



One-stop solution in Circular Economy for Carbon Fibre



Paolo Grati

President, **RECARBON**

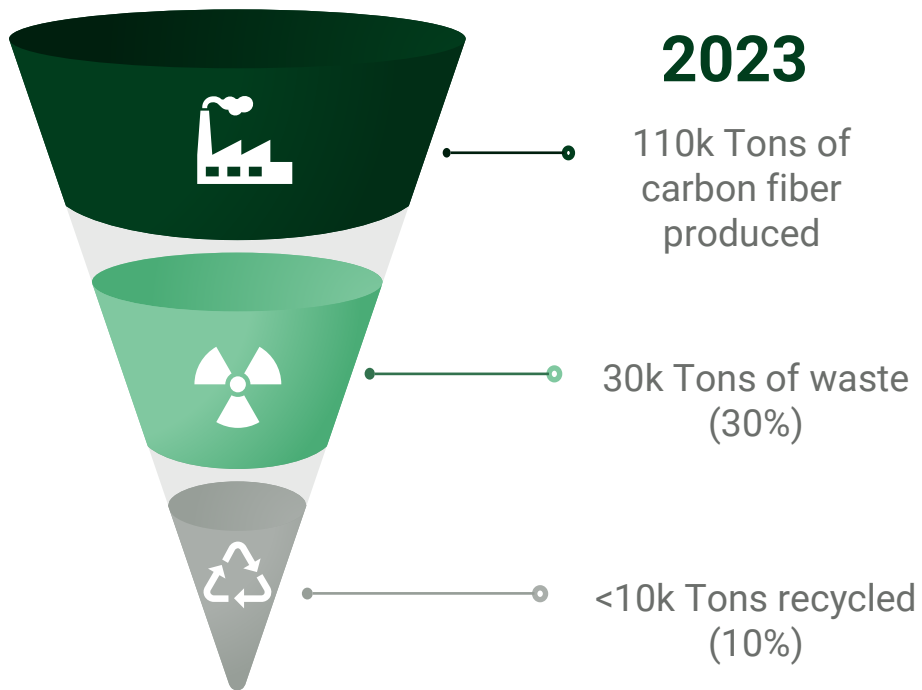


Patrick Pacchetti

Project Manager, **RECARBON**

Milano,
15 Maggio 2024

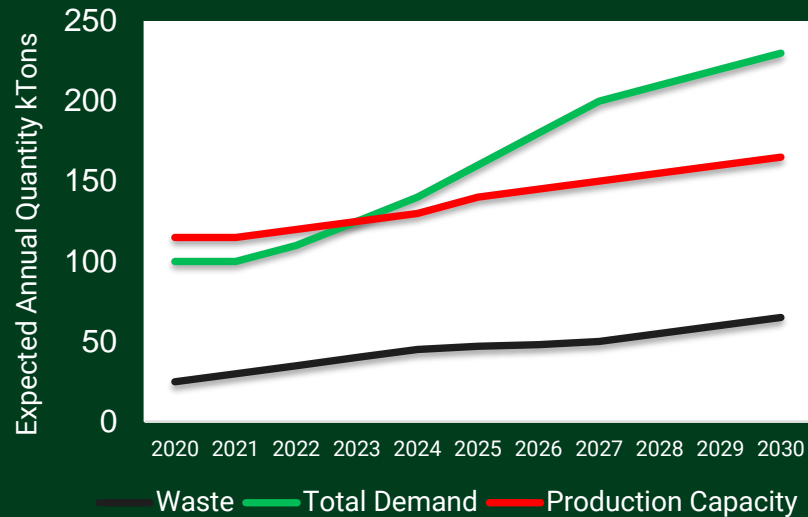
rCF Market Situation:



UE: max 10% total waste produced in landfill from 2035

«Official Journal of the European Union, L 150, 14 June 2018»

Carbon Fiber Market



We need alternative solutions to:

