

FRICTION MATERIALS STANDARDS INSTITUTE, INC., EAST 210 ROUTE 4, PARAMUS, NJ 07652

June 2, 1983

To: Health and Environmental Affairs Committee

Subject: Asbestos International Association Recommended Control
Procedure for Asbestos-Containing Friction Materials

Mr. Bob Pigg of the Asbestos Information Association sent along Recommended Control Procedure No. 10 (RCP 10) that was published in February 1983 by the Asbestos International Association of London, England.

I am enclosing a copy of that Procedure. As the British publish on a page size differing from our 8-1/2 x 11, I have copied this on legal size paper. You will note that some of the terms are more British than ours, and that some of the background comments are more general, as our "Friction Materials Work Practices Guide" was aimed at United States shops.

This is sent as a matter of information.

E. W. Drislane
Executive Director

EWD/dr
Enc.

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ASBESTOS-CONTAINING FRICTION MATERIALS Application and Servicing

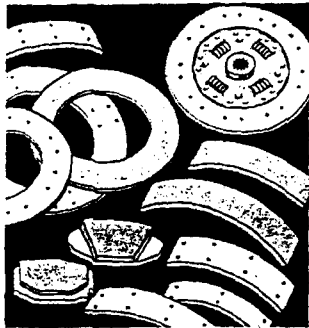
1. Application of these recommendations

These recommendations are intended for the guidance of those engaged in the assembly, application and servicing of friction materials containing asbestos fibre. For the manufacture of such materials other procedures are applicable and controls recommended for manufacturers may be found in relevant AIA publications.

2. Products covered by these recommendations

Asbestos-containing friction material (moulded and woven) such as:

- Brake lining materials in roll, strip or sheet form.
- Brake blocks.
- Brake liners
- Brake lining segments.
- Disc brake pads.
- Clutch facings.
- Automotive transmission discs and band liners.
- Industrial brake linings and clutch facings.



3. Basic requirements for working with asbestos-containing friction material

3.1 Harmful effects on health from working with asbestos-containing friction materials can only result from the inhalation of asbestos respirable fine dust.

3.2 In friction materials the asbestos content is variable, generally from 30% to 60%. In all cases the asbestos fibres are locked in the binder and the product does not release any free respirable fibres under normal handling conditions.

The only occasions when such fibres can be released into the atmosphere in significant quantities occur when high-speed cutting, grinding or drilling are carried out without the provision of proper controls as described hereunder.

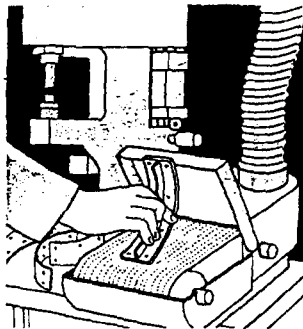
3.3 Only a very small percentage of asbestos fibre can be traced in the wear products of brake linings. Temperature, pressure and 'micro-milling' during braking operations convert the asbestos fibre into a non-crystalline amorphous material which represents no hazard. In case of doubt, concentrations of dust should be measured and analysed in order to ensure that they do not exceed the values prescribed by the Authorities.

4. Operations covered by the recommendations

Handling and machining of asbestos-containing friction material in the automotive and brake and clutch industry and in the maintenance and repair of brake and clutch assemblies, such as:

- grinding
- cutting
- drilling
- sawing
- fitting
- machining or 'finishing'
- cleaning

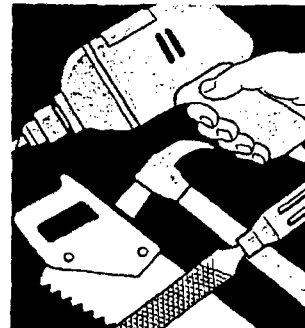
*'finishing' is a process in which a fine grinding finish is applied



5. Recommended procedure for avoiding creation of dust in the use of asbestos-containing friction material

5.1 Remember the three main rules for eliminating any risks:

- First:** avoid creating dust and use hand tools or slow running tools which only produce coarse dust or chips; do not normally use tools which cut by abrading the material, thus generating inhalable dust;
- Second:** when it is necessary to use abrasive or high-speed tools, these should be fitted with dust extraction equipment suitable for use with asbestos;
- Third:** use local vacuum cleaning equipment (approved for use with asbestos dust) to collect dust and chips; or sweep using a dust suppressant.

