Get on the Right Wavelength . . .

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. . . Infrared Systems for Industrial Drying and Heating Processes

Baking in of coatings

Rapid Heating with IR Technology

Infrared (IR) is the radiation component in sunlight that provides us with heat. Infrared technology involves rapid heating which transmits energy at the speed of light in the form of electromagnetic radiation without any direct contact or transmission medium (e. g. air, water, etc.).This makes IR heating particularly suitable for especially sophisticated applications (e. g. in vacuums and under clean room conditions). The primary advantages are rapid warming and the transmission of large heating capacities.

IR Technology and the Product on the same Wavelength

The emission behaviour of an IR lamp should be optimally adapted to suit the absorption rate of the product being treated. A correctly-selected IR lamp ensures optimum heating and, consequently, the best production results.
Various physical parameters of the product being treated must be known when designing an infrared system. It is also possible to conduct infrared trials in our facilities to determine these characteristic values.

Technical Designs

A variety of system concepts is available for IR technology applications in drying and heating processes:

- Radiation panel lamps
- Chamber ovens (special designs also available with conveying and motion technology)
- Passage ovens
- Continuous ovens with conveying technology
- In combination with convective heating

Removing creases from seat covers

Heating the edges of automobile windows for improved PU foam retention

Heat treatment of glass fibre material prior to further processing

Areas of Application for Infrared Technology

- Paper and print industry
- Textile industry
- Plastics industry
- Glass/Ceramics
- Surface technology
- Electrical engineering
- Automotive engineering

Application Examples for IR Lamps

Panel lamps

- Embossing equipment
- Paint drying
- Preliminary gelation

Radiation frames in ovens

- Paint drying
- Powder paint drying
- Post-curing of plastic coatings
- Heating-up zones

Passage oven

- Drying fibres at a high passage speed
- Surface tempering of plastic pipes

Continuous oven

- Paint drying
- Rapid surface heating of product being treated
- Preheating zone in combination with series-connected hot air zones

IR Lamp Types

Lamps with different characteristics are used, depending on the IR compatibility of the product to be heated or dried. The IR lamps to be employed are always differentiated on the basis of the wavelengths emitted.

Long Wave Infrared Lamp

Operating temperature 300 °C to 700 °C.

Max. emission at wavelengths > 3.5 µm.

Application technology characteristics: High mechanical strength, relatively long heating and cooling period.

Medium Wave Infrared Lamp

Operating temperature 700 °C to 1,000 °C.

Max. emission at wavelengths > 2 µm/< 4 µm.

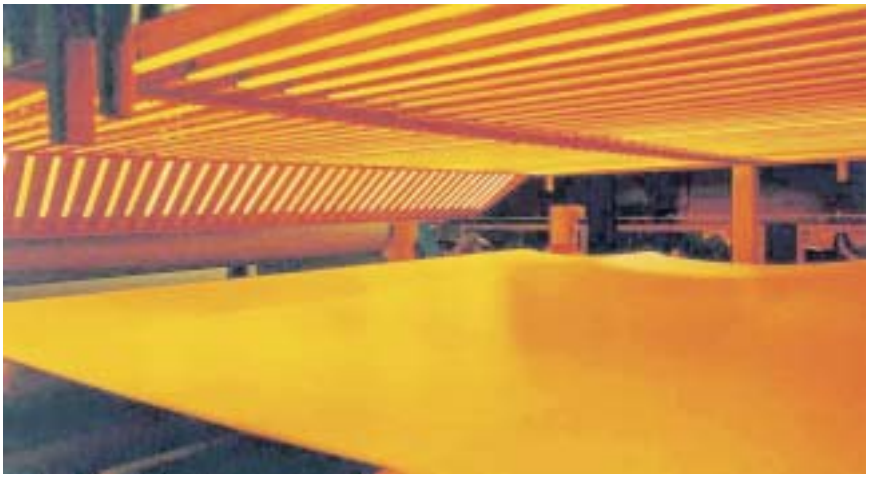
Application technology characteristics: Short heating and cooling periods, high radiation efficiency.

Short Wave Infrared Lamp

Operating temperature 1,400 °C to 3,000 °C.

Max. emission at wavelengths > 0.8 µm/< 2 µm.

Application technology characteristics: Short heating and cooling periods.



Heat treatment of PVC flooring

Interior heating of compressor housings

Heating Technology for each Application . . .

2-zone continuous oven for hardening carbon fibre composite material components

Heat treatment of coating materials

Standard and customised solutions to your special applications

- Heating and drying cabinets
- Drying chamber for coating materials
- Vacuum, heating and drying ovens
- Clean air, heating and drying ovens
- Explosion-proof drying ovens
- Microwave heating and drying cabinets
- Tempering ovens up to 750 °C
- Chest ovens for easy top loading
- Drawer-type ovens
- Walk-in ovens and systems for continuous heating processes
- Hot air sterilisers (for normal and clean air conditions)
- Charging systems e. g. charging trolleys, transport trolleys and wire-meshed shelves
- Heating options
  Electrical, gas, infrared, microwave, warm water, steam, thermal oil
- For process documentation as per EN ISO 9001 we offer a variety of accessories and software for controlling, monitoring and documenting. Networking of up to 99 systems via one PC station.

Competence and dedication to customers . . .

- Individual consultation
- Complete turn key projects from one source
- Engineering and development
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- Recycling of redundant units
- Training and workshops

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