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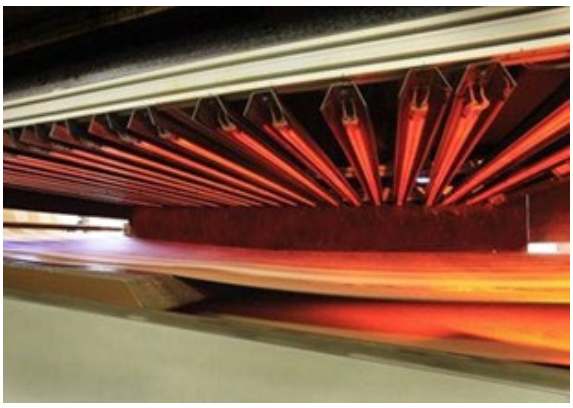

Infrared Heat Increases Productivity of Flame-Resistant Textiles

A forgotten candle or a short circuit in the toaster – if a fire starts at home, it should not get out of control. Curtains and home textiles should not contribute to the spread of a fire and therefore they must be equipped with flame-retardant properties. Essex Flameproofing is a long-established company which works with designers and specifiers, fabric manufacturers, major retailers and upholsterers to impart fire-retarding properties to furniture and fittings. This is achieved by treating upholstery or curtains fabric with flame-retardant chemicals to comply with British and international standards and flame-retardant regulations. The application of the relevant chemicals/coatings is a wet process and drying is, necessarily, an important production stage.

FEATURES

- Drying of latex flame-retardant coating on upholstery fabric
- Drying of flame-retardant solution on curtains
- Medium-wave Infrared heaters dry up to three times faster than the previous long-wave

TECHNICAL DATA

- 21 medium-wave Infrared heaters, with 4.5kW each in an aluminum framework
- arranged in seven banks of three emitters
- switched on and off as needed to match the heating profile of the product to be dried

Upholstery is made fire-resistant by spraying the back of the upholstery cloth with a latex flame-retardant coating, which must then be dried. Previously this was achieved by heating the coated upholstery web with a long-wave infrared system. However, to meet increasing demand for the company's expertise, it was decided to explore ways to speed up the drying process.
As a result, a new Excelitas medium-wave infrared system was retrofitted. Now coated upholstery fabric can be dried in a single pass whereas three passes were often required with the previous system. This is partly due to the efficiency of medium wave infrared in moisture removal, as radiation at medium-wave frequencies is readily absorbed by water molecules and the energy is rapidly converted into heat.

The new system also is also used when it is used to provide extra capacity to dry treated curtains. Curtains are made flame-retardant by spraying them with a salt-based solution, which soaks into the fibers. When curtains come Scotchgard-treated, or when fabrics have low permeability, the uptake of the solution needs to be assisted by passing the wetted curtain through nip rollers. Normally, curtains are dried on their own line, but when there is capacity on the new Excelitas system, they are run through the system for drying, again at two to three times the speed.