

NMF@JEC World 2024: Sustainability in thermoplastic fibre composites

ENGEL, Ensinger and Neue Materialien Fürth jointly presented a highly efficient and fully automated production process for a load-bearing component for aviation based on flame-retardant organic sheets with a core made of recycled carbon fibre fleece.



The trade fair appearance in Paris was once again a complete success and demonstrates the far-reaching potential of thermoplastic lightweight construction as well as the in-depth expertise of Neue Materialien Fürth. The flame-retardant thermoplastic fibre composite semi-finished products developed in cooperation with Ensinger were produced on an interval hot press in a near-series production and automatically processed on an ENGEL victory 660/160 injection moulding machine into inspection flaps for the fuselage of passenger aircraft. In order to fully demonstrate the uniform material concept, both the semi-finished product was equipped with a core made of recycled carbon fibre fleece and the component was functionalised with stiffening ribs made of the same matrix material. The overall concept thus reduces the carbon footprint of the application and makes a sustainable contribution to the circular economy.



Fig. 1: JEC trade fair 2024 aviation demonstrator with recycled carbon fibre fleece core