Lego Group reveals first prototype of brick made from recycled plastic

The Lego Group has announced the first prototype of a Lego brick made from recycled plastic.

The new Lego brick prototype is made of Polyethylene terephthalate from used plastic bottles.

This week's announcement is the latest development on the company's journey towards manufacturing Lego products from sustainable materials.

Lego's overall sustainability strategy was outlined by Lego's Senior Manager Environmental Supply Chain Louise Smith during the 'Lead by example: Sustainable investments from industry leaders' session during **Travel Retail Sustainability Week** in April.

The new prototype is made of Polyethylene terephthalate (PET) from used plastic bottles collected in the USA. Suppliers in the USA use quality assurance processes approved by the US Food & Drug Administration and the European Food Safety Authority. On average, a one-litre PET bottle delivers sufficient raw material for ten 2 x 4 Lego bricks.

According to the company, this is the first Lego brick made from a recycled material to be able to live up to Lego's strict quality and safety requirements. A team of more than 150 experts is working to find sustainable solutions for the production of Lego products.

DEVELOPING NEW MATERIALS

Over the past three years, Lego Group experts have tested more than 250 variations of PET materials and hundreds of other plastic compositions. Lego says the result is a prototype that meets several requirements for quality, safety and play experience.

[Please watch the below video to learn more about the process which led to the creation of the prototype]

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Tim Brooks, Vice President of Environmental Responsibility, Lego Group said: "We are really excited about this breakthrough. The biggest challenge on our sustainability journey is to rethink and develop new materials that are just as durable, strong and of the same high quality as our existing bricks — and that fit

with Lego elements that have been manufactured over the last 60 years."

He added: "With this prototype, we can now show the progress we are making."

The company says it will take some time before bricks made from recycled material can be found in the Lego boxes and that the team behind the prototype will continue testing and developing the PET composition. The team will then assess whether the material can be moved to the pilot production phase. The next test phase is expected to take at least one year.

The company says this is the first Lego brick made from a recycled material to be able to live up to its strict quality and safety requirements.

Brooks commented: "We know that children think about the environment and want us to make our products more sustainable. Although it will be a while before they can play with bricks made from recycled plastic, we will tell them that we are working hard on it and taking them on the journey with us.

"Experimenting and failing are an important part of all learning and development. Just like children build and experiment with Lego bricks at home, we do the same in our laboratories."

TAILOR-MADE BLENDING TECHNOLOGY

The patent-pending material composition increases the durability of the PET material so that it is strong enough to be used to make a Lego brick. The process uses a tailor-made blending technology to combine the recycled PET with additives that Lego says strengthens the material.

The prototype is the latest step in Lego Groups ambition to make Lego products more sustainable. In 2020, the company announced it will start removing disposable plastic from Lego boxes.

Developing new materials is the biggest challenge on Legos sustainability journey, according to Tim Brooks, Vice President of Environmental Responsibility.

Two years earlier, the company began producing elements of the material bio-polyethylene (bio-PE) which is sustainably produced plastic made on sugar cane. Several Lego sets contain elements made of bio-PE, which according to Lego are ideal for making smaller and softer elements such as trees, branches, leaves and accessories for mini-figures.

Bio-PE is currently not suitable for making harder, stronger elements like the Lego bricks.

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The team behind the prototype will continue testing and developing the PET composition.

“We are committed to doing our part to create a sustainable future for future generations. It is our goal that our products have a positive impact on the planet, not only with the play on which they are based, but also with the materials we use. We still have a long way to go, but we are happy with the progress we are

making," Brooks emphasised.

The Lego Group is investing up to US$400 million over three years until 2022 to accelerate its sustainability efforts.

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