CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

For past 60 year, technology to development and improve had been done by the researcher to seek the convenience way due to the technique of manufacturing and constructing this interlocking block. Interlocking blocks system is an alternative way to replace the conventional building material that can be used as a structural member like column and wall and no formworks are needed. Interlocking Blocks comes in various shape along with various dimension. This was depending on the manufacturer of the blocks. There are full blocks dimensions of 300x 150x 100 mm for all standard walls (single or double brick thick). For bricklaying purposes, half blocks that with dimension of 150 x 150 x 100 mm was also being used. For masonry method, interlocking block beam is alternative to solve the problem to replace the conventional method using the formwork

1.2 PROBLEM STATEMENT

When external walls are exposed to water from different sources such as rain, water can enter building, with some cases travelling laterally from outer walls to internal walls.
The water may be cracks in bricks or pointing are letting the water flow in, or weather conditions may just mean that walls stay damp without getting the opportunity to dry out any cracks in pointing and brickwork can cause a difference in the water absorbency of different areas of the walls, some areas of the wall will absorb more water than others part. In order to overcome this, the way of how to assemble the wall will be studied. This is important so that we can determine which type assemble is the best water resistance and hence, can save may cost by using interlocking block with good water resistance.

1.3 OBJECTIVE OF STUDY

The objectives of this proposed topic are as follows:

I. To test compressive strength of the blocks
II. To study the porosity of interlocking block
III. To test the water resistance of the interlocking block wall with three different conditions:
   1. Block wall with normal assemble and with mortar pointing
   2. Block wall with assemble that add mortar as infill with mortar pointing
   3. Block wall with assemble added with grout around the block
IV. To examine the effect of different assemble on the water resistance of interlocking block wall

1.4 SCOPE OF STUDY

The scope of this study are as follows :

1. Produce 100 interlocking Compress Stabilized Earth Blocks (CSEB).
2. The determine sieve analysis test.
3. To test the compressive strength of the interlocking block.
4. To determine the porosity of interlocking block using vacuum saturation method. The first brick be not added with anything. The second brick will be added with mortar as infill.

5. To design and build small room with 1m x 1m x 1m dimension using interlocking block with each assemble each 1m wall

6. To determine the water resistance of the block wall by pouring the interlocking block wall with water. Time will be recorded for the water to pass through the interlocking block wall.

1.5 SIGNIFICANCE OF STUDY

The research study could provide information on the issues of water resistance in interlocking block wall. Furthermore, this study would also be a review on the development of interlocking block especially in Malaysia because in Malaysia, the construction using interlocking method is still new. Besides that, this study would also be beneficial to the constructor in Malaysia particularly as this study enhance the knowledge of effect of different type of assemble of block wall towards water resistance. The research will also helps to have a deeper understanding about the problem statement and objectives of the research. This would expectedly heighten the awareness about the important of interlocking block towards water because it can reduce the strength of the interlocking block. For the future researchers, this study definitely can provide information so that improvement can be added in the future.