506-15-3-4

Johns-Manville

Internal Correspondence

To: F. Hartfield

Date: September 23, 1980

From: J. C. Hatch

Copies: S. T. Tilson

Subject:

It is the intention of this report to deal specifically with options available to owners of buildings where the presence of asbestos is considered hazardous, and to outline the precautions necessary if one were involved in any of the remedial techniques. Presently, there are only four recognized methods for reducing or eliminating any potentially hazardous asbestos application:

(1) Where an asbestos application is in good condition, i.e. not friable, and there is minimal risk of heavy maintenance traffic or other disturbance in the area of application, then a good management and surveillance programme is recommended.

(2) In areas which require no accessibility and the asbestos application is in reasonable condition, it may be adequate to enclose this total area with drywall or other suitable material.

(3) Where an asbestos application is in reasonable condition but, because the possibility of disturbance or accidental damage exists, remedial action is indicated, it is possible to encapsulate by either of two methods, i.e. bridging encapsulant or penetrating encapsulant. Unfortunately, both of these systems have serious drawbacks. With a bridging encapsulant it is very difficult to form a complete bridge due to the contour of a sprayed-on asbestos application. Also, the possibility of over-spray exists. If this occurs then the weight of the bridging sealant can pull down the sprayed-on asbestos. However, a proper application of a bridging sealant is a lot cheaper than removal of asbestos and, if the asbestos has been used for fire protection, there are some bridging sealant compounds accepted by the Ontario Fire Commission. These sealants, however, are only acceptable when applied up to 1 m/m in thickness. I have not as yet received a list of these bridging sealants as I only received this information verbally from a representative of the Ministry of Labour who told me that this approval had been granted in the past couple of weeks.

- 2

Published by AsbestosClaims.Law
asbestosclaims.law/library/24502/1

Penetrating encapsulation has one obvious advantage over a bridging operation, i.e. when applied it tends to spread like ink on blotting paper thereby encapturing all the asbestos fibres and, in some cases, it will penetrate the asbestos application all the way to the original surface. Using this application the risk of fall-out or "asbestos rain" is extremely low. However, when materials used for penetrating encapsulation are used, the fire resistance of the asbestos application is eliminated and, where the asbestos application has been for acoustic purposes, this application drastically reduces the acoustical properties.

(4) If neither of the three previous methods mentioned are suitable then the only recourse is complete removal of the asbestos application and usually a replacement fire-resistant application. This is by far the most expensive course of action and, from a contracting point of view, the most potential high risk.

As will be noted, I have mentioned the condition of the asbestos application and potential hazard several times. I suggest that a study of the "Ontario Research Foundation" hazard evaluation would be of assistance. This system is a modified version of the "Ferris Index" which is one of the major guidelines used for hazard evaluation in the United States. Let me add that there are various systems in operation, all making money. Each of them, however, is only an effort to put some scientific measurement where the most important ingredient is sound judgment. The Ontario Research Foundation have acted in an advisory capacity to owners of various buildings but, due to manpower limits, they have confined themselves to "priority" situations. For this reason we may find ourselves in an advisory capacity if we decide to become involved in the "asbestos problem" business.

Published by AsbestosClaims.Law
asbestosclaims.law/library/24502/2

As the recommended isolation procedures are similar in either enclosure, encapsulation or removal of asbestos, I will describe the procedures required for the removal of asbestos. I have listed these operations numerically, however it is not necessary to follow this numerical system of operation up to the removal of ceiling tiles. Before removing ceiling tiles the area of operation must be enclosed and protected by an isolation chamber similar to sketch enclosed. Also walls and floors must be protected with 6 mil.polythene before removing ceiling tiles.

(1) Remove all loose furnishings and fittings to a designated area where they will not be exposed to asbestos fibres. This may include carpets in some situations. All other fixtures must be protected against exposure to asbestos fibre and water damage.