- Growing request
- Waste accumulation
- Sustainable future

The Team



Luca Grati
CEO & Founder

MA in Psychology
MAS in Leadership & International Relations

11 Years Experience



Patrick Pacchetti
Project Manager

MSc in Aeronautical Engineering – Structures & Materials

4 Years Experience



Jorge Rodea
Process Engineer

MSc in Space Engineering

SIEMENS



Paolo Grati
President & Founder

MSc in Aeronautical Engineering

CERTIng Advanced Certification

35 Years Experience



Francesca Spini
R&D Engineer

MSc in Materials Engineering & Nanotechnologies

PhD Candidate



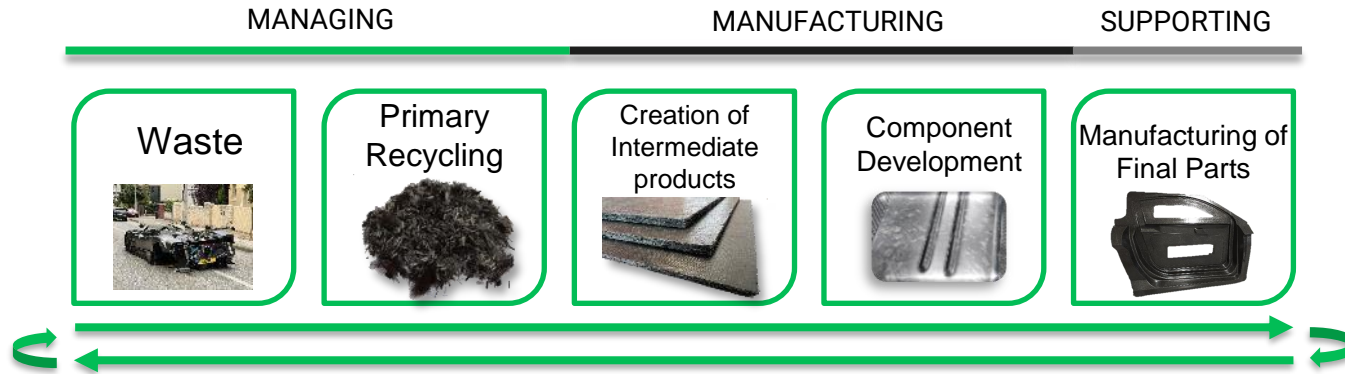
ADVISORS



Solution



Gives new value to carbon fiber waste, creating new innovative and sustainable ready-to-use products, locally



rCF Highlights:

COST EFFECTIVE

Products based on it are up to 30% cheaper than virgin carbon fiber ones. Valid option for other applications

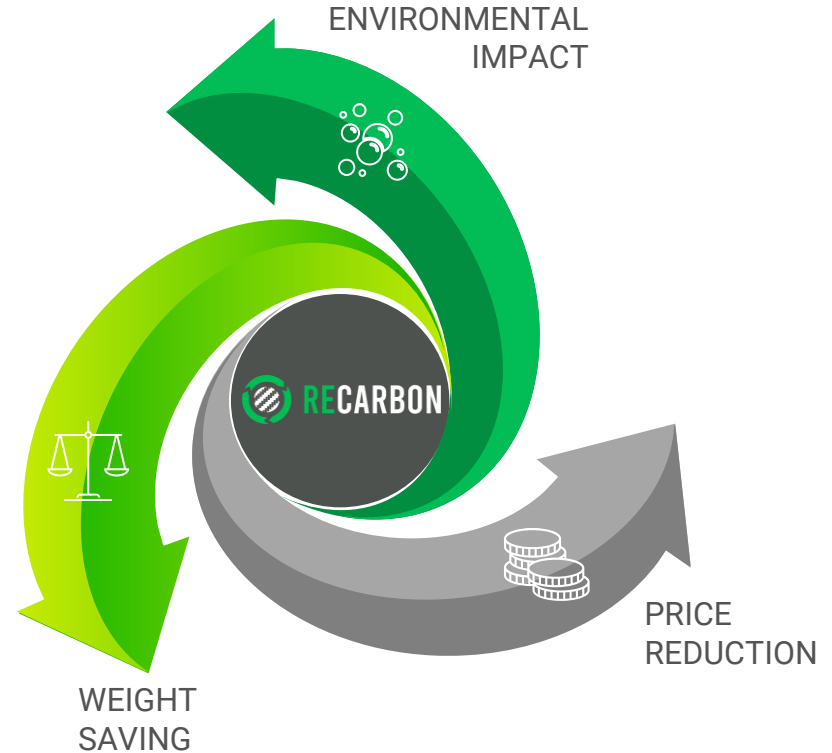
VERSATILE

Can be used for almost every application where virgin fiber is normally used

GREEN

It's good for the environment and sustainability

RECARBON Solutions:



