



PRESS RELEASE

FRIMO successfully exhibited at JEC World 2018 in Paris

Strong interest among visitors

03 / 2018 - Once again, the JEC World exhibition this year proved to be the world's leading trade show for composites. More than 1,300 exhibitors (March 6-8, 2018, Paris Nord Villepinte) were very satisfied with the nearly 42,500 visitors from 115 countries.

The same goes for the new joint booth of the Composite Alliance between the FRIMO Group and SCHULER, as Thomas RübSam, Head of Sales at FRIMO Sontra, proudly declared. "The show and our stand had lots of visitors all three days," said RübSam, "and it was the decision-makers that were approaching us here in Paris." The visitors included many CEOs and purchasing directors for important OEMs, and many constructive conversations took place. From the aviation sector, companies like Airbus and Fokker were represented, while the automotive manufacturing industry was represented not only by a strong presence of French brands, but also by all German and foreign OEMs, as well as all important Tier 1 suppliers. Three of the lightweight construction solutions presented by FRIMO generated particularly strong interest among visitors. (Photo 1)

RTM

From the vehicle floor manufacturing sector, the company displayed a large CFK floor assembly model, which was created as part of the iComposite 4.0 research project. The iComposite 4.0 cooperative project, funded by the Federal Ministry for Education and Research (BMBF), targeted resource-efficient, high-volume fiber-reinforced plastic component manufacturing. As part of the project, FRIMO delivered an RTM tool for CFK, a mix and metering unit for epoxy and PUR systems, as well as extensive measuring and analysis equipment. (Photo 2)



Another example from this field of application was the floor assembly for an Audi A6, which was developed as part of the BMBF flagship project SMiLE. The goal of this project was to develop manufacturing possibilities using thermoplastic materials as well as duromer composites. The front section of the floor was produced with the RTM process, and FRIMO was responsible for the component's RTM technology on a 2x2-meter section. The rear section of the floor, developed also in part by FRIMO (along with Audi and Fraunhofer ICT), was produced in a thermoplastic FRP hybrid construction to optimally utilize the lightweight construction potential of the LFT process. To do so, UD endless tape (PA6-CF60) was combined with a D-LFT molding compound (PA6-GF40) and metal inserts. Both the RTM component and the floor section, manufactured using the newly developed local advanced tailored LFT process, captured the interest of visitors and sparked a lively exchange of ideas. (Photo 3)

Molded organo sheets

The second topic which inspired a great deal of interest among visitors was the organo sheet injection process (OSI). For the past several years, FRIMO has been offering an innovative option for accelerating and economically streamlining the process by combining thermoforming, cutting and back injection molding in one step. The process, expanded by FRIMO to include molding of the processed outer edge, has now been implemented in a challenging project, which, unfortunately, could not be shown, since series production (SOP) does not start until summer 2018. (Photo 4)

NFPP hybrid

The real "audience magnet," as Thomas RübSam put it, turned out to be the NFPP hybrid parts, which included an interior door panel by Volvo. "There was an absolutely overwhelming amount of interest," said RübSam. Many fundamental questions were addressed regarding the material combination and the processing options for the materials. For NFPP, polypropylene is combined with natural fibers in a specific ratio, for instance 50/50. In the hybrid process, these components are then injected with PP-GF20. This involves, for example, ribs, spot welds or retainers. Depending on the geometrical requirements, natural materials such as flax, hemp or sisal are used for the natural fibers. This is how weight can be reduced by up to 40% compared to typical injection molding processes. (Photo 5)

Summary

Ultimately, FRIMO was highly satisfied with its presence at the show and the response it received. Thomas RübSam: "We had many excellent conversations with top-notch



contacts. Many of these conversations were actually arranged before the exhibition.” Thomas RübSam was particularly pleased that “in addition to connecting with many already-established contacts, it was possible to gain a number of new contacts.” The joint stand with SCHULER for the “Composite Alliance” certainly contributed to the success. As a result, preliminary negotiations were held with clients regarding larger collaborative projects.

About FRIMO (www.frimo.com)

The FRIMO company group includes global production and sales sites with more than 1,500 employees in Europe, Asia and the Americas as well as countless international representatives. FRIMO companies have received many awards for their excellent services. In the past, FRIMO has received 23 awards at the SPE awards, known as the “Oscars of plastics”. In 2014, FRIMO received the JEC Innovation Award in Atlanta for its collaborative project “Street Shark” (www.street-shark.com). The FRIMO group’s portfolio for the plastics processing industry ranges from various procedures for PUR processing to flexible cutting, stamping, pressing and forming, as well as thermoforming, laminating and edge folding, all the way to joining and bonding. The portfolio also includes system solutions for large series processing of fiber-reinforced plastics (composite technologies). FRIMO offers its clients customized tools, machines and plants as single or full solutions from one source.

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