



Alstom ETR 675 benefits from core composite solution

With a core composite solution using infused Divinycell P60, Diab and business partner Chimplex have made a light yet sturdy nose for the Alstom high-speed train ETR 675 for NTV (Nuovo Trasporto Viaggiatori SpA), a private transport companies network in Italy.

Aerodynamic railway components

Founded in 1989, Production Group Srl has multiple facilities in Italy and it is an IRIS certified, national leader in the design, development, manufacturing and maintenance of components primarily intended for the railway and mass-transit sector. The company's products are used in several major railway systems across the globe, from high-speed 'tilting' train to urban driverless tramways and metros.

New Italo Train for NTV

Today, Production Group focuses mainly on the production of aerodynamic vehicle front-heads, pilot cab interiors, roof and external fairings, energy collecting pantograph systems, complete toilet modules and passenger cabin furnishings. As a market specialist in aerodynamic front-heads and other fiberglass-reinforced resin components of high-speed fleets, Production Group has played a major part in the construction of the new Pendolino high-speed train project. The specialist position has been further confirmed by a new commission to design the high-speed aerodynamic nose and front of the new Italo Train ETR 675.

Low weight, great stiffness

The project brought together Diab and long-time business partner Chimpex Industriale, both experts in the field of core composites. Together they have contributed to the development of the material required to enhance the mechanical properties and concept of the FRP sandwich solution to be used for the ETR 675. The aim has been to save weight while keeping the stiffness of the material. With an infusion process, it has also been possible to meet the stringent FST (fire, smoke and toxicity) requirements of the industry standard EN 45545-2, which regulates fire safety on trains across the European Union. *Divinycell P60*, with PSC/GRC finishing, was used to realize all sandwich parts of the nose, with a difference in thickness depending on the stiffness and weight requirements.

High-speed trains require long-term R&D process

Diab and Chimpex were chosen as partners by Production Group due to their knowledge and expertise, their focused approach toward the project and their policy on long-time partnership. In the high-speed train sector, where a continuous R&D process for new highly technical products is required, Production Group can trust the commercial soundness of both Diab and Chimpex, with their material availability, consistent quality and continuous R&D process.