

Startup

100% Bio-based Thermoset Resins with **Plantics**

Name:
Plantics
Sector:

Bio-based materials

Pros:

Bio-resins made from plant waste streams, with no formaldehyde or other toxic chemicals

Features:

Production of resins used as binders in composite and wood panels and as a base for coatings and foams


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Created as a spin-off of Amsterdam University, Plantics is the company that designed the world's first 100% bio-based thermoset resins. Winner of the 2021 *Renewable Material of the Year* global innovation prize, the Dutch company uses its bio-resins, manufactured starting from plant-based waste or byproducts, as raw materials for cladding, composites, and insulation foams.

Plantics benefits from collaborations with companies in various sectors. For example, the startup's resins have been used to create plant pots from recycled paper, allowing people to grow flowers and plants, plastic-free. Combined with natural fibres and materials, bio-resin can give life to a composite product similar to wood. And again, non-woven hemp fibres combined with Plantics bio-resin can be moulded to obtain objects such as chairs and

barstools, like those created in collaboration with furniture maker Vepa, or even street signs like the Natural Traffic Signs.

"Our bio-resin is made from plant waste streams and does not contain formaldehyde or other toxic chemicals," CEO Wridzer Bakker explains. "When the resin is compressed with wood and hemp fibres, the result is an extremely strong and resistant material for panels." Plantics Panels, one of the company's recent innovations, are circular wood and hemp-based panels for the construction industry. Among other things, the NoWa Kitchen company has used them for its circular kitchens.

Plantics, which is currently in its scale-up phase, is equipped with large research and development structures and a pilot production plant in Arnhem, The Netherlands.

