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File name: RCM_Pregreg_2020.docx
Date: October 09, 2020
Length: 7 pages

Press release

Increased automation by a new Rothabow Prepreg Production Line at Krempel GmbH

Steffenberg/Vaihingen. For the manufacture of prepregs, the company Krempel GmbH located in Vaihingen/Enz relies on the cooperation with Roth Composite Machinery GmbH from Steffenberg. Precisely tailored to the customer application, the special machine builder has developed a new production line for hotmelt impregnation. The Rothabow 600 Prepreg Production Line is characterized by a high level of automation.

The production line is suitable for the processing of glass and carbon fibres. Krempel produces prepregs with different resin surface weights on this machine - for example for the use in the automotive industry. For the purpose of quality control, devices for measuring the resin surface weight and the prepreg surface weight are integrated. The Rothabow production line is working at a maximum application temperature of 300 °C and has a drive design of 10 m/minute. It stands out with a nearly backlash-free gap adjustment as regards the

application system, the two calenders and the pulling station. In the area of the heating elements, the material web can be lifted in case of production stops. So, the material is not heated too long during the process flow. The coating unit being used at the production line of Krempel is a special scraper system. A fibre spreading unit enables a fibre guiding on two levels. The rovings can be spreaded depending on the requirements. The use of a double rewinder enables the cutting and rewinding of several tapes.

The design of the new production line is based on a user-oriented advice given by Roth Composite Machinery to Krempel GmbH. It comprises the sequence of individual production steps, the material selection and processing, the automation level as well as the increase in productivity up to the commissioning and instruction in the operation of the machine.

Thomas Mozer, Principal Product Engineering at Krempel GmbH, declared: "By using the new Prepreg Production Line of Roth Composite Machinery, besides the optimized production speed, we could also achieve significant quality improvements for our high-quality prepregs."

Krempel is one of the leading manufacturers of electrical insulation materials, composites as well as electronic materials and system partner for customers in the sectors energy, mobility and industry. The company is a well-known supplier of composite materials, customer-specific components and prepreg systems. The products and solutions of the manufacturer are present in the aerospace industry as well as in the machinery and apparatus engineering, in the rail sector or in the fields of medical and electrical technology.

Numerous application areas

Prepregs are used in most diverse industries. The company from Steffenberg develops machines for the manufacture of prepregs according to individual customer requirements. They are suitable for applications in the sports and leisure industries, the aerospace sector, the automotive industry, the ship and boat building area, in the building and bridge construction or in airplane structures. The know-how of Roth Composite Machinery is based on more than 50 years of experience in building customer and application specific machines for the production of fiber composite structures.

For carrying out preliminary tests and process development, Roth Composite Machinery, Steffenberg, offers a laboratory for the manufacture of prepreg and organic sheets. In consultation with Roth Composite Machinery, business partners and raw material producers have the possibility to carry out optimization or processing tests as to matrix systems, fibres and fabrics without having to interrupt their own production processes for that. The Prepreg Laboratory Line of Roth Composite Machinery can process duromers as well as thermoplastic matrix systems up to 400 °C.

Trials with thermoplastic matrix materials but also with duromers with layings or fabrics of all kinds of fibre systems, such as carbon, glass or Aramid are possible. The company is able to produce multilayer composite materials made of fabrics, fibres and films by using the laboratory line. A powder dosing unit for the processing of powder or granulate instead of a foil can be integrated. As application systems for the matrix, Roth provides the comma blade or the Foulard method for selection. Furthermore, the modular construction and the movable application unit enable the use of alternative, customer-specific application systems. The

plant of Roth offers a spool creel with 80 spool positions, eight unwinders, three rewinders as well as a special fibre spreading unit. The modular construction and the open design offer an excellent operability. Measuring systems, for example for coating thickness measurements or surface inspections, can easily be integrated. Depending on the layers and the characteristics of the fibre materials, prepregs in all conceivable thicknesses can be manufactured.



Image capture for file

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The Rothabow 600 Prepeg Production Line is characterized by a high level of automation.



Image capture for file

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The Rothabow Production Line is equipped with a fibre delivery unit with two combs. A fibre spreading system enables the fibre guiding on two levels. Rovings can be spread depending on the requirements.

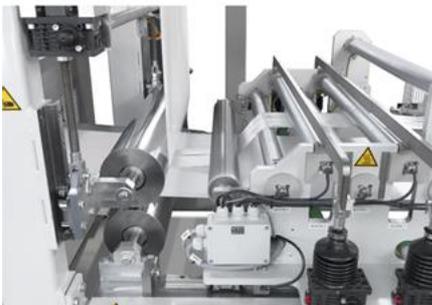


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The Rothabow Production Line is suitable for the processing of glass and carbon fibres.

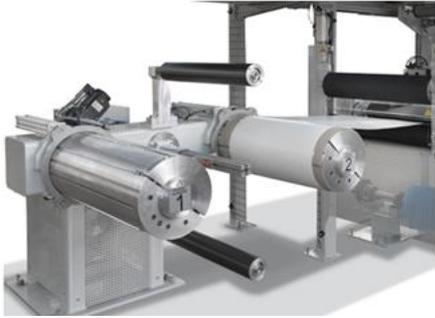


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The double revider of the Rothabow Production Line enables the rewinding of tapes having been cut lengthwise before.



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Measuring systems, for example for the measuring of the coating thickness or for surface inspections can easily be integrated. Depending on the layers and the characteristics of the fibre materials, prepregs in all conceivable thicknesses can be manufactured.

(Photos: Roth Composite Machinery)

About Roth Composite Machinery

Roth Composite Machinery is an expert in the field of special machinery construction – the company develops, designs and builds components, machines as well as complete production lines in the business areas

- Filament Winding & Prepreg
- Pleating & Coating
- Brushes & Brooms

About Roth Industries

Roth Industries GmbH & Co. KG comprising various firms and around 1,300 employees all over the world is one of the most innovative companies in the areas

- Building Solutions - Divisions: Energy Systems, Sanitary Systems, Environmental Systems
- Industrial Solutions – Divisions: Composite Technology, Plastic Technology, Hydraulic Technology

The head office of the medium-sized traditional company is located in Dautphetal, Hesse. While the company's strategic direction, the controlling, auditing as well as the balance and financial planning is effected from there, the local employees are responsible for the development, production and marketing of the products.

28 production and sales companies of Roth Industries are acting all over the world - in core segments as world market leader.

Roth Industries bundles all activities of the companies belonging to the group in Germany and abroad. The company is owned by the Roth family to 100 %.

Competence in
● energy ● water ● plastics

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