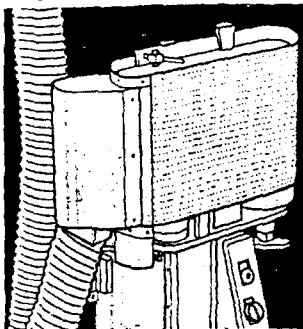


5.2 Handling, transporting, warehousing of new friction materials. Asbestos-containing friction materials supplied in boxed sets should be de-dusted by the manufacturer before packing, and therefore should not require special precautions in handling. When they are delivered in bulk quantities abrasion may result. Dust should be removed by vacuuming.

5.3 Work under factory or workshop conditions

5.3.1 Approved dust extraction equipment should be fitted to every cutting, drilling or grinding machine to eliminate dust and loose swarf created by such operations. High velocity, low volume equipment should be used for portable tools; industrial vacuum

cleaners are adaptable for such purposes. Low-velocity, high volume systems are generally most suitable for fixed machine applications.

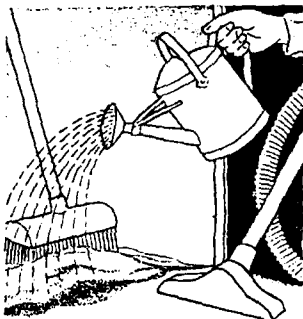


5.3.2 During application friction material dust occurs and accumulates in brake and clutch assemblies.

When removing worn friction material, remove the accumulated dust from the brake assemblies with an industrial vacuum cleaner or washing equipment. If such equipment is not available, dust must be removed with a damp cloth. Never use compressed air or dry brushing.

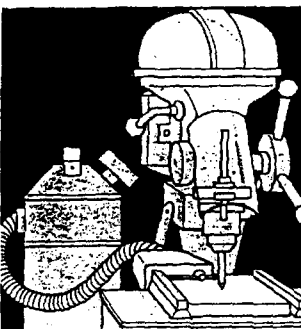
Certain industrial vacuum equipment manufacturers have developed apparatus specially designed for use in the removal of worn brake linings and the cleaning out of brake drums. Such equipment may be of interest to organisations where this work is regularly carried out. Further details can be obtained from Member Associations of the AIA.

5.3.3 Loose swarf and dust should be removed from the work place by vacuum cleaning. Where this is not possible the material should be thoroughly wetted before removal.



5.3.4 Working-areas should be kept free from dust by means of a cleaning attachment available for use with the installed exhaust ventilating system, or by using portable industrial vacuum cleaning machines suitable for use with asbestos materials. If these are not available, floors should be thoroughly wetted and/or spread with damp sawdust before sweeping.

5.3.5 There will be some operations such as the maintenance of dust filters, etc., where it is necessary for personnel to be provided with appropriate individual protective equipment.



5.3.6 Suitable equipment:

- dust extraction
- vacuum cleaning
- specialised turning equipment
- personal protective equipment

Full details of suppliers of suitable equipment which has been tested for use with products together with advice on the design and specification of such equipment may be obtained from AIA or from the Association's members. They will be pleased to supply names and addresses of national suppliers of such equipment.

5.4 Do-it-yourself operations

Simple replacement of brake shoes or disc brakes is unlikely to be a source of dust emission. The do-it-yourselfer is unlikely to have access to equipment as described in 5.3.2, but wear products can satisfactorily be removed from brake assemblies with a damp cloth. It is generally preferable, in the interests of road safety, for work on braking systems to be undertaken by properly qualified and equipped operators.



6. Waste Disposal

6.1 Loose swarf and dust collected from fabrication processes should be collected for disposal in a controlled manner and in accordance with regulations where these exist. Strong plastic bags are a suitable form of impermeable container (see RCP3).

6.2 Broken and worn linings will not normally produce harmful quantities of dust. However, to avoid unnecessary anxiety (and in some countries to comply with legal requirements), where such waste materials occur in quantity they should be collected and disposed of in a controlled manner, and in accordance with regulations where these exist (see RCP3).

7. General

Further information on any aspect of safe working with asbestos-containing friction material will gladly be supplied by the Asbestos International Association or by any of the Association members whose addresses are contained elsewhere in this publication.