OHD L-6
METHODS OF TEST FOR
COMPRESSIVE STRESS AND RESILIENCE
OF ELASTOMERIC MORTAR

I. **SCOPE.** The purpose of this method is to determine the compressive stress and resilience of elastomeric mortar.

II. **APPARATUS.**

A. **Specimen Molds,** for 2 inch (5.08 cm) cubes.

B. **Testing Machine,** of sufficient capacity which provides the loading rate specified and is accurate within ± 1 percent.

C. **Calipers,** readable to 0.001 inch (0.01 mm).

D. **Dial Gauge,** readable to 0.001 inch (0.01 mm).

E. **Timer,** readable to 1 minute intervals.

III. **PROCEDURE.**

A. Prepare the specimen of elastomeric mortar in 2 inch (5.08 cm) cubes so as to have flat, parallel opposing faces free from irregularities.

B. Cure the specimen at room temperature 72° ± 5° F (22.2° ± 2° C) for 7 days. Test the specimen at this temperature.

C. Measure and record the initial thickness of the specimen to the nearest 0.001 inch (0.01 mm).

D. Place the specimen in the testing machine and apply a 100 pound (45.4 Kg) initial load. Zero the dial gauge. Load the specimen at a rate of 0.15 inch (3.8 mm) per minute until the dial gauge indicates a deformation of 0.10 inch (2.5 mm). Record and release the compressive load at this point and start the timer.

E. Allow the specimen to rebound for 5 minutes. Measure and record the final thickness of the specimen to the nearest 0.001 inch (0.01 mm).

IV. **CALCULATIONS.**

A. The Compressive Stress of elastomeric mortar is calculated to the nearest psi, as follows:

$$CS = \frac{CL}{4}$$

Where:

CS	=	Compressive Stress in psi,
CL	=	Compressive Load in Lbs.,
4	=	Initial Area of Cube in Square Inches.

B. The Resilience of the elastomeric mortar is calculated to the nearest percent, as follows:

$$R = \frac{0.10 + FT - IT}{0.10} \; x \; 100$$

Where:

R	=	Resilience in Percent,
FT	=	Final Thickness in Inches,
IT	=	Initial Thickness in Inches.

V. **REPORT.**

A. Report the Compressive Stress to the nearest psi.

B. Report the Resilience to the nearest percent.