

High precision epoxy resin film coating launched

C2 discussed new ways to save energy and resources with Frank Schäfer and Andrea Glawe

Metallic materials in airplanes are being replaced more often by carbon fibre reinforced plastic (CFRP), saving energy through weight reduction compared to aluminium. In addition, life cycles can be increased (saving resources), and components offer increased strength and safety.



Precision coating head with four rollers allows precise control of temperature over the roller width

Frank Schäfer, sales director at Kroenert, explains: "By using the corresponding high-precision production lines, we are able to promote the use of composites in aircraft construction. However, one must observe that, due to the band width of fibre quality and resin systems, it is hard to check the quality of the finished composite component."

Andrea Glawe, director R&D at Kroenert, adds: "The quality of the finished composite component is essentially influenced and defined by a precision-run coating process of the resin

film. The high-precision roller coating stations in our coating lines facilitates improved quality of the finished composite component, minimising errors. This again causes a significant reduction in resources and energy consumption."

Another benefit, according to Glawe, is the fact that the higher precision of coating weight due to the precision coating saves resin compound which also results in a reduction of manufacturing costs and rejects. As the resins are solvent-free there should be no need for complex solvent recovery and/or cleaning systems. ■

INFORMATION

Resource-saving and environmental goals to make prepegs

- Precise temperature control of +/- 1K in all heated and cooled rollers and components to set the defined resin viscosity -> precise coating weight;
- Precise process speed and speed control;
- Precise true running accuracy of +/- 1.5µm of the metering and coating rollers -> precise coating weight;
- Precise control of the web tension of the substrate through the entire film coating line;
- Coating weights of 10-1000g/m² -> reduction of production costs;
- Viscosities of the compounds up to 1000Pas -> increased efficiency; and
- High production speed up to 80m/min -> increased efficiency.

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- Requires little space thanks to drawer system
- No bulky interfering contours
- No trapping points
- No safety risk
- Fewer wearing parts
- Practical single-button operation
- Tool-free roller replacement
- Fully automatic interaction with the printing press



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