



Infrared heat doubles the speed of the anti-slip coating for carpet underlays

Carpets should not slip on smooth floors. Fleeces with an anti-slip coating, so-called carpet underlays, ensure this. The double-sided coating of the fleeces must be dried individually and benefits from infrared heat technology.

For more than 25 years, PATER has specialised in the production of anti-slip carpet underlays. Only pollutant-free, high-quality fibres and fabrics are used.

The anti-slip coating is applied by spraying and must be dried efficiently. Until now, this was done with the help of two ceramic IR heating fields. However, due to their slow response time and the long-wave infrared radiation, only a maximum speed of 6.7 m/min was possible for this drying.

Heraeus Noblelight's infrared specialists conducted tests at the customer's facility with both short-wave and medium-wave infrared emitters to determine which IR wavelength and power density could improve this application.

Medium wave carbon IR emitters proved to be particularly efficient and based on these test results, a system was designed that now achieves up to 15m/min. Since the IR heating fields should be able to be switched off and on for different fabric web widths, the IR emitters were arranged in rows next to each other and electrically divided into zones. To intensify the drying process, suction strips were installed at the sides and at the end of the two IR modules for the evaporation of the coating.

In addition, optical pyrometers are positioned after each IR module to measure the surface temperature without contact. The signal from this measurement is used to control the temperature setting.



Photo: Pater GmbH

Features

- Drying of anti-slip coating on nonwoven fabric web
- Doubling of throughput speed
- Control of IR power prevents overheating
- Adaptation to web widths by zoning the IR emitters
- Improved quality through efficient IR heat utilisation

Technical Data

- 2 IR modules, each with 36 medium wave carbon round tube emitters in 12 zones
- 173 kW total power
- 2 optical pyrometers for product temperature
- Integrated, easily programmable control and regulation

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