WV-0174 #3

UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS
ENGINEERING
SOUTH CHARLESTON, WEST VIRGINIA

PLAINTIFF'S EXHIBIT
UC-3724

MEMORANDUM

February 6, 1973

C. S. Hines

Copies

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Insulation Standards Team

STATUS OF FIRE TEST FOR ASBESTOS-FREE INSULATION

Stimulated by standards promulgated by the Occupational Safety and Health Administration, the major manufacturers of calcium silicate insulation have introduced new products which contain no asbestos. As these new products become readily available, the old asbestos - containing materials will be phased out. The new asbestos-free products have satisfactory thermal and chemical properties; however, their characteristics when exposed to fire are unknown. For this reason the Insulation Standards Team has requested the Fire Research Laboratory to run a new series of fire tests on the new asbestos-free calcium silicate material. The testing requirements have been formulated in collaboration with the Insulation Standards Team, Engineering Fire Protection Group and the Fire Research Laboratory.

The test procedure used in the past included the use of a 4'x7' pan in which gasoline was burned as the fire source. Burning gasoline produces clouds of black smoke for a maximum duration of one hour. Present day air quality standards will not allow this amount of pollution under normal conditions. A variance can be obtained to do this testing with gasoline at our Blue Creek location; however, due to the remote location, this would necessitate a very inefficient use of men and materials. As an alternate the Fire Research Lab is presently developing a new test procedure that utilizes a non-smoking fuel. Following is a general time table being followed to complete these tests:

1. Run preliminary tests to determine which non-smoking fuel most closely approximates gasoline. Hexane fuel was selected. — Jan. 15 thru Feb. 2 (done)

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2.	Run initial hexane fire tests on old asbestos - containing insulation to obtain control standards and to confirm correlation of hexane with gasoline when plotting ASTM Time-Temperature Curve.	Feb. 9 thru Feb. 16 (in progress)
3.	Run outside fire tests on three new asbestos-free calcium silicate insulations to determine their relative fire-resistive properties.	Feb. 20 thru Mar. 1
4.	Run additional fire tests on new asbestos-free calcium silicate insulations for all combinations of thicknesses and weather berriers.	Mar. 1 thru Apr. 1
5.	Run fire tests on other new products such as Ceramic Foam, mineral wool pipe covering and asphaltic-based mastics.	Remainder of 1973 as needed

Several Gulf Coast Plants have been using some of the new asbestos-free calcium silicates with success without knowing their fire resistive properties. In addition, several projects are presently being designed for which insulation material contracts will need to be negotiated by early March, 1973. Therefore, our immediate need is the results from Step 3 of the above schedule. After the results of Step 4 are obtained, sufficient data will be available to select the best materials for inclusion in a permanent Group I Insulation Standard. Although of lesser urgency, the results from Step 5 will be required for several promising materials before Group I approval can be given.

E. C. Powell, Jr.

ECP:jb

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