Lightweight structural components for superior vehicle body shells

www.3acompositesmobility.com
XBODY® is a family of structural lightweight applications created for rail and road vehicles. Once XBODY® is applied according to customer requirements, the design benefits from modular and structural components with the highest stiffness to weight ratio. XBODY® also functions as an ideal solution for developing body-in-white structures in rail and road vehicles.

Our solution relies on a qualified and well-established production process, which is verified by the leading manufacturers and operators worldwide.

**Reduced Vehicle Manufacturing Process**

XBODY®’s modular construction ensures a significant reduction in assembly time. It is possible to completely pre-assemble and handle the XBODY® parts due to their high stiffness and low weight. Once an XBODY® roof is installed, no additional thermal cladding is required as part of the internal roofing system. The components can be pre-painted to customer specifications before final stages of production and assembly.
Overview

XBODY® sandwich parts – such as roofs, floors, side walls and chassis components – offer a high level of strength and durability. It is proven by their reliability over many generations of vehicles.

XBODY® properties provide increased energy absorption in case of crash, ensuring improved overall vehicle performance.

XBODY® for Rail

- Rail products meet the structural body building and exterior covering demands. Trams and rail vehicles are made lighter and stiffer (in accordance with ISO EN 12663)
- Our composite designs meet EU and country-specific legally-required fire standards and are designed for the complete product life-cycle
- Modular design allows quick integration and changes with a shortened engineering time
- XBODY® rail exterior products as roof and claddings can also be delivered with a coil-coating or pre-painted finish on the exterior and visible interior surfaces, according to rail application demands

XBODY® E-Mobility

In order to keep up with the rapidly growing demands of future mobility, both vehicle manufacturers and operators need to address low CO₂ emissions and fuel consumption, long service life and robustness, along with service and quality.

XBODY® components have been developed into systems creating the opportunity for new logistics and assembly concepts for modern bus manufacturing and development worldwide. For city buses, coaches and double-decker buses, XBODY® features a validated and tested design with a system allowing easy integration.
3A Composites Mobility produces extremely light and stiff composite chassis floors with integrated functions. The chassis floors can also be made significantly thinner than the conventional floors due to the high stiffness.

**XBODY® for Road**

- **Sustainable sandwich solutions** allowing modular production
- **Capable of replacing and improving the stiffness of conventional body-in-white** designs with a significant weight reduction
- Engineered to bear heavy loads without additional reinforcements
- **Easy pre-assembly** through enhanced stiffness and low weight
- **Smart integrations** like heating solar and electrical wiring
- Excellent crash behavior, easy to repair and replace
- **Just-in-time deliveries**
- Tested in adherence with legislated EU ECE bus and rail safety regulations and structural integrity standards
XBODY® offers a lightweight alternative to solutions currently available in the transport industry. Designable to any vehicle’s construction type, XBODY® presents a body-in-white structural component.

XBODY®’s lightweight nature translates into higher passenger numbers, more payload and more spacious cabins. An overall lower vehicle mass also contributes to increased longevity and durability of the structure as a whole – preserving vehicle tracks, wheels, axles and brakes.

XBODY® Extra Advantages

- **Excellent insulating properties for temperature, noise and vibration** – resulting in greater overall cabin comfort – both rail and bus operators benefit from XBODY®

- **Low environmental impact**: A significant reduction in weight, along with increased life-cycle conditions and long-term service, result in a remarkable reduction of CO₂ emissions and fuel consumption

- **Off-duty service time is minimized** due to an efficient “cold” repair system

- **Coil-coating and anti-graffiti coating finish** options are also available