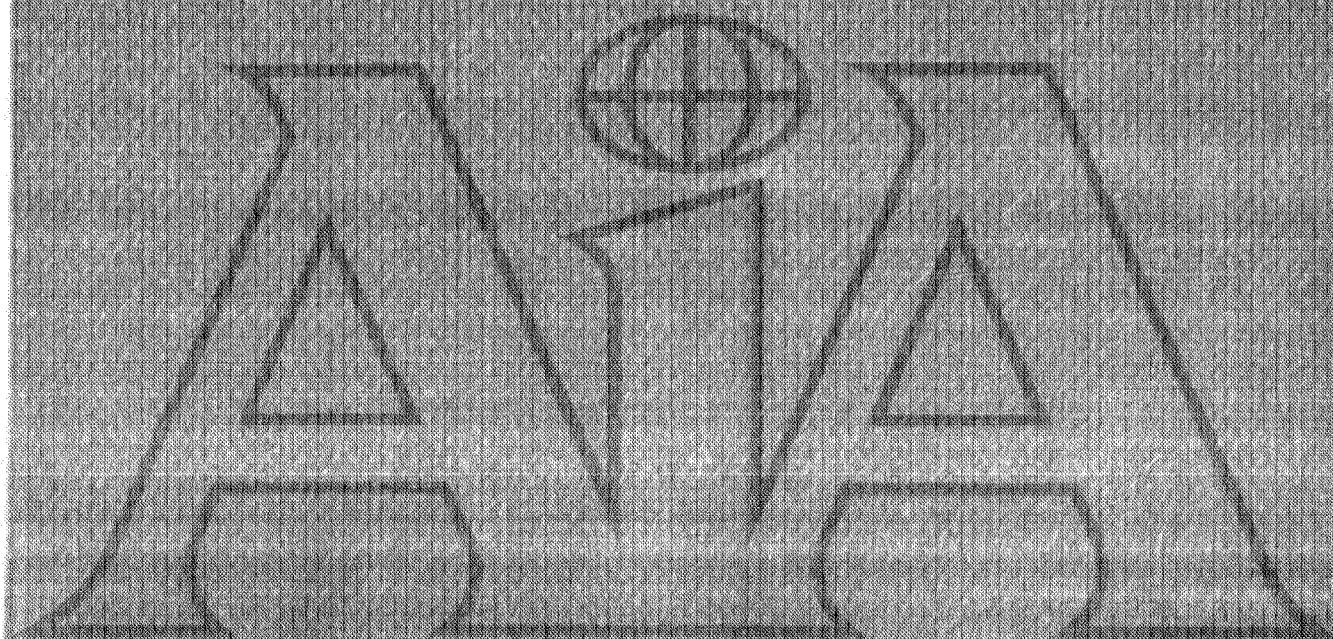


AIA Health and Safety Publication  
Recommended Control Procedure No. 9 (RCP9)

# PROTECTIVE EQUIPMENT which may be needed in the Manufacture or Use of Asbestos Products



Many companies have direct relationships with customers who might be interested in a new product, and consumers are required to contribute to the product. Such tasks as testing and packaging the new product are stipulated and are rewarded in the company's incentive plans. Rewards with rapid response expectations include a reward and a performance appraisal increase for the achievement of critical objectives as well as the critical tasks. In fact, for most companies, the product owner, customer, and the product manager

There are still areas where other challenges have not been discussed, and there were no discussions on property security, land or the environment and other areas. The Director General of Agriculture stressed that he had no authority and a responsibility for these areas, and that he was not involved in the process. He said that he had been involved in the process of the 1995 elections, and that he had been involved in the process of the 1995 elections, and that he had been involved in the process of the 1995 elections.

