

Heraeus Offers Cure For Dyeing

A custom-built infrared drying system has helped Century Dyeing of Elland, near Leeds, to solve a problem which they were experiencing with the dyeing of a particular fabric for a specific customer. The innovative solution involved on-site tests at the Elland factory and the design of a system to provide sufficient drying within a very short time window and very tight space constraints.

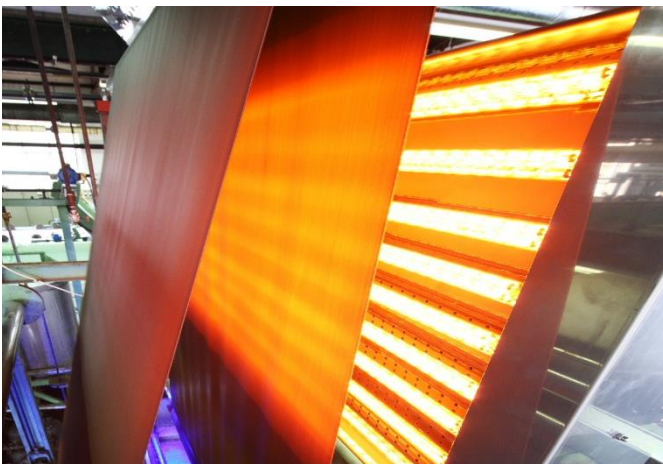
A fabric for one of its customers, needed to be dyed before passing through a textile Stenter where it was dried and stretched to the required width. At first, the company required only a black finish and there was no visible problem. However, when the specification was expanded to include lighter shades, it was noticed that there was color pick up on the web guide rollers and this was marking the finished product, leading to unwanted scrap.

It was soon realized the web entering the Stenter still carried too much of the dyeing liquid on and within the fabric. The result was that it was not totally dried in the Stenter and excess liquid was picked up by the rollers and then re-deposited on the web to spoil what should have been a very high quality finish.

After tests on site, fast response medium wave was selected for this application because of its efficiency in removing water.

Based on the results of the successful tests, a full-scale 88kW system was installed immediately before the Stenter. This consisted of a single module containing nine 9.8kW emitters fitted with gold reflectors for maximum efficiency. The system was designed to provide sufficient heat in a limited space and a time window of 3 – 5 seconds to remove an amount of moisture necessary to prevent pick-up by the rollers.

Since installation, the infrared system has performed exactly to its design specification and as John Eccleston, managing director at Century explains, "We no longer have any problem with roller pick-up, which is good news for the particular customer and also for any future customers using similar fabrics and dyes. Moreover, we also are pleased with the fact that the fast response infrared shuts down virtually instantaneously in the event of unexpected line stoppage, ensuring minimum damage to the fabric."



Features

- high quality synthetic fabrics
- sufficient drying within a short time window and tight space constraints

Technical Data

- full-scale 88 kW system
- pre-drying in front of Stenter
- containing 9, 9.8 kW emitters
- control with an optical pyrometer
- control panel display at the exit point

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