Automotive Business Case



Product Line



REPLATE
Organosheets



RECOMB
Sandwich Panels



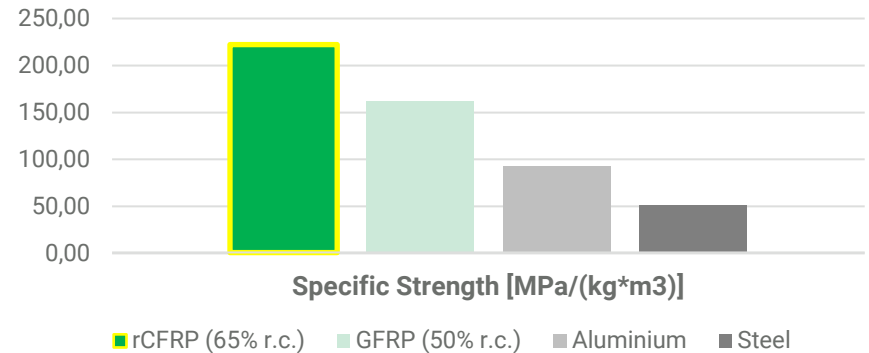
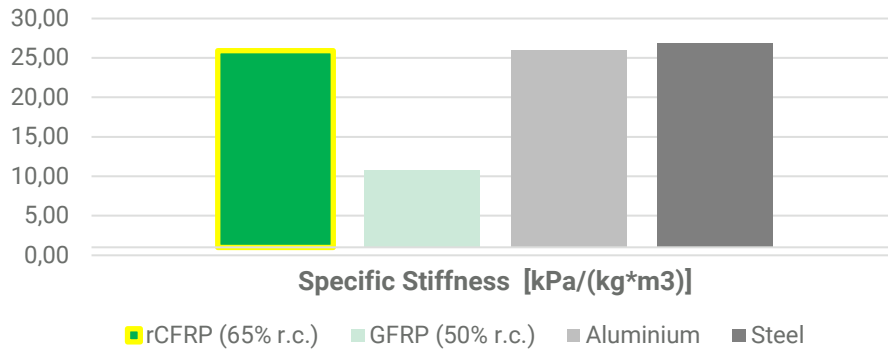
RECARBON
Prepregs

In collaboration with



RECARBON Applications - Thermoset Environmental Impact & Performances

	Embodied Energy (MJ/kg)	GWP (kgCO2/kg)
Virgin Carbon Fiber Laminate (T700, 45% r.c.)	456	20.5
Recycled Carbon Fiber Laminate (T700, 65% r.c.)	65	5.80
Virgin Glass Fiber Laminate - S (50% r.c.)	55	4.40
Aluminium	210	12.0
Steel	35	1.90



RECARBON Applications - Thermoset



Automotive – Door Mould & Finished Components:

- Very good drapability
- Complex geometry



Achieved a **price reduction up to 30%** and **80% less CO₂ emissions** using recycled carbon fiber instead of virgin fiber

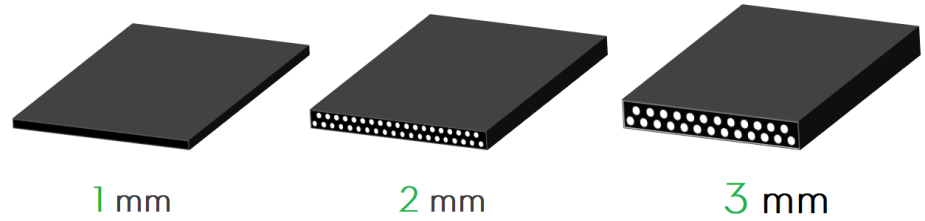
REPLATE Thermoplastic Plates

ORGANOSHEETS (LWRT):

