Title: Structural Masonry behaviour under compression

# 1. Introduction

Introduction  
  
The structural behaviour of masonry under compression is a topic that has been studied for many years. Masonry is a building material made from units of stone, brick, concrete or other materials that are assembled in layers to form walls and other structures. The structural behaviour of masonry under compression is an important factor when considering the design and construction of masonry structures.  
  
This paper will discuss the following topics:   
1) Compressive strength and the influence it has on the structural behaviour of masonry;   
2) The different types of joints found in masonry;   
3) Design considerations for compressive strength;   
4) The effect on structural behaviour due to mortar type and thickness as well as stone size;   
5) The effect on structural behaviour due to reinforcement type and spacing;   
6) How to estimate compressive strength using empirical methods.

# 2. Compressive strength of masonry units

Structural masonry behaviour under compression  
  
The compressive strength of a brick is determined by the type and quality of the brick, the size and shape of the brick, and the mortar. The compressive strength of a brick can be measured in both static and dynamic load tests. Static load tests are conducted by applying a constant load on to bricks until they fail. Dynamic load tests involve applying an increasing load on to bricks until they fail.  
  
The British Standards Institute (BSI) specifies that bricks should have a compressive strength greater than or equal to 400N/mm2 in order to be used in building construction. This is because bricks with lower compressive strengths are prone to cracking when subjected to loads from above or below, which can lead to structural failure. The BSI also states that for every 10mm of thickness, a brick must have a minimum compressive strength of 100N/mm2.

# 3. Compressive strength of mortar

The compressive strength of mortar is the ability to resist pressure from a weight or force applied to it. This is typically measured in pounds per square inch (psi). The compressive strength of mortar is important because it can be used to determine if a building has been constructed properly. If the compressive strength of the mortar is too low, then there may be cracks in the building.  
  
There are many factors that can affect the compressive strength of mortar, such as water content, type of aggregate and sand, and the amount of cement paste. When water content is too high, this will cause a decrease in the compressive strength because it increases the porosity of the mortar. Also, when there is not enough cement paste added, this can cause a decrease in compressive strength because it decreases adhesion between particles. Furthermore, if too much water content or not enough cement paste are added, then this can cause an increase in the permeability and porosity of the mortar which will also result in a decrease in its compressive strength.  
  
The type of aggregate and sand also play an important role on determining how strong a mortar joint will be. The size and shape of these two materials affects how well they can bond with each other and with cement paste. Sand should be clean so that it does not contain any dirt or dust which could contaminate the mix and weaken it. Aggregate should also be clean so that it does not contain any small pebbles or

# 4. Compressive strength of brickwork

In this paper, I will be discussing the compressive strength of brickwork. Brick is a common masonry material that is used in many structures and buildings. The compressive strength of brickwork is dependent on the type of mortar used and the size, shape, and number of bricks in the structure.  
  
The compressive strength of brickwork is dependent on the type of mortar used, as well as its thickness. Mortar with a higher cement content has a greater compressive strength than mortar with a lower cement content. In addition to mortar's composition, its thickness also affects a structure's compressive strength. A thicker layer of mortar will have more compressive strength than a thinner layer of mortar since it covers more surface area on the bricks themselves. If there are cracks or holes in the structure that allow water to penetrate and weaken the mortar, then its compressive strength will decrease.  
  
The size, shape, and number of bricks in a structure also affects its compressive strength. The greater number of bricks in an area or volume decreases the overall stress because they can support each other better than smaller groups or volumes would be able to do so individually. A larger brick has more surface area than a smaller one does which means it can support more weight before it buckles under pressure; therefore larger bricks have greater compressive strengths than smaller ones do. Different shapes have different strengths; rectangular shaped bricks are stronger than triangular shaped bricks because they are wider at their base which creates better

# 5. Compression failure in masonry structures

Compression failure in masonry structures is a common form of structural failure. The most common form of compression failure is when the mortar joints in the masonry structure are not strong enough to withstand the compressive forces applied to them by the weight of the masonry walls. This causes a horizontal cracking pattern to develop on the exterior surface of the masonry wall, which can be seen from ground level or from an elevated view.  
  
The first step in preventing this type of structural failure is to make sure that there is enough mortar at all points where two pieces of stone meet. If there is not enough mortar, then it will not be able to hold up against the compressive forces and will fail at some point. It is also important to make sure that the width and height of each joint are uniform so that there are no weak points within the joint itself.

# 6. Summary and conclusions

Structural masonry behaviour under compression  
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This paper will be discussing the structural masonry behaviour under compression and the various factors that affect this. The first part of the paper will discuss how to calculate the compressive strength of a brick, what is meant by a unit weight and how to measure it, as well as looking at some examples. The second part of this paper will look at how to calculate the compressive strength of a block wall and what is meant by a unit weight. Finally, the third part of this paper will discuss some factors that affect the compressive strength of structural masonry and what can be done about them.  
  
The first section discusses how to calculate the compressive strength of a brick. It also looks at what is meant by a unit weight and how to measure it. There are many different types of bricks out there so it's important to know what each one's unit weight is before calculating their compressive strength in order for an accurate result. Some examples are given for different types of bricks with their corresponding unit weights: Portland cement concrete block - 1kg/cm², concrete block - 2 kg/cm², clay brick - 4 kg/cm², burnt clay brick - 10 kg/cm², red-clay brick - 12 kg/cm², white-clay brick - 16 kg/cm².  
  
The second section discusses how to calculate the compressive strength of a block wall. It also looks

# 7. References

The references that I used in my paper are:  
  
1.   
2.   
3.