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# PROTECTIVE EQUIPMENT which may be needed in the Manufacture or Use of Asbestos Products

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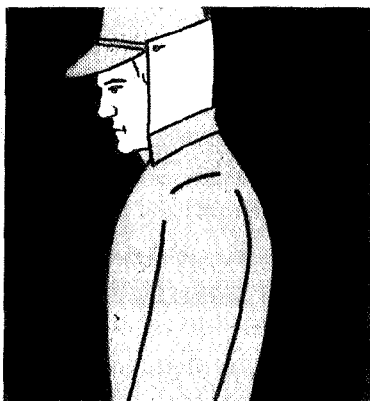
### 1. Definitions

**1.1 Asbestos dust.** This is fine respirable dust of asbestos which if inhaled may cause harmful biological effects.

**1.2 Personal Protective Equipment.** This consists of a) Respiratory Protective Equipment and b) Protective Clothing.

**1.3 Respiratory Protective Equipment.** This is personal protective equipment designed to prevent inhalation which may have a harmful effect on the lungs. When used to protect from asbestos dust, the filter included in the equipment must satisfy authorising bodies that it is capable of preventing the passage of asbestos fibres in the specified (dangerous) size range.

**1.4 Protective Clothing.** This is clothing, including head covering, which prevents asbestos dust being deposited on the person's own clothing or body. Such a deposit would expose the protected person to risk of inhalation of asbestos dust after the respiratory protective equipment had been removed.



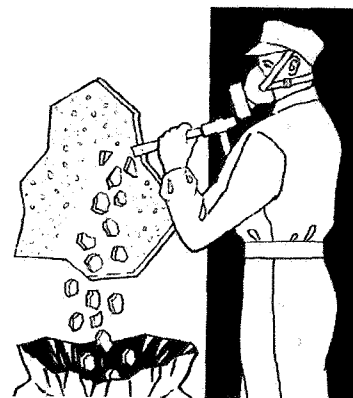
**1.5 Protected Area.** An area in which operations are taking place in such a manner that Personal Protective Equipment is required. Such areas should be clearly identified by a warning sign and access prohibited to personnel not equipped with the required protective equipment.

### 2. Situations Where Protective Equipment May be Needed

**2.1** Personal protective equipment, that is, respiratory equipment and protective clothing, is unlikely to be required for protection against asbestos dust under normal conditions of processing, manufacture or use of currently available asbestos products. Protection is best achieved by dust control in manufacture, the use of recommended tools and equipment and the adoption of tested work procedures. However, in situations such as those referred to below, where personal protection is required, the extent to which the recommendations should be applied will depend on the severity and duration of the dust concentration in the working-area.



The highest standards of respiratory protection, protective clothing and, cleansing facilities will be required when undertaking work such as stripping or demolition where, for example, low-density insulation materials are involved. If, however, it can be shown that special circumstances prevent any possibility of exposure in excess of the permitted level, then such protection is not needed.



**2.2** For some operations during processing, manufacture or use of asbestos fibre or asbestos-containing materials, asbestos dust may be generated so that emission into the working environment has to be controlled by enclosure, dust extraction or other technical method. In the event of breakdown or during maintenance or cleaning of the equipment, when the dust control is inoperative, personal protective equipment must be worn.

### 3. Respiratory Protective Equipment

**3.1** Various types of equipment are available. As concentrations of dust increase, more sophisticated devices will be required.

**3.2** A number of official bodies have established criteria for assessing the suitability of different forms of respiratory protective equipment for use with asbestos dust. These are listed in Appendix A. Details of such equipment can be obtained from these authorities or from member associations of the AIA.



### 3.3 Types of respiratory protective equipment

**3.3.1** Face mask — disposable. Single use.

**3.3.2** Negative pressure (ori-nasal) respirator fitted with replaceable filter.

**3.3.3.** Positive pressure respirators — air supplied by pressure (generally battery-powered pump) through the filter.

**3.3.4** Supplied air breathing apparatus.

- (a) Air line — demand flow (a negative pressure may exist within the face-piece).
- (b) Air line — constant flow.
- (c) Air line — pressure demand.
- (d) Self-contained supply (compressed air) — for short exposures, not exceeding one hour.

### 3.4 Criteria for selection of equipment

**3.4.1** Equipment for a particular situation should be selected according to the maximum concentration of airborne asbestos dust likely to be encountered and in accordance with the protection factor specified by the approving authority.

**3.4.2** The protection factor is the ratio of the airborne concentration of the particulate (in the case of asbestos, as measured by the membrane sampling method — see AIA RTM 1) to the concentration inside the respirator face-piece.

**3.4.3** Some authorities adopt an over-all guide for the estimation of efficiency. For example, ori-nasal respirators may be assessed at 95 per cent efficiency; on this basis, for protection against personal exposure to concentrations exceeding 2 f/ml approval would only be given for use in concentrations of asbestos dust up to 40 f/ml.