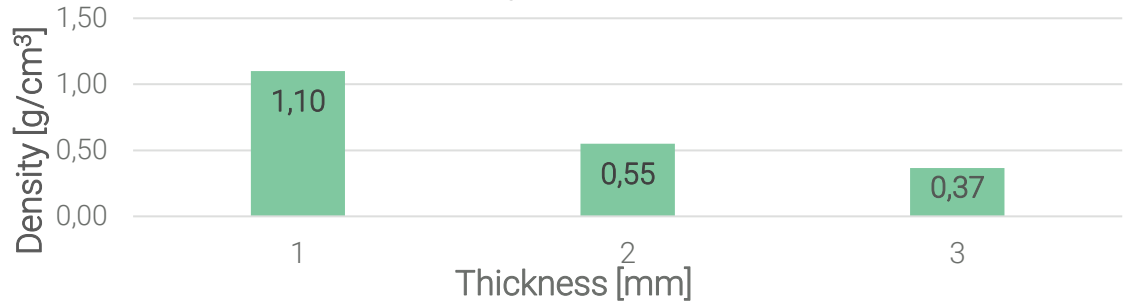
- PP and PA6 Matrices.
- Room temperature storable, unlimited shelf-life.
- Quick and cost-effective processable.



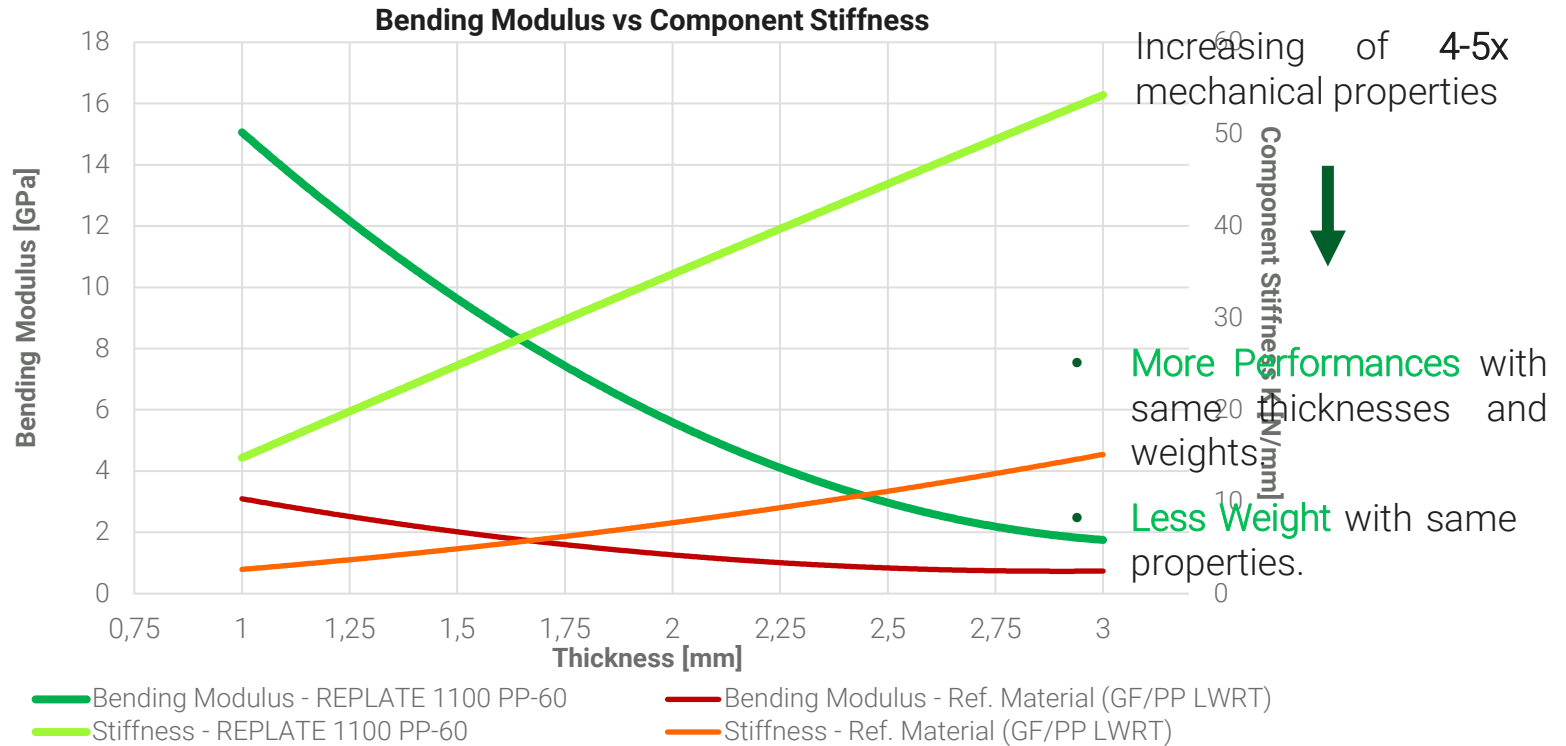
REPLATE 1100/3 PP-60



Density vs Thickness




REPLATE Thermoplastic Plates



RECARBON Applications - Thermoplastic

Automotive – Aerodynamic Floors & Parcel Shelves:




