

# Up-cycling plastic to build classrooms

Redefine Properties has committed R100,000 to enable Bottle 2 Build Schools (B2BS) to up-cycle plastic bottles into eco bricks. These bricks will be used to construct a 9m by 6m classroom that will accommodate approximately 40 students at the Sedibathuto Higher Primary School in Mapetla Extension, Soweto.



Image source: [Facebook](#)

When construction of the additional classroom is complete it will be as strong as a classroom constructed from bricks and cement as well as cost 40% less. The structure will be naturally insulated i.e. stay warm in winters and vice versa reducing the consumption of additional energy to heat or cool the structure. The classroom will be fully built with less than 8000 Bottle2Build Brick Bottles.

## Interlocking cubic design

Bottleworx, which is supplying bottled water at Redefine's stand at the South African Council of Shopping Centres Annual Congress, uses an interlocking cubic design for its products which transforms ordinary water bottles into building material. Once consumed, the Bottleworx bottle up-cycles into a building block without any further energy consumption or input.

According to Antoinette Coetzee, asset manager: Retail of Redefine Properties, "We need to start thinking outside of bricks and mortar and look at all available solutions to deliver the infrastructure some schools badly need. We believe plastic waste is a good starting point and are excited to work with B2BS who have done some pioneering work with plastic bottles."

According to the latest National Education Infrastructure Management Study (NEIMS, 2014) infrastructure disparity in South Africa's public schools continues to plague delivery of basic education. Pupils polled by consumer insights company Pondering Panda during 2013 said that one of the top three challenges facing learning was overcrowding of classrooms. And according to some estimates, South Africa had 16,000 pupils on the waiting list ready to enter the schooling system in 2016.

According to Coetzee, if more corporates join in the effort to up cycle plastic and realise the benefits of working with wonderful programmes like B2BS, we could have both model and bottle schools.

## **Plastic waste in construction**

The use of plastic waste in construction is gradually gaining traction globally as it represents a different approach to recycling. For one, it is sustainable and waste can be used on the spot without transporting it long distances to recycle, a process which is energy intensive and regarded as highly polluting.

According to Plastics SA, South Africa mechanically recycled 292,917 tons of plastics in 2015. With just two kilograms of recycled plastic required per square metre of wall, South Africans generate enough waste to construct affordable housing and schools in the communities, says Keith Petitt of Bottleworx.

"With our innovative product range we continually strive to make a difference by curbing the careless disposal of waste products," he adds.

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