(2) Enclose area of work with 6 mil. polythene covering walls and floors within the work area. Use water-resistant masking tape to make joints where necessary. As most walls extend beyond the suspended ceiling height, it is advisable to leave an overlap when taping polythene to wall at ceiling height. In this manner the unprotected wall can be covered when the ceiling tile at the perimeter is removed.

(3) Erect air-lock barriers from work area as shown in Fig. I. The positioning of this air-lock system is probably the most critical operation in relation to productivity and other costs. I consider it worthwhile to expand on this before proceeding further. I have enclosed a copy of Appendix D which was an integral term of the contract between "Bell Canada" and "Donalco" for the removal of asbestos from a "Bell Canada" building. Since this decontamination procedure is the same as the "Ontario Research Foundation's" recommendations, it is my opinion that this procedure will be used in most, if not all, contracts for asbestos removal. Any person who leaves the "contaminated" area, be it for coffee breaks, lunch, necessities of nature or finishing work, he must use this decontamination sequence. Quite apart from the obvious loss of production, one must also consider the cost of disposable protective clothing. The average price for the accepted disposable protective clothing is $10.00. Therefore, by careful planning of the decontamination procedure, and work methods, one can reduce non-productive time and save $10.00 per employee if the number of times employees leave the contaminated room to proceed to the "outside" world is kept to a minimum.

(4) Having completed preparations 1 - 3 we must switch off all electrical supply to the work area and establish a power supply for the vacuum cleaner which will be used continuously during operations. All air flow into and out of the work area must be switched off.

(5) We now proceed to remove ceiling tile and expose upper ceiling. At this stage the work area is considered contaminated and all necessary precautions must be adhered to, i.e. post warning notices at entrance to building, Fig. 2, provide operators with approved face masks and disposable protective clothing. All decontamination procedures must be put into effect.

(6) As ceiling tiles are removed all dust should be removed from them before taking them out of "contaminated" area. Having removed ceiling tile and transferred them to agreed designated area, all exposed electrical fittings and open air ducts must have protective polythene taped around them to avoid water damage and eliminate the possibility of asbestos fibres infiltrating the air circulation or exhaust systems.

(7) To reduce the risk of too high a concentration of asbestos fibres in the "contaminated" area it is recommended that the asbestos application be sprayed with a wetting agent, using an airless spray gun, twelve (12) to twenty-four (24) hrs. before commencing removal.

(8) Immediately prior to removal, the asbestos application should be sprayed again. In a typical site situation one would have two or three people scraping off asbestos application and one person applying wetting agent. It is recommended that asbestos is removed from floor as it is taken from ceiling. The asbestos is put into 6 mil. polythene bags and these bags are relatively clean before putting into a second 6 mil. polythene bag. The double-bagged asbestos is taken to the transfer room corridor, Fig. I, by the personnel in the contaminated room. Suitably dressed personnel are allowed into the transfer room corridor to remove bags ready for disposal. It is permitted to enter and exit the transfer room corridor without going through the decontamination procedure.

Some Ministry of Labour people will insist on the use of barrels, etc. for the purpose of transporting the waste to a dump site. However, all exterior containers must show clearly what substance is inside. Although there are set down procedures for the disposal of asbestos-containing materials, in many cases the "whim" of the people in charge of a dump site prevails.

- 5

Published by AsbestosClaims.Law
asbestosclaims.law/library/24502/4

(9) Having removed the bulk of the asbestos application, the remaining areas are "wire brushed" clean. All exposed areas in contaminated room are wet sponged clean, including all polythene protection. During and after this operation the floor is vacuum-cleaned with an approved vacuum cleaner.

(10) When all washdown procedures have been carried out the contaminated room is left unoccupied for forty-eight (48) hrs. to allow any airborne fibres to settle. After this period of time the floor is vacuum-cleaned once more. Only after all these procedures have been carried out can one begin the removal of the protective polythene and the air lock system.

(11) Ceiling tiles, loose furnishings, etc. can now be replaced.

Published by AsbestosClaims.Law
asbestosclaims.law/library/24502/5