3 minutes
cycle



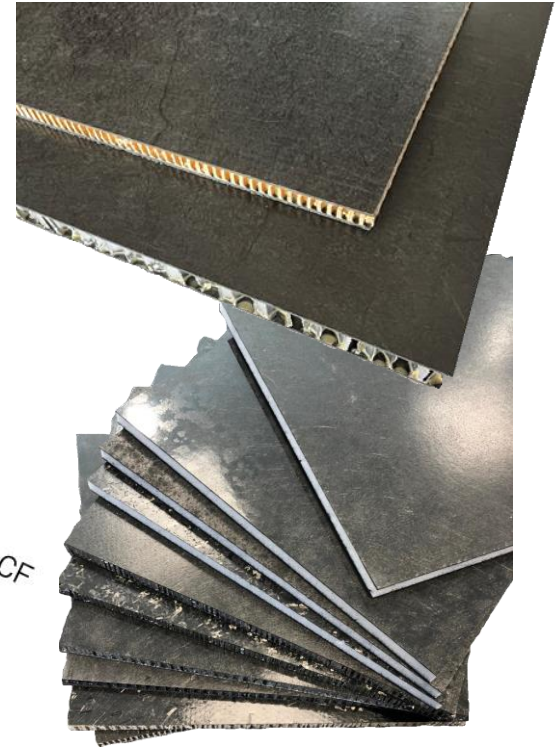
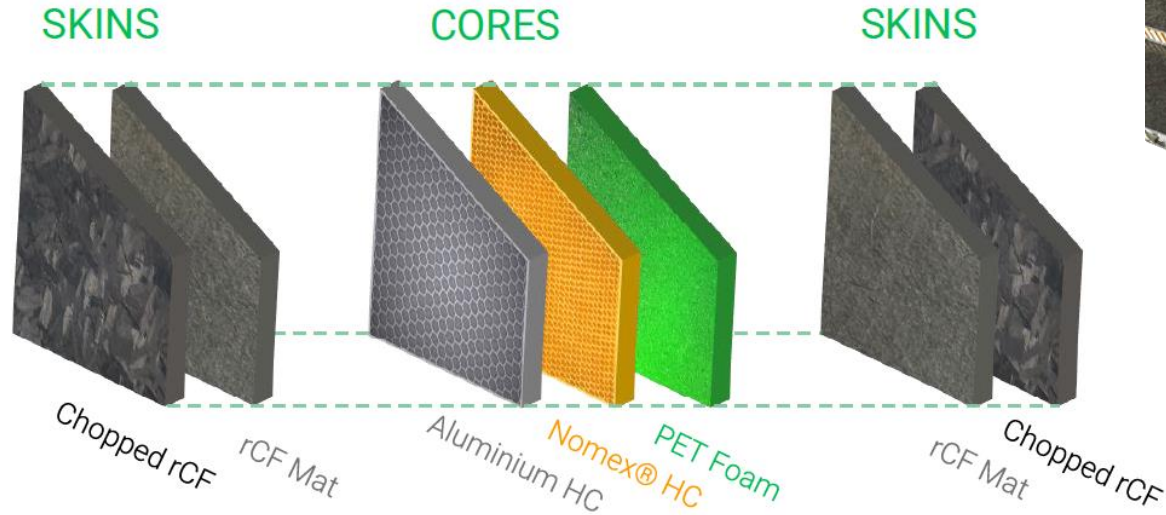

**PARCEL
SHELVES**



**UNDERBODY
PANELS**

Reduction of 45% in weight with respect to traditional glass/PP, improving the mechanical properties and reducing the CO₂ emissions by 50%

