

# **COMFLOOR®**



Lightweight modular flooring system for rail and road vehicles

www.3acompositesmobility.com



### **COMFLOOR®**



lightweight



passenger comfort



energy efficiency



long lifetime



customization



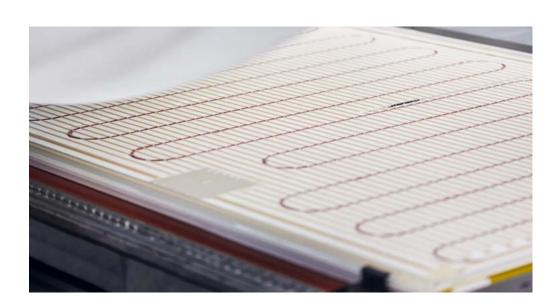
easy assembly



recyclable



Our solution for spacious, ergonomic passenger compartments. Lightweight, modular, strong and innovative, COMFLOOR® is already trusted and used by many leading international rail and road vehicle manufacturers. Our design's unique clamping system ensures quick, easy assembly and installation. The units are maintenance-free and ensure reliable, exceptional performance over at least a 30-year lifetime.



#### **Customized Panels**

Thin, durable sandwich panels are designed to fit all floor shapes and dimensional specifications. The rigid sandwich structure provides solid insulation and can optionally be equipped with a fully integrated heating system. Heated and non-heated panels can be combined according to customer choice.



### **Overview**

COMFLOOR® includes an optional panel-integrated heating system. Bonded to the panel's foam core, the heating system is also customized to match any panel dimensions and specifications.

## Homogeneous Heat Distribution, Increased Comfort

The panel's foam core insulates the heating system from the surrounding interfaces while an aluminium layer on top optimizes thermal distribution to the passenger area. **COMFLOOR® combines superior thermal comfort with a minimum of energy consumption.** Metal cover sheets ensure optimal protection against moisture, scratches, cracks and other mechanical damage. Their smooth panel provides an ideal surface for all types of bonded floor coverings.





#### **System Powering**

Heated modules are equipped with **quick-to-install connectors**, simplifying the replacement process in the case of any future panel exchanges. All electrical wiring is fully integrated into the module.

The system's power supply can be adapted to voltages supplied by the vehicle's electrical system – such as 120, 230, 400 and 680 volts AC or DC. The panels can optionally be equipped with temperature sensors and thermostats to control the temperature.

Each panel is tested before shipment.

#### **COMFLOOR®** Advantages

- Weight reduction of tare mass up to 750 kg per unit
- Lower tare mass in each unit enables energy-savings and reduces wear on vehicle wheels, axles and brakes
- Reduced tare mass allows higher payload
- Strong, durable construction provides reliable,
   maintenance-free operation for up to 30 years
- Unique clamping system and modular panel design reduces the assembly time by up to 80%
- Thermal insulation integrated in the panel structure;
   increases interior height of passenger compartments
- Made of eco-friendly, recyclable materials
- Thin, lightweight panels ideal for double-deck rail cars or buses

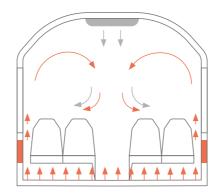
- Protective braiding ensures that current-carrying heating wires are completely shielded; protection against electric and magnetic emissions included
- High performance in different heating densities:
   homogeneous heat distribution provides
   superior comfort for passengers
- Heated and non-heated floor panels can be combined and located depending on customer requirements
- Easy "plug and play" assembly: just connect the panel to your electrical power source and fix the clamping profiles

#### **COMFLOOR®** in Service

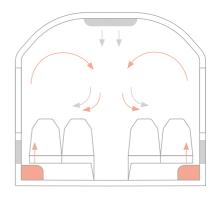
- Efficient heating system
- Solid protection against overheating
- Waterproof surfaces support easy cleaning
- Easy panel exchange thanks to modular concept
- Robust panel cover sheet provides optimal protection against vandalism and external damage
- Used and trusted by leading international rail and road vehicle manufacturers

#### **COMFLOOR®** Integrated Panel Heating

- Homogeneous heat distribution
- More passenger legroom and headroom
- Weight reduction
- Lower energy consumption
- Reduced CO<sub>2</sub> emissions result in a green footprint



COMFLOOR® Heating System



Conventional Heating

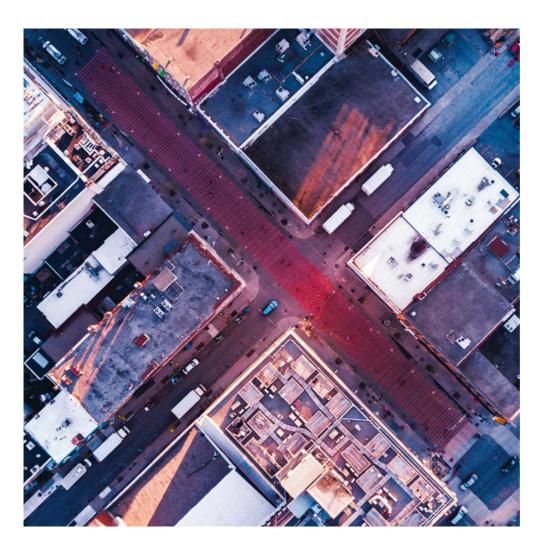
#### A smart and flexible solution for rail and road vehicles.

#### **Heating Systems Designed To Your Needs**

Customized flooring fits to any dimension or required heat distribution. Made of non-toxic and recyclable materials that guarantee excellent long-term performance. COMFLOOR® is an approved system and complies with common fire and smoke standards.

#### **Developed For Heavy Loads**

Lightweight structural system engineered for load-carrying capabilities of up to 700 kg per sq.m.



#### Your Passengers Will Thank You

- More spacious passenger compartments mean extra legroom and increased comfort compared to conventional solutions
- Quicker, more efficient and homogeneous heat distribution provided by optional panel-integrated heating systems
- Interior noise level is minimized due to foam core components
- **Superior interior aesthetics and ergonomics** mean happy and relaxed passengers



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