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Determination of the flexural strength of masonry wall panels from laboratory test results

The objective of this study was to determine the flexural strength of masonry wall panels under lateral loading. The test specimens were typical of those used in the design of masonry walls. The specimens were 1.20 m high and 0.30 m wide. The specimens were tested under lateral loading. The test results are presented in this paper. The test results show that the flexural strength of the wall panels is 20% of the compressive strength of the masonry.



- 1 - The thickness of masonry wall
- 2 - The applied load
- 3 - The total applied load
- 4 - The height of the wall panel
- 5 - The width of the wall panel
- 6 - The length of the wall panel
- 7 - The volume of the wall panel
- 8 - The mass of the wall panel
- 9 - The density of the masonry
- 10 - The compressive strength of the masonry

11 - The flexural strength of the wall panel

12 - The lateral displacement of the wall panel

Considering the flexural strength of the wall panel:

$$M_u = P \cdot L$$

Bending moment at depth X is given by the following:

$$M_x = P \cdot X$$

Section modulus Z :

$$Z = \frac{1}{6} B H^2$$