



NobleLight®

IR emitters for efficient deburring of automotive interior

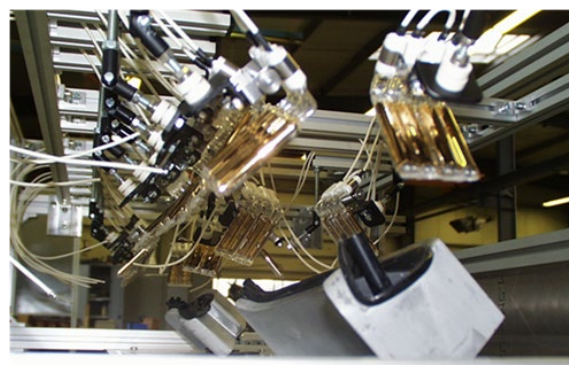
Hahn, a company based in Sontra designed in cooperation with Excelitas an infrared system using small short-wave infrared emitters. Thanks to the three-dimensional arrangement and a fast energy transfer, the product deburring is so consistent that the process could be automated. The method is successfully used for door handles and glove compartments.

The cycle time for the deburring of interior automotive parts made of plastic is approximately 40 seconds, including part handling. This is made even more difficult if lacquered trim components, trim panels or glove boxes for right and left-hand drive vehicles are to be manufactured in the same plant. In order to remove these burrs, various methods were considered more closely.

Mechanically, by grinding or milling, or thermally with a hot-air dryer or a Bunsen burner. All these methods were carried out manually and the results were very different in quality, depending on operator skill. The mechanical methods could have been automated by means of mechanical grinding or milling, but extensive cleaning would have been required afterwards to remove the resulting chips. A hot air nozzle system proved to be very complicated in the production process and the process would have been very slow.

Therefore, Excelitas developed an infrared system using small short-wave surface emitters. These emitters can be arranged well on the edges of three-dimensional products, are very controllable and transfer a relatively high amount of energy in a short time to limited areas. A total output of 10,400W was installed, the emitters are positioned about 20mm from the product edge. The deburring of the products takes place within five seconds and is reproducible in such a way that the process could be automated. In order to make a better decision, the Hahn company computed the total energy requirement for each deburring cycle, once using a hot-air dryer and once with infrared emitters. According to this calculation, 42.5 watt-hours for hot air compared with 8.7 watt-hours for infrared emitters.

Hahn has analyzed the entire process intensively and CEO Rainer Stück is particularly convinced by the energy efficiency: "We have found that, according to our calculations, the infrared system already pays for itself within six months!"



FEATURES

- Automated deburring of glove compartments and door handles
- Analysis of various deburring techniques
- IR heat superior to alternative deburring methods
- High energy efficiency

TECHNICAL DATA

- IR system with small short-wave surface emitters
- Easy to position along product edges
- Very controllable
- Deburring is completed within five seconds

