

Applied Stress Equations-Walls with Axial Load Combined With Bending Moment

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Abstract:

Equations are developed using linear elastics, small deflection, principles of mechanics for walls with bending and compression applied. Given the strengths of the materials, area of reinforcement, the section geometry and the applied axial and bending loads, the method solves for the stresses in the masonry and reinforcement. The equations are easily solved without the use of a computer. An example calculation is presented. They can also be used to develop a table for the location of the neutral axis as a function of non-dimensional parameters. An example table is presented in the paper.

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