sweet

People love desserts, biscuits and cakes but they must still look good enough to eat. Infrared heat ensures that almonds are warmed before being flaked, that the sugar on crème brûlée or pavlova is browned and that cheese cake has an attractive colour.

Noblelight Infrared emitters from Excelitas are modern heat sources. Without any pre-heating and with very efficient energy input, heat is applied precisely where it is required.



Cheese cake receives a browned surface



Baking biscuits



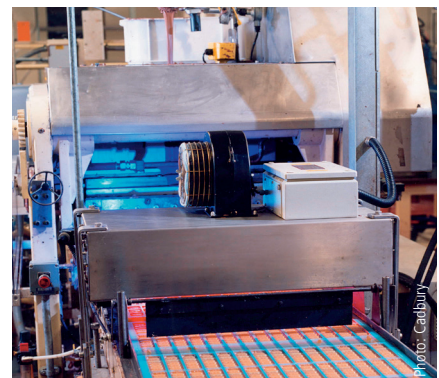
Heating almonds before crushing



Melting of sugar on crème brûlée

Chocolate

Fine Quality

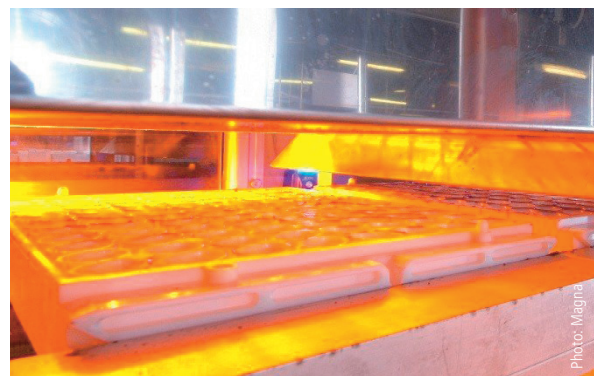


Filling chocolate with caramel

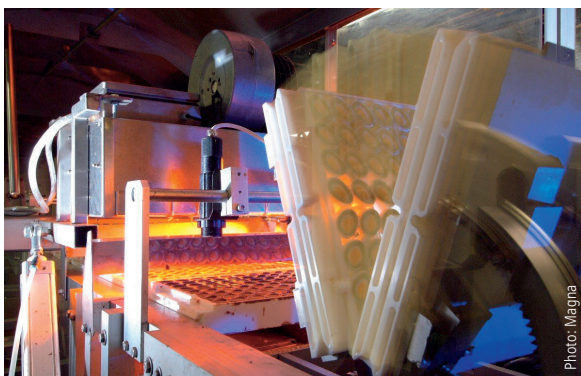
Filled chocolates need infrared heat – and a lot of it. Chocolate halves are heated before they are filled and then once more to seal them. The edges of two chocolate half shells are slightly melted so that they can be firmly joined together. Also the plastic moulds can be preheated prior to filling or warmed to allow cleaning before the chocolate-making process begins again.

Each of these heating stages must be carried out at a precise temperature for a precise time.

Noblelight Infrared emitters from Excelitas have very fast response times and so can be very closely controlled. And that is very important for the quality of fine chocolates.



Heating moulds before filling



Fusing chocolate halves together



Heating moulds before cleaning

Bread

It's not only the crust that counts

Yeast allows dough to rise and become aerated – if the baker has done everything right. However, if yeast grows well, mildew also thrives, and nobody wants to find this in bread. Consequently, during the baking of bread, rolls and other baked products, the dough must be able to ferment without the propagation of unwanted mildew or other microbes.

Baking trays, and all other baking equipment, must at all times be hygienically faultless. Disinfection and the elimination of fungal growth on surfaces and equipment is therefore a priority.

Newly baked bread also has a longer shelf-life without the addition of conservation materials when it is briefly disinfected once again before packing.

Infrared radiation transfers large amounts of energy in a short time. Disinfection with infrared is a thermal disinfection, using controlled heat.

Carbon infrared kills spores reliably and practically. And there is no problem with thicker spore layers, porous surfaces or dust particles.



