

Building Schools and Homes from Recycled Plastic Bricks

Lombok, Indonesia



Questions & Answers

How many Block Schools and Block Homes are being constructed by Classroom of Hope?

Classroom of Hope plans to build 11 Block Schools and 10 Block Homes as part of the capacity building and knowledge transfer stage. After completing the factory, we will raise funds to build 200 Block Schools and 4000 Block Homes.

When will the factory be built in Indonesia?

The factory in Indonesia will be built by Q4 2022.

How long does it take to build a Block building?

Depending on how much labour is applied, a classroom can be built in 5-8 hours. A Block Home can be built in 2 days.

What is the cost of a classroom and home made from recycled plastic Blocks?

Initially, while Blocks are imported from Finland, the cost per classroom will be approximately USD 12,000- 14,000 and the cost per home will be USD 13,000 - 15,000. When the Block Factory is built in Indonesia, we anticipate that the cost per classroom will be roughly USD 8,000 - 10,000 and the cost per home will be roughly USD 5,000 - 7,000 because blocks will be produced locally rather than imported.

How many tons of plastic waste does Classroom of Hope plan to recycle?

It takes 2-3 tons of recycled plastic to build a classroom and 2-4 tons to build a Block Home. Based on these numbers, we estimate that 15000 tons of plastic waste will be recycled.

Where will the plastic waste come from?

Once the factory is built, all plastic will be sourced from Indonesia. Until then, we are sourcing Blocks from Finland-based company Block Solutions, which has been sourcing plastic from Europe.

How are the Blocks produced?

The Blocks are produced using an injection moulding process that injects liquid recycled plastic into the moulds. One Block can be produced in one minute.

What type of plastic is used to make Blocks?

PP, PET, and HDPE

Do these buildings get very hot?

The building materials used do not conduct heat. Therefore, these classrooms are one degree lower compared to those built with conventional materials.

What are the fire risks associated with the plastic Blocks?

Block Solutions have undergone testing with their product following NFPA 251 standard test method. The test successfully met the requirements of the test standard for fire resistance for 60 minutes. This 1-hour fire rating is achieved by using 40 mm rockwool and gypsum covering.

Will the establishment of a plastic Blocks factory also get rid of plastic waste from other countries?

Our objective is to fight plastic pollution in Indonesia, and our partnership will build a Block Solutions factory in-country. The waste used to make the plastic Blocks will exclusively come from Indonesia.

Can I buy Blocks?

COH and Block Solutions Indonesia are not yet in a position to sell Blocks to individuals or businesses outside of our project scope. When the Block Solutions factory is built in Lombok, Indonesia (Q4 2022) we will begin to open up sales for Blocks. Block Solutions Indonesia is a commercial social enterprise and will produce and sell Blocks based on capacity and production utilization after the factory is finished.

Are Block Schools and Homes Earthquake resistant?

Block Solution Modular Building Units with less mass (more than 100 times lighter than reinforced concrete) have several advantages. One of the advantages related to its lightweight, in addition to speedy construction, is its seismic design. Based on the fact that seismic forces are inertia forces resulting from accelerating mass, the lower the mass of the building, the lower the seismic design forces. Due to its ultra-lightweight, even during extreme conditions, such as parts of Block Solution units falling due to unexpected large seismic forces, these falling parts will have a minimum harmful effect on the building occupants. [Read more.](#)