FILE NAME: Owens-Corning (OC)

DATE: 1963 June 20

DOC#: OC121

DOCUMENT DESCRIPTION: Memo - Methods for Evaluating Kaylo Dust

OCF

INTRA-COMPANY CORRESPONDENCE

JUN 26 1963

Mr. J. H. Boynton - New York

William A. Lotz - Granville

Date June 20, 1963

cc Mr. R. C. Amos - Berlin
Mr. R. E. Davis - Newark
Mr. A. S. Kevlin - New York
Mr. O. W. Pfiefer - Toledo
Mr. J. B. Rhoads - Berlin
Mr. H. V. Smith - Toledo
Mr. J. M. Westlake - Granville

METHODS FOR EVALUATING KAYLO DUST

There are several associated problems involved in the category of Kaylo dust. These can be broken into three specific problems as follows:

1. The amount of dust which occurs on the surface of the material which becomes bothersome when handling the product.
2. The dust becomes airborne when the product is cut or fabricated.
3. The health hazard of the dust with respect to asbestosis.

The current OCF Test Method No. M-07B is a measure of only the surface dust and does not give any indication of the other two problem areas. From what I have been able to ascertain, the primary dust problem with any insulation material is the dust that becomes airborne when the product is being fabricated. This becomes a serious problem in any location where a fabrication shop is set up and a large quantity of dust is being generated in a confined area. This is the case in the Union Carbide Chemicals Company Institute, West Virginia, Insulation Fabrication Shop which I visited on May 16, 1963. I discussed the problem of dust and dust measurement with Mr. Robert B. Peele, the industrial hygienist. They utilized a standard dust impinger for collecting samples. The procedure for measuring the amount of dust is involved and requires several pieces of small equipment which we do not have in our laboratory.

Based on the threshold limit values of the American Conference of Governmental Industrial Hygienists, the maximum allowable asbestos dust in the air where people are working is 5 millions of particles per cubic foot of air. Based on the asbestos content of Kaylo, this would be a limiting value of somewhere between 20 and 30 millions of particles per cubic foot of air of Kaylo dust above which a definite health hazard would exist. According to the measurements made by Union Carbide in their fabrication shop with the dust collection system in operation, there was approximately four to 18 MPPCF with an average of 10 MPPCF using Kaylo. However, when Thermobestos is used under the same circumstances, the dust count exceeds 100 MPPCF which means that Thermobestos is a definite health hazard. These values were given to us by Mr. Peele as Brand X rather than by their actual name, but we know from past experience that the material is Thermobestos.

The OCF Test Method shows Thermobestos to have less dust than Kaylo which might be expected as Thermobestos has molded surface areas whereas Kaylo blocks are cut and hence will have residual saw dust on the surface. I have in my files all of the details of the exact procedure that Union Carbide follows in collecting and analyzing dust samples. I am not too certain that their procedure is representative for the general case, but it is also obvious that the present OCF Test Method M-07B is not answering our basic dust problem.

I recommend that as soon as man power permits our Test Method Development Group begin the assignment of more completely evaluating the dust problem and evolving a method which comes closer to evaluating all of the facets of the dust problem. This method should be made applicable to other products such as GPL-400, etc.

Bill

William A. Lotz
Product Testing

WAL:vv