

~~EXHIBIT~~
~~S. VERDICT~~
MAY 3 1984

FILE LIBBY
APR 20 1984

PLAINTIFF'S
EXHIBIT
WRC-1221

Zonolite

Construction Products Division

GRACE

Return to Eschenbach

TO: H. A. Eschenbach

DATE: April 17, 1984

FROM: J. R. Hindman

SUBJECT: Flammability of SBO-
Treated Vermiculite
Concentrates

cc: L. A. Vazquez, W. J. McCaig

Recently you inquired about the possible hazards associated with SBO-treated Vermiculite concentrates. Refined soybean oil has the following properties: smoke point, 450°F.; flash point, 625°F.; and fire point, 685°F. It has been our experience that the oil coating does not ignite in normal assay procedures where the furnace temperatures are about 1750°F. Samples of concentrate treated at dosages ranging from 4 to 15 lb/ton have been heated to 500°F. and exposed to an open flame with no visible effect.

As you know, soybean oil is used as a binder for grain dusts. According to the American Soybean Association (Dr. David Erickson), the small amounts of oil which we are applying would pose no hazard as a result of oxidation during bulk storage of treated product.

The only noticeable effect from aging of the treated product is development of a rancid odor after six months.

J.R.HINDMAN:ch

Any thoughts?? Somehow, I would prefer that our open flame tests more done after heating to above the flash point.

Harry

10001542

MAY 4 1984

NO QUESTION SBO BURNS (EVEN AT A RELATIVELY HIGH TEMP.).
TO DETERMINE IF THIS IS EXPECTABLE WE NEED TO
REVIEW END PRODUCT USE VS. NEW FLAMMABILITY
CHARACTERISTICS.

Bill

1984 S. VENUTI

APR 26 1984

Zonolite
Construction Products Division

GRACE

TO: ~~H. A. Eschbach~~

DATE: April 17, 1984

FROM: J. R. Hindman

SUBJECT: Flammability of SBO-
Treated Vermiculite
Concentrates

cc: L. A. Vazquez, W. J. McCaig

Recently you inquired about the possible hazards associated with SBO-treated Vermiculite concentrates. Refined soybean oil has the following properties: smoke point, 450°F.; flash point, 625°F.; and fire point, 685°F. It has been our experience that the oil coating does not ignite in normal assay procedures where the furnace temperatures are about 1750°F. Samples of concentrate treated at dosages ranging from 4 to 15 lb/ton have been heated to 500°F. and exposed to an open flame with no visible effect.

As you know, soybean oil is used as a binder for grain dusts. According to the American Soybean Association (Dr. David Erickson), the small amounts of oil which we are applying would pose no hazard as a result of oxidation during bulk storage of treated product.

The only noticeable effect from aging of the treated product is development of a rancid odor after six months.

J.R.HINDMAN:ch

Any thoughts?? Somehow, I would prefer that our open flame tests more done after heating to above the flash point.

PROBABLY

Harry

10001544

1

SECTION I

A. POLYSTYRENE

1. Polystyrene Recycle - Design for modifications to the existing double-bag fines collection system at Fallsington have been complete. The modifications employ the recycle transfer blower's air velocity to facilitate separation of the fines from the larger size recycle product. Upon completion of fabrication of equipment at Travelers Rest, the system is planned to be installed at Fallsington during April.
2. Zellwood Fusion - Manufacturing management has requested engineering assistance to determine if Zellwood flexural strength properties can be improved. Test plans were completed to evaluate fusion gradients in the Zellwood mold. Testing is scheduled for mid-March and will use the Q.C. flexural strength equipment for timely results.

B. VERMICULITE

- I know
these would
be "no free
lunch".*
1. SBO Treated Concentrate - Dallas has reported excessive smoke emissions while expanding SBO treated concentrate in their Model G furnace. Additionally, baghouse bags must be replaced more often with use of SBO treated concentrate. Ostertog has outlined a program to evaluate alternatives to eliminate the smoke. Initially, the location of smoke generation will be determined by air flow and combustion analyzing equipment. Based on locations and amount of smoke, alternatives such as reacting, absorbing, condensing, burning and filtering will be conceptually evaluated.

Initial testing will likely be completed by April 6.

2. Vermiculite Expansion - A series of comprehensive tests to determine the effect of oxygen enrichment of the combustion air for vermiculite expansion is scheduled for the week of March 19. This project has been delayed because of delays in shipment of replacement oil meters.
3. D-18 Tube - The technique for proper installation of the tube temperature thermocouple was finalized by direct participation with the Travelers Rest fabrication personnel. This technique will eliminate the possibility of damaging the thermocouple wire during shipment and installation of the tube set.
4. Vermiculite Furnace Efficiency - One objective of the Development Group is to improve the vermiculite furnace efficiency as a cost saving measure. A useful technique to implement this objective is computer simulation or modeling of the furnace to determine the important operating parameters. This effort is presently underway.

10001545