**3.4.4** Comfort in wear is an important criterion especially where the equipment must be worn for some time. One type of face-piece may be more suited to one physiognomy than another. It may be desirable, where extended periods of protection are unavoidable, to use positive pressure equipment for greater comfort, even though the anticipated concentration would not call for that degree of protection.

**3.5** All persons required to use respiratory protective equipment must be properly trained in the use, limitations and care of such equipment. Refresher training is desirable at regular intervals.

**3.6** During pre-employment or periodic medical examinations of workpeople any physical abnormality or defect which might inhibit the use of appropriate equipment should be noted, and such persons should not be employed in occupations where the use of such equipment would be required.

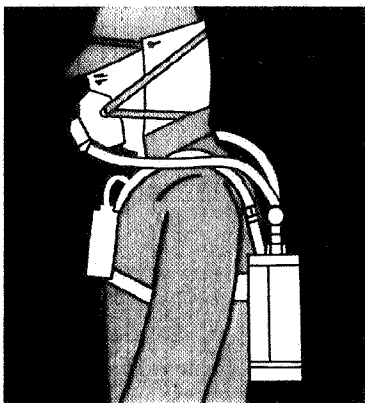
**3.7** Respiratory protective equipment should be issued for the exclusive personal use of the person to whom it is supplied.

**3.8** The equipment must be regularly cleaned and serviced by appropriately trained personnel before re-issue.

**3.9** Facilities must be provided for the storage of protective equipment when not in use. A small dust-proof container (e.g. plastic bag) is recommended for the smaller ori-nasal type of equipment issued on a personal basis.

**3.10** It is advisable to keep a record of the training and instruction in the use of personal protective equipment on the personnel records of employees concerned. Such documentary evidence can be most valuable. It is also recommended that a log of the servicing of equipment be maintained.

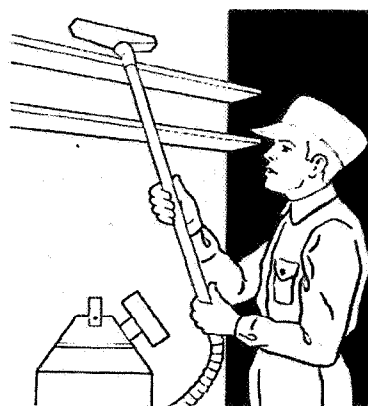
**3.11** Where respiratory protection is used, this fact should be included on the monitoring records of dust exposure of the particular job.



Full protective clothing, including hat or hood, and positive pressure respirator.

## 4. Protective Clothing

**4.1** Generally, when conditions are such that the use of personal respiratory protective equipment is required, suitable protective clothing should also be provided and worn. This should be such that asbestos dust is prevented from accumulating on the personal clothing or person of the individual and so becoming inhalable after the respiratory protective equipment is removed.



**4.2** Such clothing should not be confused with overalls worn by work people (whether supplied by the employer or not) as a matter of good factory hygiene. Where such industrial clothing is in use (or provided) in an asbestos processing or manufacturing plant, arrangements for changing, storage and cleaning should be kept separate from the arrangements made for clothing used for protection against asbestos dust.

### 4.3 Types of Clothing.

**4.3.1** Disposable clothing. Single-use material must be of adequate tear resistance and should not generate static electricity which would cause asbestos fibres to cling to the material. Provision must be made to dispose of the used clothing without it becoming a secondary source of emission.

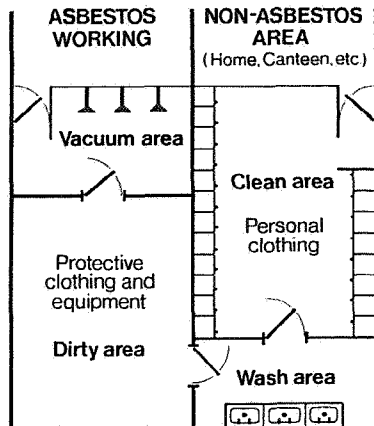
**4.3.2** Re-usable protective clothing. Overalls made from man-made fibres are usually most suitable since asbestos does not cling to garments made from this type of material. Care should be taken to avoid certain highly inflammable synthetics. Clothing made from specialised materials may be required for certain operations; for example, where oil and grease are present. The one-piece boiler suit, fitting closely at neck, ankle and wrist, is generally most suitable but in some cases a coat or smock may be acceptable. Personal clothing should be completely covered.