Disinfection of baking trays



Disinfecting bread before it passes through the bread cutter



Disinfecting bread before packing



Ready Meals

You eat with your eyes



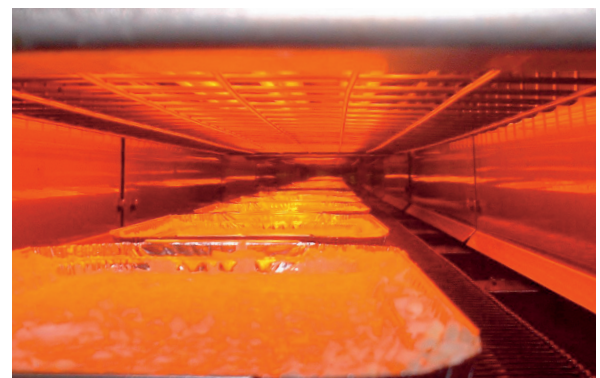
Compact infrared system dovetail into every factory

Infrared heat makes ready meals more attractive. Carbon infrared emitters brown the toppings or other garnishing of ready meals, without causing any further unwanted cooking of the meal itself. Compared with conventional heating sources, carbon emitters are more efficient, saving energy and minimising maintenance costs.

Noblelight infrared systems are so compact that the complete manufacturing plant design can be improved and valuable production space reclaimed.



Browning cheese toppings on ready meals



Browning mashed potato

Technology

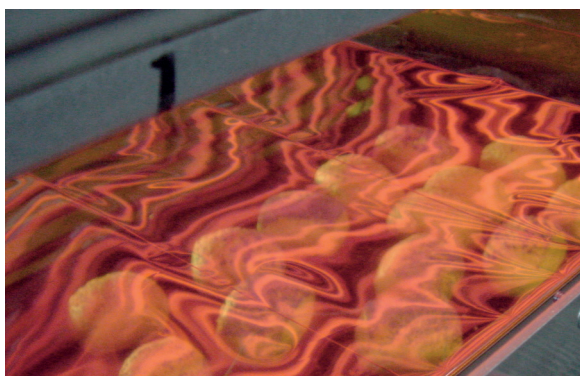
Clean and Reliable

For the food sector, infrared modules are manufactured in stainless steel and fitted with a wire mesh to afford mechanical protection. An additional foil frame can, if requested, protect the food from any falling particles.

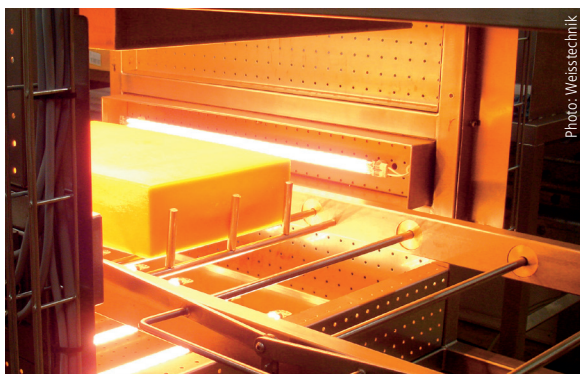
Noblelight Infrared emitters from Excelitas are very responsive and can be switched on and off within 1-2 seconds.

All infrared systems can be controlled so that any unexpected or unwanted conveyor belt stoppage will have minimal effect on the equipment or product. Emitter failure detection is also incorporated within the control system.

The parameters required for any system can be established in one of our test centers or by using hire modules on site. The investigations are carried out by experienced engineers and technicians, who can assist in the selection of the right emitters and systems to suit a particular product and process.



Foil frame



Stainless steel infrared module



Wire mesh

Other Applications

Infrared heat provides a particularly efficient and reliable solution for many heating processes in the food sector.

Apart from the applications described here, there are many more:

- Baking of bread and cakes
- Roasting without fat
- Cooking sausages
- Heating wafers prior to embossing
- Setting coatings on chicken strips
- Browning waffles
- "Relaxing" shellfish
- Melba toast
- Blackening vegetables
- Browning of hams
- Popping corn for cereals
- Branding of meat and cheese

**Could infrared optimise your heating process?
Have a word with us!**

Thank you very much for any information and photo material!

- Cadbury Trebor Bassett Ltd./UK
- Geest/UK
- Heinz/UK
- Infrabaker International/NL
- Magna Specialty Confectioners /UK
- Midor/Switzerland
- Oscar Mayer Ltd./UK
- Protech Food Systems/UK
- Rego Herlitzius GmbH/Germany
- Weissttechnik/Belgium

About Excelitas Technologies

Excelitas is a leading provider of advanced, life-enriching technologies that make a difference, serving global market leaders in the life sciences, advanced industrial, next-generation semiconductor, aerospace and defense end markets. Headquartered in Pittsburgh, PA, USA, Excelitas is an essential partner in the design, development and manufacture of photonic technologies, offering leading-edge innovation in sensing, detection, imaging, optics, and specialty illumination for customers worldwide. Excelitas is at the forefront of addressing many of the relevant megatrends impacting the world today, including precision medicine, industrial automation, artificial intelligence, connected devices (IoT) and military modernization.

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