

Introducing Compressed Stabilised Earth Blocks (CSEB) *To KDN ARCHITECTS*

*Presented to Mr Dishanthan Karthigesu
BSc. Hons in Architecture*



Abstract: InnoBlock are pleased to introduce the CSEB blocks they produce to Mr. Dishanthan Karthigesu, B.Sc. Hons in Architecture of KDN ARCHITECTS. Short and detailed answers to the questions posed by Mr. Karthigesu given in this report. InnoBlock are committed to making Grade 1 quality blocks, meaning dry compressive strength over 6MPa. InnoBlock will provide internal compressive strength test reports for every 1,000 blocks delivered to their customer. Furthermore, for every 100 internal tests a set of 15 blocks are send to the NBRO for independent external test and these results can also be made available to the customers. InnoBlock will be pleased to answer any technical or commercial questions related to supply of these CSEB blocks. Delivering blocks to Dambulla can be achieved at relatively low cost.

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Summary

InnoBlock have been involved in CSEB block making in Sri Lanka since 16-03-2020 and have made over 429592 blocks and supplied to 50+ homeowners to build their homes in Mullaitivu, Kilinochchi Batticaloa and Negombo. Although the blocks were manufactured in Mullaitivu, they were transported to Batticaloa and Negombo with minimum damage during transport ie a maximum of 3 blocks damaged when 4,000 blocks were transported.

The blocks manufactured in the yard are tested internally and are also sent to the National Building Research Organisation (NBRO) for independent tests. Our internal tests show that they are more rigorous than the NBRO's tests. Both tests confirm the blocks produced are of grade 1 quality, corresponding to the SLS Standards 1382 Part 1 and 2.

This information booklet had been specially developed to answer the quarries raised by Mr. Dishanthan Karthigesu. It also gives copies of the test results, as well as the dimensions and other technical details.

To address the questions, only the questions and short answers are given in the next section as summary 2. Details are given in the main text of the report and mapped in this summary 2.

Summary 2

InnoBlock are very pleased Mr Dishanthan Karthigesu had asked some very interesting questions and the response is given in this summary 2 as short answers. Details are also given in this report with relevant sections numbers marked.

<p>1.The mixing details and Material details. Detailed answers are in Section 2.3and in Section 3</p>	<p>Cement is added for stabilisation. The quantity will vary based on the parent material, which is the gravel with sand, clay and slit. If the clay content is low more cement is added.</p> <p>Cement is added for stabilisation, and it is normally 5%. It may be reduced to 4% if the clay content is sufficient. If the parent soil is gravelly meaning more gravel, then 6% cement is used. At InnoBlock we avoid high clay content as it will tends to shrinkage cracks. Normally we do not make more than 80 blocks per a 50kg bag of cement.</p>
<p>2. The blocks are how respond to the site? Details answers are given in 7</p>	<p>Not quite sure of the questions if it is whether any creepers can be grown on the wall, then the answer has to be depended on the type of creeper. Details given in 7</p>
<p>3. What are the benefits when we are using these materials (blocks)? See detailed answers in Section 4</p>	<p>There are many benefits, and the prime benefits are the strength. All InnoBlock's strength are above 6MPa which makes them Class I blocks as per SLS standard 1382. Furthermore, due to the low thermal conductivity the temperature inside the building (houses) is low enough it does not warrant any air conditioning.</p>
<p>4. What are the types of blocks? See detailed answers in Section 5</p>	<p>There are three main types of blocks namely Interlocking blocks, Hollow blocks, and Solid blocks. For each of these types of blocks there are U Blocks, and the details are given in section 5.</p>
<p>5. How do you make it? See detailed answers in Section 2</p>	<p>There are three parts to producing these blocks. They are given in detail in the main part of this report, but a summary is given here. Selection of raw material in section 2. Samples of raw material is collected in the quarry and tested in the yard and where necessary given to the labs for tests.</p> <p>There is a procedure for making the blocks and the staff are trained. They record the key data as they produce the blocks. Once the blocks are produced, they are cured and tested for compressive strength before delivery. Results are given in Sections 9 and in Section 10</p>
<p>6. Price range? See detailed answers in Section 8</p>	<p>InnoBlock has a strict pricing policy and do not believe in trying to sell the blocks as much as possible and give discount if the customers asks and bargain well.</p> <p>There is a fixed pricing policy, and it is given in section 8. The selling price is Rs45/= for customers to collect at the gate. The blocks delivery can be arranged to Dambulla town within 20Km transport cost Rs9/= loading cost Rs3/= customers have to organise unloading. Since the delivery is by an external company the actual cost has to be agreed at the time of delivery.</p>
<p>7. Reference images of making blocks and the places has used? See detailed answers in Section 6</p>	<p>The list of houses where the CSIB InnoBlock blocks are used are given in section 6</p>

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