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IR system saves energy and speeds up laminate embossing

A custom-built, short-wave infrared system from Excelitas is helping to save energy and enable higher production line speeds at the RENOLIT's Cramlington manufacturing site.

RENOLIT is an international leader in the manufacture of high-quality plastic films and related products for technical applications. These range from adding the finishing touches to furniture products, construction elements and hi-fi products to sealing off landfill sites and roof structures and lining swimming pools. The Group's Cramlington site manufactures laminates for kitchen, bedroom and bathroom furniture and foils for lamination onto exterior window profiles and doors. Many of these PVC-based laminates are embossed with a wood grain finish and the embossing line is an important part of the production process.

FEATURES

- Update of existing embossing line with short-wave IR system
- Energy savings and higher production line speeds
- Heaters can be switched off in the event of unexpected line stoppages

TECHNICAL DATA

- Short-wave IR system
- Six individual cassettes providing heating control zones
- The assembly assumes a curved shape that follows the web path
- Allows precise targeting of the heating

The company has recently upgraded an existing embossing machine with a new short-wave infrared system based on experience gained on a similar Excelitas system supplied in 2003. The system is used to heat PVC laminates to the required temperature to achieve the softness necessary for embossing after which they are dispatched to RENOLIT customers for further processing.

The machine's original ceramic heater system has now been replaced with short-wave infrared emitters in six individual cassettes providing heating control zones. The cassettes themselves are arranged so that when the six modules are fitted together, the complete assembly assumes a curve which follows the web path.

This custom-built assembly allows precise targeting of the heating, so that very little energy is wasted. The exact power concentration also ensures that the web is heated to the specified temperature quickly and efficiently, enables higher line speeds. Furthermore, the extremely fast response time of the short-wave emitters minimizes the possibility of damage to the web, as the heaters can be switched off virtually instantaneously in the event of unexpected line stoppage.