

ArmaFORM® PET MC: a multi-density PET foam core

It is common practice for composite sandwich solutions to combine different densities in one foam core to improve impact and point load resistance and at the same time keeping the weight at its minimum. Bonding the different core material layers together requires the use of adhesives and cutting or perforating the foam sheets, both increasing production costs and adding extra weight.

Due to its thermoplastic nature, ArmaFORM® PET opens new ways of processing the core into a multi-layered concept: the thermo-welding process. This process provides a uniform and well controlled bond line every time and eliminates the core stress concentration induced by cutting the foam.

ArmaFORM® PET MC benefits

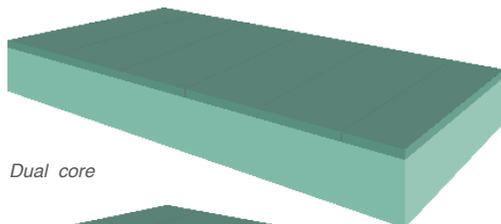
- > Better strength-to-weight ratio
- > Higher impact and point load resistance
- > Increased sandwich stiffness
- > Superior screw retention without additional reinforcement
- > 100% made of recycled PET and 100% recyclable after use phase



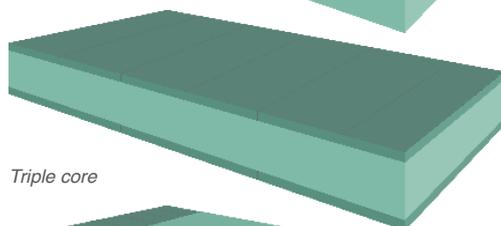
High density top layer for impact and point load resistance.

Low density core for bending strength and stiffness.

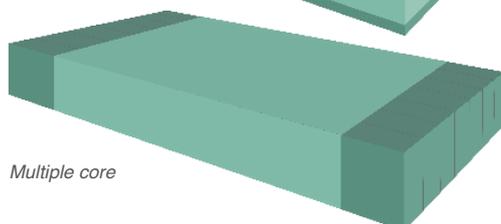
ArmaFORM® PET MC - the combination of different densities in one foam core



Dual core



Triple core



Multiple core

ArmaFORM® PET MC applications

ArmaFORM® PET MC is designed to replace traditional Plywood-XPS and other multi-ply panels used in a variety of applications like load bearing floor panels in lightweight trucks and trailers, side wall insulation panels in refrigerated trucks, in modular housing or accessible areas like scaffolding platforms, pedestrian bridges, stage panels and many more.

ArmaFORM® PET GR: a truly sustainable concept

All our ArmaFORM® PET foam cores are manufactured according to an energy and resource-optimized production process:

- > no ozone depleting HFC / CFC blowing agents
- > only halogen-free flame retarded additives
- > 100% re-use of material loss during production

Additionally our products are fully recyclable at life cycle's end and thus are considered as an environmentally sensitive solution in the composite industry.

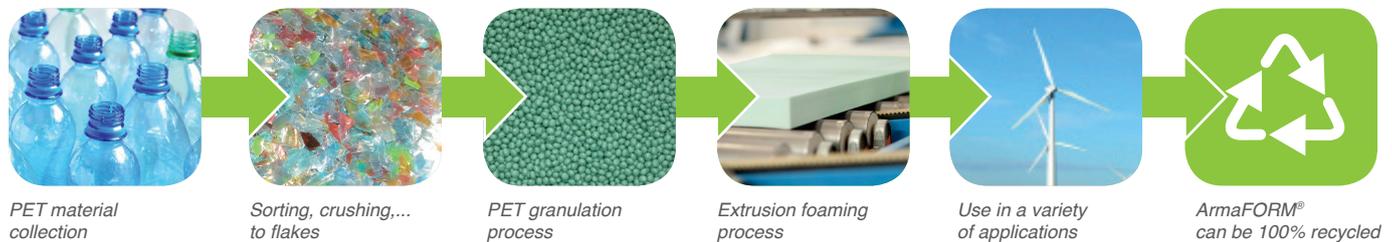
Compared with common core materials, ArmaFORM® PET GR shows an excellent environmental performance regarding global warming potential and energy demand:

The use of ArmaFORM® PET GR enables Armacell and its customers to present a real "green" alternative to standard PET foams and other foam core materials currently available in the market.

Every kilo of recycled PET flakes used to produce ArmaFORM® PET GR reduces CO₂ emission by 63% compared to standard PET foam cores which are made of bottle grade (virgin) PET resin.

(source: Delft University of Technology)

Life cycle of ArmaFORM® PET GR

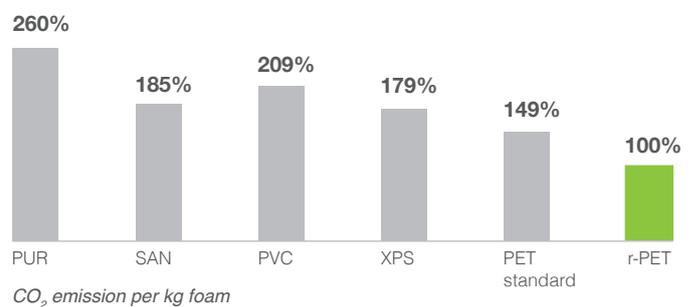


But we did not stop there and have again made a significant contribution to sustainable growth in the composite industry.

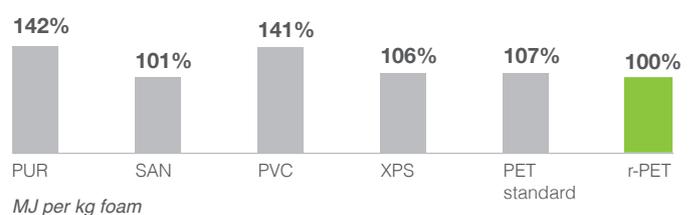
Scientists of the global R&D Team have spent several years in the development of a technology that enables the production of PET foam boards with consistent, reliable qualities 100% made from post-consumer PET materials, called ArmaFORM® PET GR. This "green" PET foam core fulfills not only stringent technical requirements of composites foam cores but also provides sustainable development and brings measurable environmental and socio-economic benefits.

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Global warming potential (Co₂)



Cumulative energy demand (MJ)



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