

Infrared Booster speeds up Manufacture

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An infrared system from Heraeus Noblelight has helped to improve an existing process and has allowed the production of metal housings to be significantly speeded up. Short wave infrared emitters heat up powder lacquer quickly and uniformly, medium wave emitters then cure the lacquer. Because of the compact design of infrared modules, they could be easily retrofitted into the existing dryer of a Belgian compressor manufacturer.

Bottlenecks often ensue when drying lacquered components and this is a situation no-one can afford. To increase the production speed of lacquered components, it is sometimes possible to extend the existing drying oven so that the parts can travel through more quickly. However, this option is often not possible because of limited space considerations.

Another option is to increase the power of the existing oven. This is where infrared thermal technology offers a real alternative, with high power infrared emitters and systems, which can be easily retrofitted into an existing plant because of their compact design.

A Belgian company manufactures metal compressors for small cooler units and these are coated with a powder lacquer during the course of their manufacture. To ensure that the coating process did not continue to restrict manufacture, modifications were carried out to the existing dryer. First of all, the existing long wave infrared emitters which had previously been used to cure the powder lacquer were replaced with medium wave twin tube emitters from Heraeus. In addition, a so-called infrared booster with high power, short wave emitters was fitted in the line in front of the oven.

The infrared booster brings the product quickly to the correct temperature and the existing dryer then holds this temperature for as long as necessary.

Consequently, the curing process can take place at a higher temperature and this speeds up the production throughput from 0.8 to 1.2 meter per minute. In addition, the new emitters ensure a uniform heat distribution so that any cold spots are eliminated.

Infrared thermal technology can significantly accelerate the melting of powder coatings. Powder absorbs infrared radiation very well and the powder heats up very quickly. Compared with conventional heating methods, such as warm air circulating ovens, powder gelling is speeded up considerably.

Fast melting improves coating quality and increases through-put speed.

Heraeus Noblelight GmbH, with its headquarters in Hanau and with subsidiaries in the USA, Great Britain and China, is one of the technology- and market-leaders in the production of specialist light sources. In 2005, Heraeus Noblelight had an annual turnover of 79 Million € and employed 644 people worldwide. The organisation develops, manufactures and markets infrared and ultraviolet emitters for applications in industrial manufacture, environmental protection, medicine and cosmetics, research, development and analytical laboratories.

The precious metal and technology organisation Heraeus, is a market- and technology-leader, worldwide, in the fields of precious metals, dental materials, sensors, quartz glass and specialist light sources. With a turnover of over 9 milliard € and with more than 10,600 employees worldwide in more than 100 companies, Heraeus has been acknowledged worldwide for more than 150 years as a precious metals and materials specialist.

The high innovation and development potential in the organisation is promoted and encouraged intensively and in a targeted fashion. Heraeus is consolidating its leading position in various industrial sectors by customer-focused product development and considered and targeted acquisitions.

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