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Research & Engineering Center

P. O. Box 159
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(201) 722-9000

March 24, 1972

Mr. Arthur Goldberg
Hearing Examiner
U.S. Department of Labor
OSHA Hearings
Room 305-306
Railway Labor Building
400 First Street, NW
Washington, DC 20001

Dear Mr. Goldberg:

Enclosed is a list of "locked-in" and "non-locked-in" asbestos-containing products for incorporation into the record of the OSHA hearings on occupational standards for asbestos dust which were held March 14-17, 1972 in Washington, DC.

As you recall, in my testimony with regard to some of the proposed labeling requirements for asbestos-containing products I argued that no labels should be required for products in which the asbestos is "locked-in-place" by a binder such as portland cement, resins and plastics. On the other hand, I did support the use of proper cautionary labels on products in which the asbestos is not firmly locked-in-place, and in which the worker who handles and applies the material may generate significant quantities of asbestos-containing dust. During the questioning which followed my testimony, I agreed to submit a list of "locked-in" and "non-locked-in" products which could be incorporated into the hearings. These are the lists which are attached.

We have used the following general definition for "locked-in" products:

> "Locked-in" asbestos-containing products are those products in which the asbestos is firmly fixed in place with some type of binder, saturant, coating or bonding agent such that normal handling and application does not generate significant quantities of asbestos-containing dust.

Examples of binders, saturants and coatings used in "locked-in" products are portland cement, phenolic, polyester, epoxy and other thermosetting resins, thermoplastic resins, asphalt, bituminous concretes, and latex and similar polymeric coatings or bonding agents.

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Although we have tried to make the enclosed lists of products as complete as we can, it is possible we have overlooked some uses. Thus, if OSHA accepts and uses the distinction between locked-in and non-locked-in products, a provision should be made for adding products to the lists in the future.

It should be understood that the range of asbestos contents listed for the products is an approximate range. We believe these ranges to encompass most formulations, but it is possible that a given manufacturer may be operating either slightly higher or lower in asbestos content than these ranges.

Thank you for the opportunity to submit this material for the record.

Very truly yours,

F. L. Pundsack
Vice President, Research & Development

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Mr. A. Goldberg
March 24, 1972
Attachment 1 -Page 2
"LOCKED-IN" ASBESTOS PRODUCTS

PRODUCT	APPROXIMATE RANGE OF ASBESTOS CONTENTS IN PRODUCTS AS USED
FRICTION MATERIALS	
Brake linings	35 - 70%
Clutch facings	35 - 60%
Heavy duty brake linings	70 - 75%
PACKINGS & GASKETS	
Braided textiles (resin saturated)	50 - 60%
Millboard (polymeric bonded or encapsulated)	85 - 95%
Packings - sheeter type	80 - 85%
Packings - beater additive type	55 - 80%
PAPERS & FELTS	
Backing for sheet flooring (polymeric bonded)	85 - 88%*
Cooling tower papers (inorganic bonded & coated)	80 - 90%
Electrical papers & tapes (resin saturated)	65 - 75%
Laminating papers (resin bonded)	50 - 65%
Pipe line felts (bitumen saturated)	65 - 70%
Protective metal sheets (metal bonded & enamel coated)	85 - 90%
Roofing felts (bitumen saturated)	60 - 65%
Underlayment felt (polymeric bonded)	85 - 88%
PLASTICS	
Thermoplastics	20 - 40%
Thermosetting	20 - 25%
SEALING COMPOUNDS	
Caulking putties & sealants	15 - 45%
Radiator sealants & coolants	0 - 1%
TILE	
Asphalt tile	15 - 25%
Vinyl tile	10 - 20%
Tile adhesives	3 - 10%

*Excludes varying thicknesses of vinyl surface applied to the backing. The fiber content of the finished flooring product is much lower than these ranges.