HYT

Haileybury Youth Trust [HYT] is a UK charity founded in 1890 with close links to Haileybury College, an independent school in Hertfordshire, England.

The principal objectives of the charity are the education, training and development of young people. Until 2005 the charity operated in the East End of London but decided that there was more work to be done in the alleviation of poverty in East Africa.

HYT and ISSB

Rolling out the ISSB technology in Uganda admirably fits HYT's charitable objects. Young people can be trained in essential construction tasks and taught about the environment and its preservation. Schools can also be assisted with new buildings and vocational training.

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An ISSB water tank under construction at Bupadhengo Primary School

The Process in Photos

1) 12 parts Soil and 1 Part Cement,

2) Mix 3 times, and then add water to dampen,

3) Load Press, pushing into corners,

4) One man presses the lever down,

5) The ISSB is pushed up and taken to test,

6) A grown man can stand on the fresh block to test it:

7) The complete and dried ISSB.

www.haileyburyyouthtrust.com

Low cost, environmentally - friendly construction using the

Interlocking Stabilised Soil Block

HAILEYBURY YOUTH TRUST

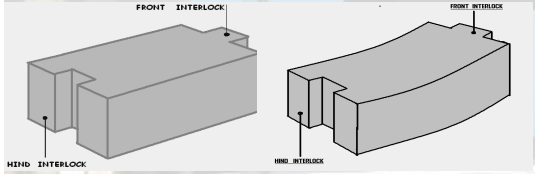
Stabilised Soil Blocks are an old technology that originated in France over 800 years ago. These are blocks which do not need firing in kilns (Tanuli). In the last 25 years Kenya has developed the ISSB technology and the chopping down of trees for firing local bricks was banned. ISSB is now recognized by the Kenya National Bureau of Standards (KSQ 12070).

Since 1991 Dr M K Musaazi, at the University of Makerere, Uganda, has developed ISSB with the introduction of the interlocking feature which results in stronger, cheaper construction.

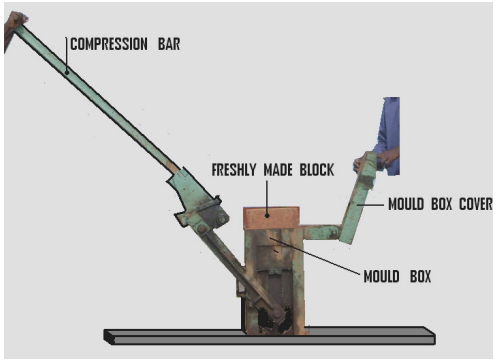
A curved block was also developed for the construction of water storage tanks and latrines.

Manufacture

The blocks contain Soil Cement and Water. These 3 components are mixed together and compacted in the Block Press into the shape you see here:



The machine, as seen below, is operated by 2 people and can produce up to 500 blocks per 8 hour day.



Technical Data

The Data collected from laboratory tests and field experience is stated below:

Mixing Quantities: 12 Spades Soil: 1 Spade Cement (+ water to moisten). This means that one bag of cement will mix with 12 wheel barrows of soil. Mix three times then add water.

Size of the ISSB: 280 x 140 x 110mm

Weight of the Block: 8.5kg

Coverage: 26 Blocks per $1m^2$ of wall, including mortar (where mortar does not exceed 5mm)

Cement: One bag will create mortar for 500 blocks.

Plaster: One bag of cement will cover $21m^2$ of wall.

Compressive Strength: 250-400kg/mm^2 (2.5–4 kN/mm^2)

The Soil: Soil comes in various different forms; the best, however has small stones in it. It must not contain any organic matter.

Advantages of ISSB

1 The blocks are manufactured on site, from any soil that is free from organic matter. This means there is no damage in transit and blocks can be made to exact numbers required. The soil used can be from any pit latrine, septic tank or indeed from foundations or levelling

2 The amount of cement needed to stabilise each block ranges from 425g to 600g. Marram Soil requires the least amount. One bag of cement can make up to 150 blocks

3 The blocks are cured rather than fired and covered and stacked to prevent surface water damage

4 The blocks are ready to use within a week of manufacture. In practice construction can continue as blocks are being made

5 The Blocks are weather resistant and can be used in all parts of the building, including foundations. This feature enables them to be used for water and septic tanks, where a higher cement concentration is used

6 As each block is uniform in shape less mortar and less plaster is needed and this further decreases the cost of construction

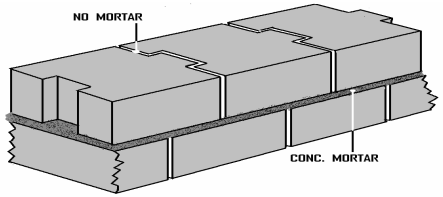
7 The 8.5kg block is double the size and weight of a fired brick, meaning that half the number of blocks are needed. This makes a much stronger structure, especially as it is combined with the interlocking feature

8 As the ISSB does not need firing there is no need to cut trees down to make the blocks. The use of 3000 ISSBs saves 10 tonnes worth of trees and drastically reduces carbon emissions

The ISSB is environmentally-friendly, sustainable, and economical

Construction

The interlocking nature of the block means the stability of the construction is greatly increased. It also means that no mortar is needed between the blocks, only on top and below, which increases the savings made:



The simplicity of the process allows for training and employment opportunity among partners and communities.

For more information please make an appointment by either email or phone