FROM THE IMPREGNATED FIBER TO THE STRUCTURE + OPTIMISED + SUSTAINABLE

FIBIAS++ PROJECT

The FIBIAS ++ project aims to develop TP (thermoplastic) composites from recycled materials, stamping/ overmoulding and thermocompression technologies on structures including sandwiches and GMTs and also to explore several recycling technologies.

TECHNICAL AND ECONOMIC IMPACTS

Develop organosheets, GMT, sandwiches from recycled materials
30-35% weight saving compared to a steel or thermoset reference
50% CO2 emission reduction compared to a steel or thermoset reference

PARTNERS

Jules Verne Institute, FAURECIA Automotive Composites, Choletaise Moules Outillages, IMT Lille Douai

BUDGET

2 700 K€

EQUIPMENTS

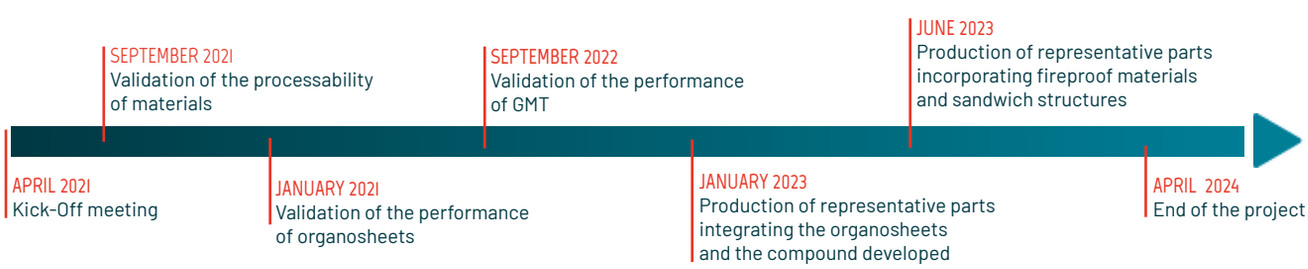
Jules Verne Institute: KM 1300t Press, MIB 200t Press, Pinette PEI 50t Press, Infrared Furnace, Textile assembly line
FAURECIA: Pilot line

KEYWORDS

Organosheets, GMT, sandwiches, thermostamping, overmoulding, TP composites, recycled materials, PA6, PP

RESEARCH THEMES AND EXPERTISES

Forming and preforming processes, Integrated product/process design



INDUSTRIAL CONTEXT

In an automotive market where standards and regulations are becoming stricter and electrification is becoming more widespread, the problem of vehicle weight reduction is once again an issue. Indeed, the reduction of CO2 emissions must be achieved throughout the life cycle of the car, including the manufacturing phase, which emits much more than the use phase.

In this context, the FIBIAS++ project aims at developing thermoplastic composites based on recycled materials in order to combine mass reduction and emission reduction.

INNOVATIVE FEATURES

- Development of TP composites (organosheets, GMT, sandwich structures) from recycled materials

- Development of stamping/overmoulding and thermocompression technologies on a structure integrating sandwiches and GMTs

- Study of several recycling technologies

INDUSTRIAL APPLICATIONS

The objective of FIBIAS++ is to develop thermoplastic composites, from recycled materials, which meet the new regulatory requirements in terms of CO2 emissions and thus highlight the advantages of using composites in the automotive industry.

The different types of materials investigated address various needs such as seat backs traditionally made of metal, underbody protections but also the SMC/GMT market.

The expected impact for FAURECIA is a significant development of the use of TP composites by 2025 and a doubling of the market share between 2025 and 2030.

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