



TOYODA GOSEI

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News Release

Toyoda Gosei Co., Ltd.

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Toyoda Gosei Puts Cellulose Nanofiber-Reinforced Plastic for Automotive Parts into Practical Application

Applied to Product Transport Containers

Kiyosu, Japan, September 20, 2022: Toyoda Gosei Co., Ltd. has applied a cellulose nanofiber (CNF)-reinforced plastic it developed for interior and exterior automotive products to make lightweight containers. These containers are used in one of its manufacturing plants from September. The company will accumulate records on usage of the material with a view toward future application of it to automotive parts.

As one part of its efforts to reduce CO₂ in the lifecycle of automotive parts, Toyoda Gosei is utilizing its strengths in materials technology to incorporate various biomaterials such as CNF, a plant-based material with one-fifth the weight and five times the strength of steel. CNF-reinforced plastic is a beneficial material for the aims of decarbonization and a recycling society; when CNF is mixed into plastic as a reinforcing material, it makes automotive parts lighter in weight and easier to recycle. The decline in impact resistance when CNF was mixed into the general plastic (polypropylene) used in automotive interiors was an issue. The company leveraged its material mixing design and kneading technology and succeeded in raising the impact resistance to a level suitable for use in automotive parts.

Toyoda Gosei mixed CNF-reinforced plastic with recycled material from old polypropylene containers that were no longer in use to make containers that were 6% lighter in weight. Compared with the previous containers, CO₂ will be reduced by 6% over the entire lifecycle.*

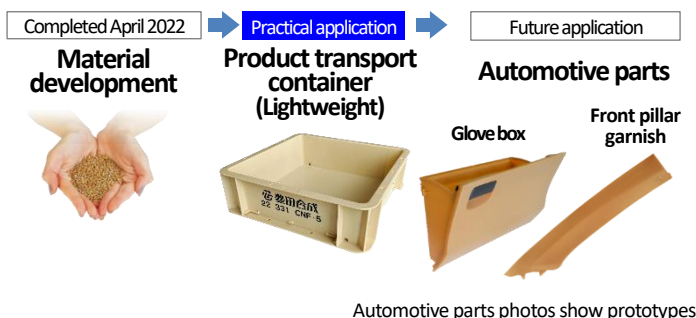
* The trial calculations were made assuming the containers will be used in product transport for four years

Containers being used in company plant



CNF-reinforced plastic applied products

Advantages of CNF-reinforced plastic for automotive parts



Automotive parts photos show prototypes