RECOMB - Thermoset Sandwich Panels

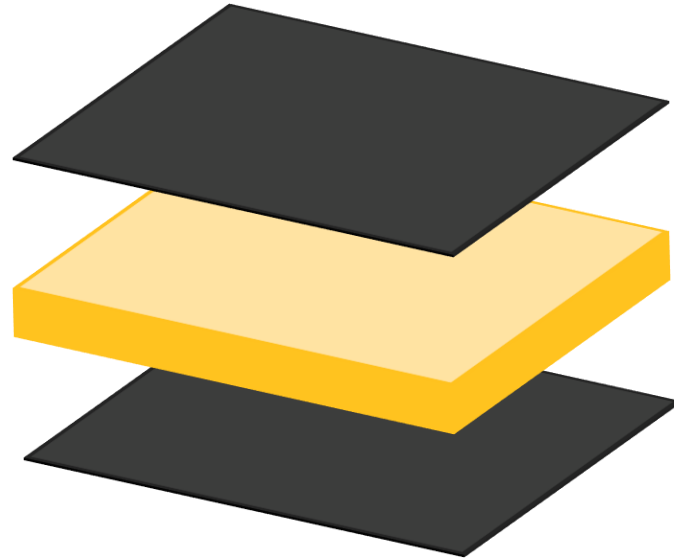


RECOMB - Thermoplastic Sandwich Panels

REPLATE
rCF skin

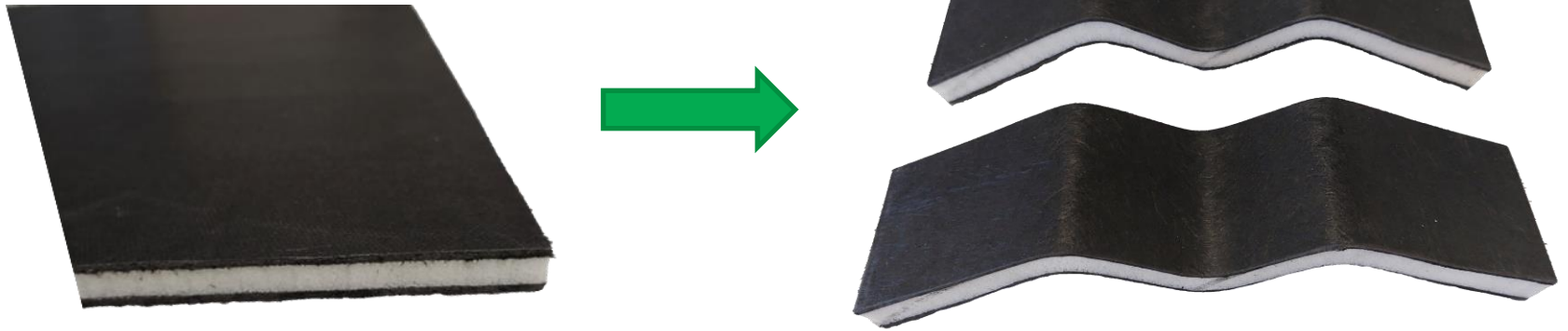
**Thermoplastic
CORE**

REPLATE
rCF skin

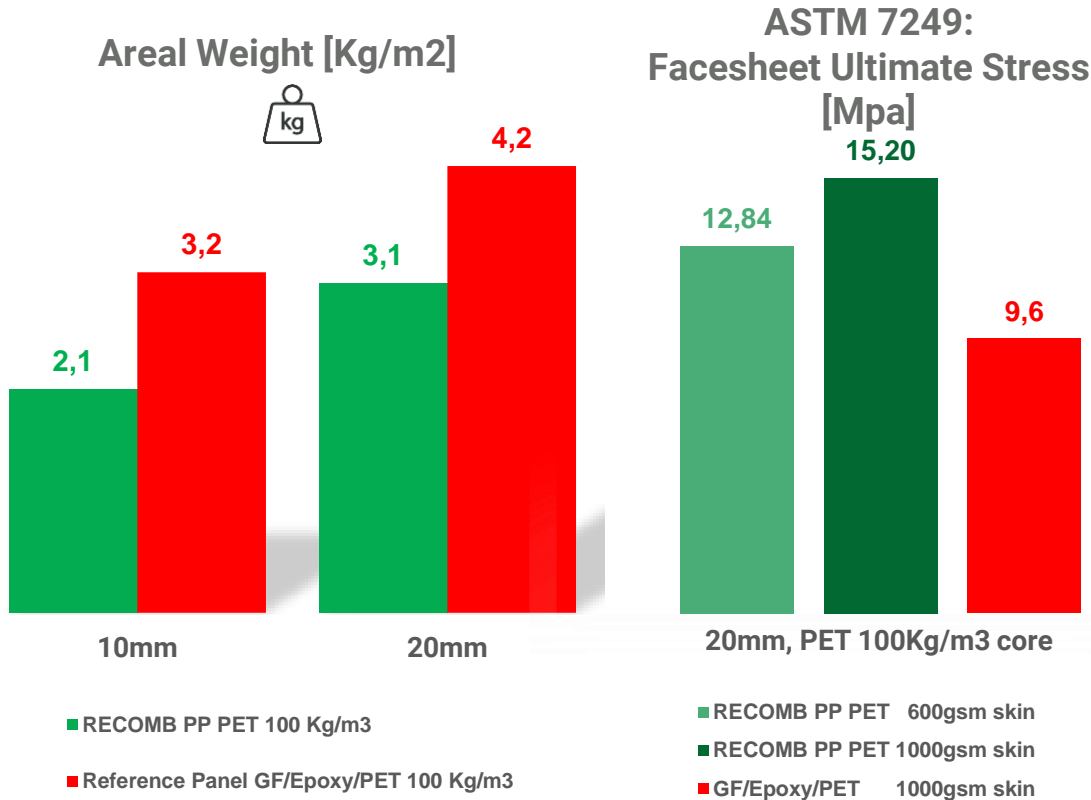


RECOMB - Thermoplastic Sandwich Panels

- 100% recyclable
- Thermoformable
- No bonding: one-shot production
- Strong cost reduction and production energy savings



RECOMB - Thermoplastic Sandwich Panels



- Up to 40% weight reduction with 35% increase of mechanical properties with the same CORE.
- Possibility of further improving both properties and weight by changing the core.

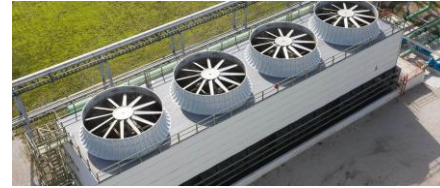
RECARBON Applications - Thermoplastic



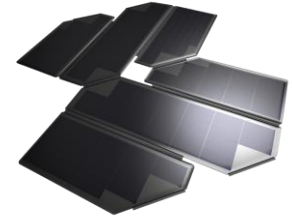
REGINA 440 Ceiling



EcoRacer 30 Engine Box



Industrial Machinery Panels

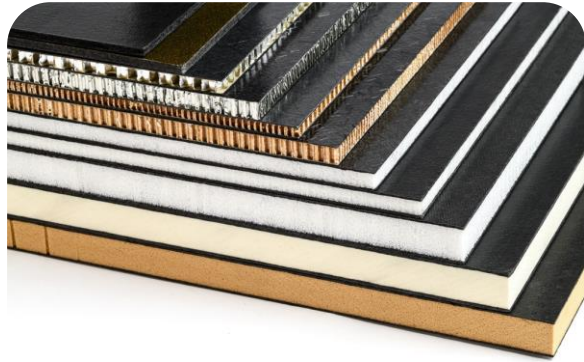


Solar Panel Origami Structure



RECARBON Applications - Thermoplastic Sandwich Panels

Caravan & Camper Panels



Reduction up to 35% in weight w.r.t. traditional wood or glassfiber panels, improving the mechanical properties by 30% and reducing the CO₂ emissions by 50%

Who already chose us

Our Customers



Awards



Collaborations



Honored to be selected for Morgan Stanley's Sustainable Solutions Collaborative.

Tackling the world's most complex sustainability challenges requires systems-level solutions.



Awards

Motor Valley Accelerator

Alumni 2022

Morgan Stanley

Sustainable Solutions Collaborative Winner 2023

Italian Climate Tech Startups

March 2023

America Innovation Award

Italia – U.S.A. Foundation

March 2023

JEC Italy Startup Booster 2023 Winner

June 2023

Startup of the year 2023 Nominee

HackerNoon

May 2023

The Best Italian Startups for the Planet

Green&Blue - La Repubblica

March 2023

JEC World 2024 Startup Booster Finalist

March 2024

Joint Cluster Initiatives (EUROCLUSTERS) for Europe's recovery

September 2023

Grant Agreement No 101074204





RECARBON

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