

October 11, 1974

Mr. E. M. Fennar, Director
Technical Relations
Environmental Affairs Dept.
Johns-Manville Corp.
P. O. Box 5108
Denver, Colorado 80217

Dear Ed:

Attached is copy of rough draft of recommended work practices for users and fabricators of asbestos friction materials following the format used by Larry Moody in preparing similar work practices for asbestos textiles.

This is being reviewed by other members of the Friction Materials Standards Institute Asbestos Study Committee, which I hope will provide further input for the revised draft of this list of recommendations.

The actual work practices are included in Sections 5 and 6, items 3,4 and 7 and would be practically the same for all asbestos products.

Please review the attached and advise me by Wednesday, October 16, if any change should be made in this format before I prepare the revised draft of the Friction Materials Work Practices and the practices for other products I am supposed to mail to you Friday, the 18th.

Best regards,

I. H. Weaver
W

cc-Memo. J. H. Marsh
C. Clarke, Bendix Corp.
E. A. Driscoll, FMSI

attach.

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(6)

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FMSI 03151

ROUGH DRAFT
NOT FOR CIRCULATION

Recommended Work Practices for Users and Fabricators of
Asbestos Friction Materials

Introduction

This recommendation of "Work Practices" is prepared by the Standards and Technical Committee of the Asbestos Information Association/North America, working with the Occupational Safety and Health Department, Office of Health Standards. The intent is to advise manufacturers and fabricators, who use asbestos friction materials, in manners of Work Practice best suited to the maintaining a working environmental atmosphere within the levels required by 1910.93a of the OSHA Standards.

1. Asbestos Friction Material Products covered by this work practice recommendation.

- 1.1 Clutch Facings
- 1.2 Brake Lining Segments
- 1.3 Disc Brake Pads
- 1.4 Brake Band Materials
- 1.5 Automatic Transmission Discs

2. Manufacturing Operations wherein the recommended work practices may apply.

- 2.1 Clutch Assembly and Rebuilding Operations
- 2.2 Brake Assembly and Relining Operations
- 2.3 Automatic Transmission Assembly and Rebuilding Operations
- ~~2.4 Field Assembly of Industrial and/or Construction Equipment~~

3. Requirements of OSHA Standard 1910.93a

3.1 The Asbestos Standard (1910.93a) applies to any manufacturing, fabrication or handling process etc. wherein an article composed wholly or in part of asbestos fibre is concerned.

3.2 It is the employer's responsibility to maintain "Exposure to airborne concentration of asbestos fibres" at or below the levels described in 1910.93a. Exposure levels may be controlled by, Isolation, enclosure, exhaust ventilation and dust collection. The Standard 1910.93a does not limit the means used to maintain compliance.

3.3 Particular tools - All hand or power operated tools which may cause the release of asbestos fibre to become airborne at levels in excess of the standard shall be provided with exhaust ventilation.

3.4 Wet Methods - When practicable asbestos friction material products shall be processed, wetted sufficiently to prevent emission to working atmosphere. (Limited or not required where wetting of the product would reduce end efficiency of that product.

3.5 Protective Equipment and Clothing - At such times that it is necessary for employees to perform their normal work in an environment wherein the airborne concentration of asbestos fibre exceeds the allowable level of standard 1910.93a, the employer must provide

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respiratory protection and clothing in compliance with the standard. The employer must also provide change rooms and separate lockers for work clothes and street clothes.

3.6 Air Sampling and Monitoring - The employer is responsible as described in 1910.93a.

3.7 Storage and Handling - It is recommended that asbestos-containing products be stored in sealed containers, etc. During periods of time that it is necessary to handle asbestos-containing products, the handling shall be done in a manner to create the least amount of airborne asbestos dust.

4. Exhaust and Dust Collection Systems.

4.1 Wherein exhaust and dust collection systems are used to attain concentrations of airborne asbestos fibre below the levels allowed in standard 1910.93a, the systems should be inspected and cleaned weekly.

4.2 The design of exhaust and dust collection systems (installation and maintenance) shall be in accordance with American National Standard (ANSI Z 9.2) *Fundamentals Governing Design and Operation of Local Exhaust Systems, or equivalent standard.*

5. Housekeeping, in Manufacturing and Fabrication areas.

5.1 All surfaces, machinery, equipment etc. shall be kept free of any accumulation of asbestos dust, lint and waste, preferable by vacuum cleaning methods or other method that will prevent asbestos dust or fibre from becoming airborne. Vacuum cleaners should be equipped with a disposable collection bag and a microfilter.

5.2 Waste and scrap material, such as dust, chips, off-cuts, edge trimmings and broken pieces shall be placed in tightly sealed containers in preparation for disposal.

5.3 Containers used to store or dispose of asbestos-containing materials shall be labeled in a manner to comply with standard 1910.93a.

6. Procedure recommendations for manufacturing and fabrication operations involving asbestos friction materials.

6.1 Wherever ^{FEASIBLE} possible, friction materials that are specially treated to reduce dust emission should be used.

6.2 Materials should be removed from containers gently and handled with care to avoid unnecessary generation of airborne dust. Care should be taken not to disturb dust remaining in containers and packaging materials. Such dust should be removed by vacuum cleaning wherever possible.

FEASIBLE

6.3 Whenever ^{FEASIBLE} possible, materials should be obtained from the manufacturer cut, machined and/or drilled to suit final requirements to avoid necessity for additional fabrication operations.

6.4 On large volume operations with fixed working points or machines, local exhaust systems should be installed in accordance with American National Standard ANSI Z9.2 or equivalent.

6.5 When cutting, drilling, grinding or machining operations are of short duration, portable dust exhaust units may be suitable. Vacuum cleaning equipment sometimes may be adapted for this purpose, provided the filter system is of adequate efficiency.

6.6 Where dust control by means of local exhaust is not feasible, flooding of the work and the tooling with water or other liquid may be effective in suppressing dust emission.

6.7 Swarf and dust should be removed regularly, preferably by vacuum methods, and disposed of in accordance with paragraphs 5.2 and 5.3.

6.8 If surface dust is present on materials, it may be necessary to remove it by wiping with a damp cloth or mop or by vacuum cleaning with a brush head attachment prior to performing secondary operations such as riveting, bonding, branding, inspection, etc.

6.9 In exceptional cases where it is impracticable to control airborne dust by means of an exhaust system or by wet processing, workers must be protected by approved respirators and protective clothing.

7. Personal Protection.

7.1 Develop good personal hygiene practices. Washing thoroughly before eating will prevent ingestion of foreign matter. Food should not be stored or eaten in the work area.

7.2 It is well documented that smoking is injurious to your health. When coupled with asbestos dust problems, the effects are accentuated. Smoking should be avoided!

7.3 Use of approved respirators should be encouraged wherever measurable airborne asbestos dust concentrations exist, and use of such respirators shall be mandatory wherever airborne fibre limits exceed those prescribed in Standard 1910.93a. Protective clothing shall be provided and worn wherever employees are exposed to ceiling levels exceeding those prescribed in Standard 1910.93a. Employees must be given thorough instruction in proper use, care and maintenance of personal protection equipment.

7.4 No person shall be assigned to perform any work for which respiratory protective equipment is needed unless he has been medically examined and determined fit.

7.5 Care should be taken to minimize dust generation and transfer of dust to the person or his clothing. Clothing not worn during working hours must be stored away from contamination, and contaminated work clothing shall be specially handled to prevent exposure to asbestos dust.