PLASTIC PRIZE 2022

PUBL123

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Urban and Public Design

Better Half

Problem Statement

The promotion of mask wearing to curb Covid-19 spread has led to an extraordinary increase in plastic pollution. Recent studies estimate that we use an astounding 129 billion face masks globally every month i.e. 3 million masks a minute. Most of them are disposable face masks made from plastic microfibers.

A 3ply mask weighs approximately 3.5g. If we assume weight of polypropylene content in a 3ply mask to be 1g, the world discards 3 metric tonnes of recyclable plastic every minute in the form of disposable masks.

Unfortunately, the treatment of plastic waste is not keeping up with the increased demand for plastic products. This mismanaged plastic waste is then discharged into the environment, a large portion of which reaches the soil and the ocean. These masks could take as long as 450 years to break down.

Design Proposal

This disposable mask issue could be seen as a business opportunity. What if we use this plastic waste to turn it into valuable products for the people instead of dumping them into landfills or mistreating them. If not Reverse Vending machines that dispense cash for every mask fed, mask-only bins could be placed for collecting disposable masks from public places, especially from hospitals and airports. These contaminated masks can be treated separately before being turned into this playful pieces of outdoor furniture “Better Half” that would add value to outdoor public spaces.

“Better Half” is a conversation starter. It is pivoted at centre bottom portion which holds the bench raised from the ground. The bench stays tilted in any one direction when not in use or when a person sits on it. In order to sit comfortably on it and use the top to keep your coffee cup you need to get a partner along or find one. The bench encourages you to speak to strangers and share the bench with them while maintaining social distance in the Covid times.

Materials & Technical Details

“Better Half” uses 40mm thick polypropylene boards made from recycled contaminated masks. The process of manufacturing these boards involves a shredder, a mold and a compressor. The masks are shredded into small pieces, heated to the required temperature to turn them into plastic dough and pressed in a mold to manufacture 40mm boards of standard size. The boards can then be cut on a CNC and glued using molten polypropylene itself. The complete bench can be cut from a rectangular board of 1100mm x 1435mm. The assembly is made from five child parts that are glued together. The baseplate and pivot are in Stainless Steel and is bolted into the floor/foundation.

The interesting blue texture of “Better Half” is a result of color variation in the layers of the masks it is made of.

Source of plastic: Disposable masks which are being discarded in millions every minute across the globe
Type of plastic: Polypropylene, 100%
Other Materials Involved: Stainless Steel bottom plate and pivot pin, 10% of the total
Dimensions: Length - 1200mm, Width - 400mm, Height - 690mm, Seat Height - 400mm, Total Weight - 44.5kg
Already in production?: No
Produced by:

Video presentation of the project: https://vimeo.com/manage/videos/679275504

Did you participate in other contests with the same project?:
No

Website: http://mmcubedesign.com/

Link all'application:

https://drive.google.com/open?id=1w-Tp8O7L0p0YnntIsd_hNlY1BHuhyNmv