

DEPARTMENT OF TRANSPORTATION
ENGINEERING SERVICE CENTER
 Transportation Laboratory
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METHOD OF TEST FOR SHEAR STRENGTH OF BRICK CORES

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read “SAFETY AND HEALTH” in Section G of this method. It is the responsibility of the user of this method to consult and use appropriate safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. SCOPE

This test method describes the procedure for determining the shear strength of a standard 150-mm Brick Core.

Load is in newtons
 Area is in square millimeters
 Shear strength is in megapascals

B. APPARATUS

Use the special double shear-testing fixture as shown in Figure 1.

F. REPORTING OF RESULTS

Report the shear strength load in MPa on Form TL-507.

C. TEST SPECIMEN

The test specimen requires no special preparation for testing, except that it shall be taken with a standard 150 mm coring drill.

G. SAFETY AND HEALTH

Prior to handling, testing or disposing of any waste materials, Caltrans testers are required to read: Part A (Section 5.0), Part B (Sections: 5.0, 6.0, 10.0 and 12.0) and Part C (Section 1.0) of the Caltrans Laboratory Safety Manual. These sections pertain to requirements for general safety principles, standard operating procedures, protective apparel and how to handle spills, accidents and emergencies, etc. Users of this method do so at their own risk.

D. TEST PROCEDURE

1. Place the holding fixture in a testing machine.
2. Insert the test core into the fixture and adjust the fixture so that the brick and grout lines are at the edge of the tubes.
3. Set the load-applying collar on the exposed section of grout. Apply load until failure, maintaining the rate of loading within the range of 0.14 MPa to 0.35 MPa per second.

REFERENCE:

Title 21, Section 404, Public Works, California
 Administrative Code

End of Test (California Test 644 contains 2 pages)

E. CALCULATION

Compute as follows:

$$\frac{\text{Load}}{2 \times \text{area}} = \text{Shear strength}$$

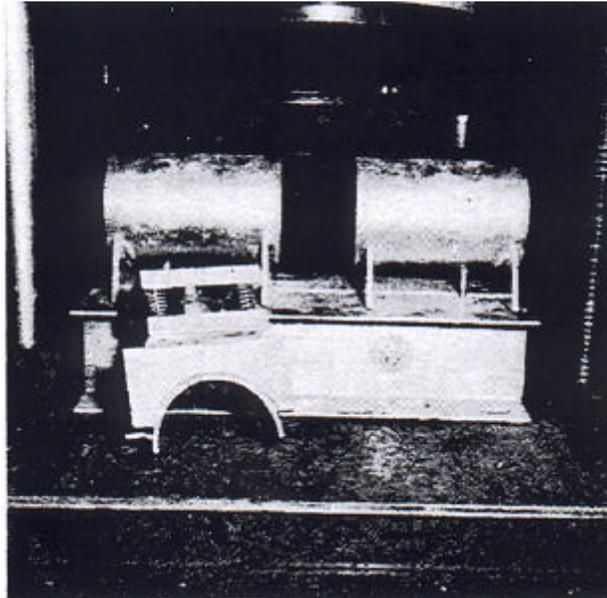


Figure 1

Special Holding Fixture

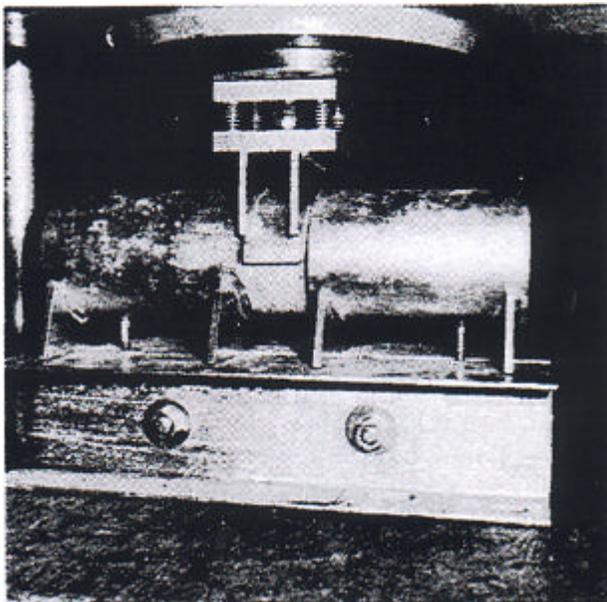


Figure 2

Brick Core in Testing Fixture