**4.3.3** Headgear may also be provided and should take the form of a close-fitting cap or hood, and should be of similar material to that used for the overalls, unless for other safety reasons different types of head-gear (e.g. hard hats) are mandatory.

**4.3.4** In certain conditions it may be necessary to supply foot covering appropriate to these circumstances.

**4.4** If re-usable protective clothing is used, provision must be made to store the 'dirty' clothing separately from the 'clean' or street clothing. Separate locker rooms for storage of contaminated clothing are essential.

4.5 Provision should be made for changing into and out of the protective clothing and respiratory protective equipment, together with adequate provision (such as showers) for personal cleansing. It is also recommended that suitable vacuum cleaning equipment is



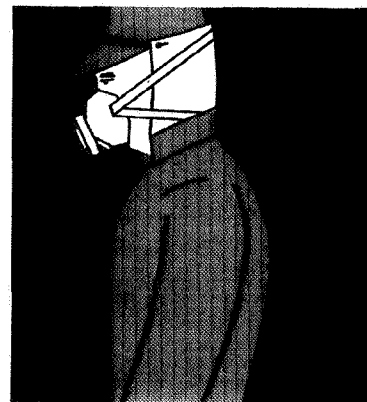
Suggested lay-out for cloakroom and changing-accommodation.

provided in the 'dirty' section of the changing-area for preliminary de-dusting of the protective clothing prior to removal. De-dusting should on no account be carried out by blowing with compressed air.

4.6 In designing a changing-area care will be required to ensure that the area itself should not become a source of dust exposure because of dust carried in from dusty clothing. Adequate ventilation and regular cleaning is essential.

4.7 Provision must be made to launder protective clothing under controlled conditions to prevent the emission of airborne asbestos fibres during handling, transporting and laundering of the clothing. In-plant laundering facilities are preferred, but if outside contractors are employed they should be informed of and understand the nature of the cleaning requirements and the precautions to be taken. Clothing despatched for laundering by contractors should be contained in impermeable bags and suitably labelled.

The selection of a contract laundry should be based upon knowledge that the contractor has a full understanding of the measures necessary for handling contaminated clothing.



Full protective clothing, including hat or hood, and oronasal respirator.

## APPENDIX A

### Approving Authorities

|                 |                                                                                                                                                                 |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia:      | The Department of Labour and Industry or its equivalent in each of the States of Australia.                                                                     |
| Belgium:        | Ministry of Employment and Labour — Administration de l'Hygiène et de la Médecine du Travail.                                                                   |
| Canada:         |                                                                                                                                                                 |
| Federal:        | Environmental Health Directorate,<br>Health and Welfare Canada,<br>OTTAWA, Ontario.                                                                             |
| Provincial:     | (Québec)<br>La Commission de la santé et de la sécurité du travail du Québec,<br>Hotel du Gouvernement,<br>Québec.                                              |
| Denmark:        | Direktoratet for Arbejdstilsynet,<br>Rosenvængets Alle 18,<br>DK-2100 Copenhagen OE.                                                                            |
| France:         | Institut National de Recherche et Sécurité (I.N.R.S.)                                                                                                           |
| Germany:        | Berufsgenossenschaftliches Institut für Arbeitssicherheit (B.I.A.)<br>Des Hauptverbandes der Berufsgenossenschaften.                                            |
| Italy:          | ISPEL (Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro).                                                                                        |
| Japan:          | Environmental Improvement Services<br>Industrial Health Section,<br>Industrial Safety and Health Department,<br>Labour Standards Bureau,<br>Ministry of Labour. |
| New Zealand:    | The Department of Health.                                                                                                                                       |
| Norway:         | Statens Arbeidstilsyn (Department of Employment Health)                                                                                                         |
| Singapore:      | The Ministry of Labour.                                                                                                                                         |
| South Africa:   | South African Bureau of Mines                                                                                                                                   |
| Spain:          | Servicio de Higiene y Seguridad en el Trabajo.<br>Centro Nacional de Homologación<br>Instituto Territorial de Sevilla.                                          |
| Sweden:         | Arbetskyddsverket,<br>171 84 Solna.                                                                                                                             |
| United Kingdom: | Health and Safety Executive. Certificate of Approval<br>(Respiratory Protective Equipment) F.2486.                                                              |
| United States:  | U.S. Department of the Interior (Bureau of Mines).<br>U.S. National Institute of Safety and Health (N.I.O.S.H.)                                                 |

## APPENDIX B

### SPECIMEN RESPIRATOR RECORD

Receipt No.

