

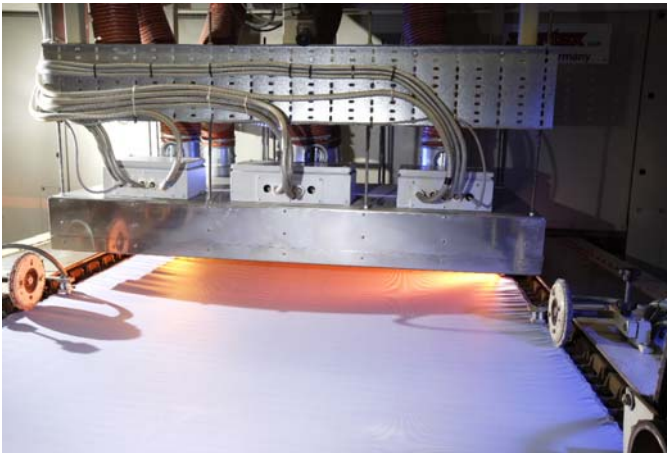
Drying of Water-Repellent coating on fabric

A carbon infrared system is helping to increase production line speeds by providing pre-drying of a water repellent coating applied to a specialised fabric used in the manufacture of outdoor clothing. Moreover, its ease of control is also ensuring that there is no damage to the fabric caused by over-heating.

The best outdoor clothing provides double protection to rain, as a water repellent coating on the clothing fabric removes surface water while the garment itself, with its combination of textile fabric, membrane and lining is water-proof but “breathable”. The application of the water repellent coating is an important part of the production process but it is also important that the chemical coating applied is thoroughly dried before the next manufacturing stage. Conventionally, this is carried out in a Stenter, a very versatile, gas-fired oven used extensively in the textile industry. However, when a well-known manufacturer of top quality outerwear had to deal with meeting a significant rise in market demand for its products, as well as handling a more diverse product range, it soon realised that drying speeds had to be increased to match increased production speeds.

The answer lay in fitting a carbon medium wave infrared system immediately in front of the Stenter to achieve the required degree of pre-drying. A determining factor in the selection of infrared for this application was the fact that it would have been impossible to fit a hot air oven easily in the available space and it would have been necessary to carry out a major and costly re-organisation of the line. The hot air oven alternative would also have involved significant line downtime. The 124kW infrared system was first proven by on-site trials before its easy and compact installation in the roof of the Stenter entry enclosure.

Since installation, the new system has allowed an increase in line speed averaging around 6%, depending on how much the chemical coating is taken up by the textile and the construction of the textile itself. In addition, the carbon emitters have also demonstrated another very important benefit over alternative heating techniques, as their very fast response ensures that the fabric does not become overheated.



Features

- high quality outdoor clothing
- with water-repellent coating
- efficient drying increases production speed
- fast response of heaters ensures that fabric cannot be overheated

Technical Data

- carbon medium wave infrared system
- pre-drying in front of Stenter
- one stainless steel cassette
- containing 27, 4.6kW emitters, arranged in herring-bone fashion for maximum power density
- closed loop control with optical pyrometer

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