

Statistical Requirements for Masonry Testing

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Abstract*:

A standard for the limit state design of masonry is presently under development in the United States. The probabilistic nature of both the loading and the structural resistance are considered in limit state design. This requires that the probabilistic basis for determining material properties be known.

Current ASTM standards relating to masonry were reviewed to determine sampling requirements, required numbers of tests and reporting requirements. Results show a wide variation in requirements ranging from up to ten specimens for tests on clay brick units to three tests for prism strength tests. The numbers of tests required for each standard likely reflect past historical practice and cost per test in addition to expected variability of the test variable. Further, most of these tests were originally developed as acceptance tests rather than tests to obtain design values.

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