

GRACE CONFIDENTIAL

CONSOLIDATED MONTHLY REPORT

OCTOBER 1972

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W. R. GRACE & CO.

RESEARCH DIVISION

WASHINGTON RESEARCH CENTER, CLARKSVILLE, MARYLAND 21029
Telephone 301 - 531-5711



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MONTHLY REPORT FOR OCTOBER 1972

CONSOLIDATED EDITION

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REFORMULATION AND EVALUATION OF MONO-KOTE (Project 2659)

The broad objective of this program has been to develop an asbestos-free replacement of MK-III which would give equivalent Underwriters' Laboratories test results. This objective has been met except for a few minor points by the development of MK-V. CPD is planning to fully commercialize the product and replace MK-III and MK-IV in 1973. The purpose of the current Mono-Kote program is:

- (1) Determine the effect of environmental conditions on curing of MK-IV and MK-V.
- (2) Determine the factors promoting shrink-crack.
- (3) Determine the effect of gypsum manufacturing techniques on Mono-Kote properties.
- (4) Determine means for mold-growth inhibition.

Laboratory work on item (1) has been completed. The Mathematics Department is analyzing results. Data on item (2) are being obtained but work is progressing slowly. Effort is being made to quantify the data. No additional data are available on item (3).

An important problem has arisen in recent months concerning the growth of common black mold on several commercial installations of Mono-Kote. Laboratory studies at WRC have shown that sodium propionate and Hyamine 2389 have fungicidal activity to stop this growth. Both fungicides have been field tested at a commercial installation in Washington, D. C. and results appear favorable in arresting mold growth.

(Legal, Kraus)

ZIC PRODUCT IMPROVEMENT (Project 2681)

The objective of this project is to produce Zonolite insulating concrete (ZIC) at wet densities below 50 pcf and dry densities below 28 pcf with properties comparable to the present product. It has been demonstrated that the use of a combination of the Allentown pneumatic gun and the Waukesha foam generator enables attainment of the stated objectives. Products have been made at wet densities in the 35-40 pcf and dry densities in the 23-28 pcf ranges. Water content of the freshly applied material has been reduced from the present $3\frac{1}{2}$ to 4 gal/ft³ down to 1.7 to 2.5 gal/ft³. Properties of the dry material, especially compressive strength, are comparable to the present product in laboratory testing. It is possible to apply ZIC at both 6:1 and 8:1 volume percent vermiculite-cement to vertical or overhead surfaces.