Name

Section

Clock No.

| Date | Cleaned and<br>Sterilised | Part<br>Replaced | Filter Pressure<br>Reading<br>(if applicable) |
|------|---------------------------|------------------|-----------------------------------------------|
|      |                           |                  |                                               |

## APPENDIX C

### SPECIMEN RECEIPT ASBESTOS REGULATIONS RESPIRATORY PROTECTIVE EQUIPMENT

Certificate No.

This respirator is issued to you in accordance with the Asbestos Regulations

The following are jobs at this factory which are at all times to be considered as coming within the scope of the Regulations which require the wearing of protective equipment.

1. (list of jobs)
- 2.
- 3.
- etc.

I agree to use the protective equipment received from the Company this day whenever I am working on any of the above listed jobs. I fully understand the correct method of using this equipment.

Signed

Personal Number

Date

(Note: Additional information on the fitting, storing and cleaning of respirators could also be included.)

# **Publications by the Asbestos International Association**

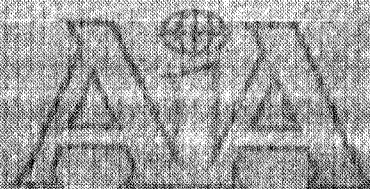
## **Recommended Control Procedures**

- RCP1 The Control of Asbestos Dust
- RCP2 Asbestos Cement Products
  - Insert — Guidelines of Tools for Working with asbestos cement products on site
- RCP3 Asbestos Waste Materials
- RCP4 Asbestos Pipes, Packaging, Handling and Transportation
- RCP5 Asbestos Plaster, Plap, Opervay
- RCP6 Asbestos Textile Products — Manufacture
- RCP7 Asbestos Textile Products — Fabrication and Use \*
- RCP8 Radon and Radonvair Asbestos Insulation
- RCP9 Protective equipment which may be needed in the Manufacture or Use of Asbestos Products
- RCP10 Asbestos Containing Friction Material Application and Servicing \*

## **Recommended Technical Manuals**

- TTM1 Reference Method for the determination of Asbestos Asbestos Fiber Concentrations at Workplaces by Light Microscopy (Memorable Filter Method)

\* Not yet printed



# Asbestos International Association

## Member Associations

### ARGENTINA

Asociacion Argentina de Fabricantes de Fibrocemento (AAFF),  
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Telex: 22467

\*Includes Indonesia, Malaysia,  
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Telex: 556 0565

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Telex: 2083

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Telex: 018-1640  
Wirtschaftsverband Asbest e.V.,  
Oberschelder Weg 2-4,  
6000 Frankfurt/Main 50.  
Telephone: (0611) 58 20 77

### GREECE

Hellenic Asbestos & Asbestos Cement  
Association,  
8 Omirou Street, Athens (133).  
Telephone: 32 31 244  
Telex: 215871

### INDIA

Asbestos Information Centre,  
401 Padma Palace,  
86 Nehru Place,  
New Delhi-110 019.  
Telephone: 682568

### IRELAND

Irish Asbestos Council,  
6 South Leinster Street, Dublin 2.  
Telephone: 01-763974  
Telex: 24281 and 25369

### ISRAEL

Israeli Asbestos Users Association,  
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Asociacion Mexicana de Fabricantes de  
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Telex: 26243

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Telex: 32125  
Asociacion de Fabricantes de  
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Rafael Calvo 18, Madrid (10).  
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c/o Stiffler & Nater,  
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Telex: 21120 ref. 2526

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Crystal Square, Suite 509,  
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Telephone: (703) 979 1150

**Asbestos International Association**  
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**London, England, W1H 3HL.**  
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