

Ceramic Waste to Eco-friendly Tableware

Shivani



Glazed recycled ceramics



Mixing recycled material with clay body and testing on Jigger Jolly



Slip preparation and first casting test (Source: www.thebetterindia.com)

PLASTIC waste is a worldwide major concern. However, there are other contenders too that are equally contributing to this ever-growing waste burden on the earth. Ceramic waste (ceramic utensils, tiles, showpieces, etc.) is one among them which does not decompose like plastic; though it does not affect the earth like plastic does but it remains as a dead material under the earth for a longer time or perhaps forever.

According to reports and statistics, in 2014 the global ceramic tiles market stood at 13 billion square metres in terms of volume whereas other reports stated that every year 2,50,000 tonnes of tiles wear out and another ten crore tiles go into repairs.

These statistics led Shashank Nimkar, a Postgraduate student at the National Institute of Design (NID), Ahmedabad, to develop Recycled Ceramic Tableware from industrial waste as a part of his graduation project. According to him, approximately 7.2 lakh tonnes of clay was produced every year out of which 21,600 tonnes of fired pieces went wasted due to manufacturing defects.

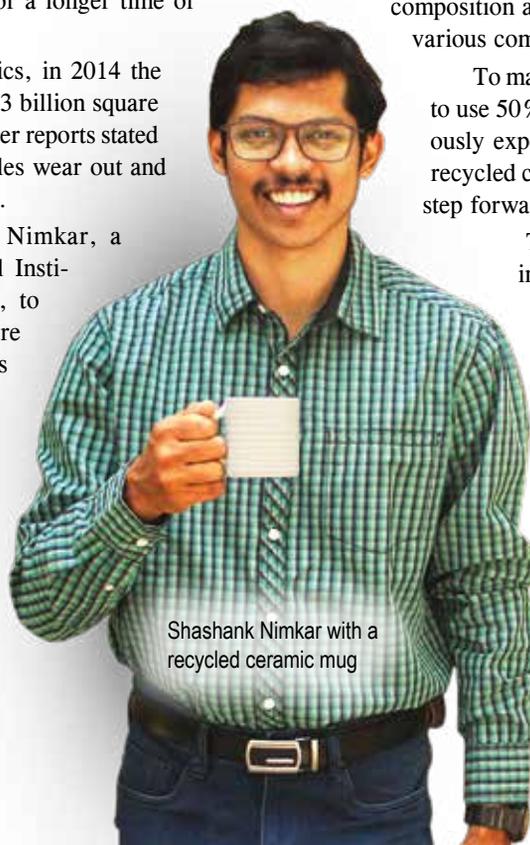
So, Shashank decided to give life to these rejects by recycling them into eco-friendly tableware. Although it is in the initial stages, he

has created a prototype made of 70 per cent recycled ceramic and 30 per cent fresh clay.

During the process fired rejects are crushed to a fine powder and this powder forms the major portion of the product with virgin clay which acts as a natural binder to make the product. He also developed liquid clay slip with this composition and finally with the help of slip casting various complicated forms were developed.

To make it production friendly, he is planning to use 50% of recycled ceramic while simultaneously experimenting with higher percentages of recycled content which could prove to be a major step forward.

The advantages of this new material include reduction of mining of resources used to make ceramic products, productive disposal of waste through recycling, energy and cost-effectiveness and quick casting time for production. The products made out of this clay body are at par with traditional ceramics. Each of the ware is coated with a layer of fresh glaze making it completely food safe.



Shashank Nimkar with a recycled ceramic mug

Contributed by Ms Shivani, CSIR-NISCAIR, New Delhi