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AC232001

LABORATORY REPORT

TO: A. M. Ehret

FROM: R. F. McKee

Copies to: S. Carre
R. M. Kinsey
J. L. McAllister

DATE: February 21, 1955

SUBJECT: Calcium Silicate Test Data

Attached are test data on various calcium silicates and also on Carey Super Tempchek.

The Ehret A is batch 194 dried in the plant dryer. Ehret B is the same formulation dried in the incubator.

Material referred to as the Celite is subject to be Manville production prior to 1954; the new Celite is more recently manufactured material.

The data reported is the average of two samples of 1" thk. block except the Tri-Calite, which was run on 2" thk. block.

Heat soak tests were run for at least 16 hours at the indicated temperatures.

Underlined values indicate a failure to meet the requirements of either Military specification MIL-I-27211 for Grade III, Class C, Type I or Federal Specification HH-I-558a.

Where the test results are lower than those advertised by the manufacturer, they have been circled.

A resume of visual observations is included.

The test work reported here was carried out by A. Clawson.

AC 232002

## VISUAL OBSERVATIONS

Calsilite. O.K. at 1500°F. Cracked, warped and shrank excessively at 1650°F.

Kayle. O.K. at 1000°F. Cracked on contact surface at 1200°. Excessive shrinkage, warpage and heavy cracks at 1300°.

Laret A. O.K. at 1000°F. Surface chipped at 1200 and 1300. Softened at 1650. Warpage and shrinkage O.K. at 1750, but very soft and friable.

Laret B. O.K. at 1000°F. Surface chipped at 1200 and 1300. Blue green color appeared at 1500. O.K. but soft at 1650. Very soft, fragile at 1750.

Caltemp (New and Old). O.K. at 1170°F. Excessive shrinkage warpage and cracks at 1325°.

Super Temprek. O.K. at 1375°. Excessive shrinkage and cracks plus some warpage at 1725°.

Raytherm. O.K. at 1325. Excessive shrinkage warpage and cracks at 1425.

Tri-calite. O.K. at 1170. Warped, split, cracked and shrank at 1425.

Thermobestos. O.K. at 1650. Shrinkage at 1225 just over limit. Excessive shrinkage, warpage and cracks at 1300.