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**FARIMA**

FIBREGLASS AND ROCKWOOL INSULATION  
MANUFACTURERS ASSOCIATION OF AUST. INC.

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## **INTRODUCTION**

This field handbook is designed to provide basic information for those who work with Glass Wool and Rock Wool insulation products.

### **Purpose**

General information and Guidelines : Glass Wool and Rock Wool.

The AMWU/CFMEU/CEPU/FARIMA Industry Code of Practice for the Safe Use of Glass Wool and Rock Wool insulation products has been compiled to provide advice and guidance to the building industry, including trade unions, peak employer and employee organisations.

This Code of Practice and the manufacturers' specifications for individual Glass Wool and Rock Wool products must be referenced in the first instance.

The following information is provided as a field guide only for those persons who handle Glass Wool and Rock Wool insulation products.

## **Note**

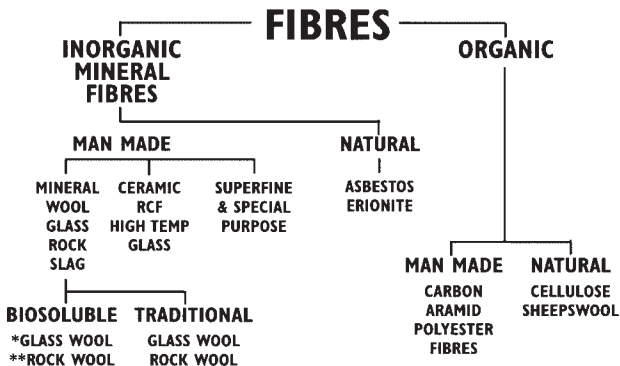
Nothing included in this Guide is intended to, or should be construed to, exempt persons from compliance with any statutory or manufacturers' specifications as stated for the safe handling of these materials.

# WORKING WITH GLASS WOOL AND ROCK WOOL INSULATION PRODUCTS

## I. Introduction

Glass Wool and Rock Wool insulation products are synthetic products used in the insulation of commercial, industrial and domestic buildings, air-conditioning ductwork, pipework, plant and equipment.

Fibrous insulation materials are best defined as:



\*FBS-1  
Glass Wool  
symbol



\*\*FBS-1  
Rock Wool  
symbol

When working with or handling any synthetic mineral fibre (SMF) product, a manufacturers' specifications and guidelines must be adhered to.

Generally the following requirements apply to all SMF products but in particular to Glass Wool and Rock Wool.

## **2. DO's**

Basic for field personnel:

- Method of work must be complied with; understand and share information.

\* PPE must be worn when required/instructed.

## **3. DON'T's**

Basic for field personnel:

- Don't be a hero - carry out instructions and/or procedures that comply.

## 4. DEFINITIONS

### ***“Biosoluble”***

means dissolves in bodily fluids and is rapidly cleared from the body.

### ***“Competent Person”***

means a person whom the employer ensures has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to currently perform a specified task.

### ***“Glass Wool”***

means a fibrous product formed by either blowing or spinning a molten mass of glass, The resultant fibres are subsequently collected as an entangled matt of fibrous product.

### ***“Hazard”***

means the potential to cause harm.

### ***“Hazardous Substance”***

means a substance that has the potential, through being used at work, to harm health and safety in the workplace. The criteria for identifying a hazardous substance are detailed from time to time in the National Occupational Health and Safety Commission’s (NOHSC) Approved Criteria for Classification of Hazardous Substances (1999).

### ***“Label or Labelling”***

means a label that complies with the National Occupational Health and Safety Commission Code of Practice for the Labelling of Workplace Substances (1999) as amended from time to time.

### ***“Material Safety Data Sheets”***

(MSDS) means documents that describe the properties and uses of a substance, that is, the identification of chemical and physical properties, health hazard information, precautions for use and safe handling information.

### ***“Risk”***

means the probability of harm actually occurring.

### ***“Rock Wool”***

means fibrous product manufactured by a process of blowing or spinning from a molten mass of rock. In Australia this is usually a mix of basalt and slag. The resultant fibres are subsequently collected as an entangled matt of fibrous product.

### ***“SMF”***

means synthetic mineral fibres.



## 5. SUMMARY OF HEALTH EFFECTS

Health effects, based on epidemiological and toxicological data available to June 2002, are summarised as follows:

Dust from these products may cause discomfort of the nose, throat and respiratory tract, especially for those suffering from upper respiratory or chest complaints such as hay fever, asthma or bronchitis.

In 1987 the International Agency for Research on Cancer (IARC) evaluated Glass Wool and Rock Wool as Group 2B – possibly carcinogenic to humans. This evaluation was based on limited evidence from animal experiments, and in the balance of findings from epidemiological studies of humans in North American and European manufacturing industries.

Studies completed since 1987 have demonstrated that the potential health risks from Glass Wool and Rock Wool are less than suggested at the time of IARC review. These reduced health risks were confirmed by the IARC in October 2001, when a meeting of a panel of experts conclude that Glass Wool and Rock Wool were not carcinogenic to humans. As a result of this conclusion, the IARC has removed Glass Wool and Rock Wool from its list of possible human carcinogens.

Since January 2000 (Glass Wool) and January 2002 (Rock Wool) all insulation wool products (Glass and Rock Wool) manufactured in Australia have been Biosoluble FBS-I Glass Wool and Rock Wool.

These products are not classified as hazardous according to the criteria of National Occupational Health and Safety Commission (NOHSC).

**The overall conclusion, based on available animal data and epidemiology, is that provided Glass Wool and Rock Wool work is carried out in accordance with this code of practice and compliance is maintained with the Worksafe exposure standard, then there is a negligible health risk associated with exposure to Glass Wool and Rock Wool under present day manufacturing and usage patterns.**



\*FBS-1  
Glass Wool  
symbol



\*FBS-1  
Rock Wool  
symbol

## DUTIES OF PARTIES

### 6. **Manufacturers, Importers and Suppliers must -**

- (a) endeavour to supply Glass Wool and Rock Wool materials which emit the lowest possible amount of fibres and/or dust, especially during cutting and shaping.
- (b) ensure packages of Glass Wool and Rock Wool will be labelled in accordance with the provisions contained in the National Commission's Code of Practice on labelling.

- (c) have and supply Material Safety Data Sheets (MSDS) for Glass Wool and Rock Wool materials, including additives, in the approved National Commission format.
- (d) pack and package Glass Wool and Rock Wool materials in a form that minimises the release of fibres and/or dust.
- (e) provide information to enable the safe use of Glass Wool and Rock Wool materials.

## **7. DUTIES OF EMPLOYERS**

- (a) The employer will ensure that any risk to health and safety created by Glass Wool and Rock Wool procured, handled, stored or disposed of in the workplace is examined, assessed and controlled.
- (b) The employer will ensure employees are instructed in safe work practices for handling Glass Wool and Rock Wool materials and correct procedures for the selection, wearing and maintenance of personal protective clothing and equipment.
- (c) Employers are required to ensure that they obtain information as to the likely exposure levels for each typical task that employees may experience with each given employee. Where monitoring is undertaken to determine exposure levels, such monitoring shall be in accordance with the National Occupational Health and Safety Commission's (NOHSC) membrane filter method for the estimation of airborne synthetic mineral fibres.

## **8. DUTIES OF EMPLOYEES**

- (a) An employee should take part in any jointly agreed instruction or training programme provided by the employer or jointly agreed provider.
  
- (b) An employee who has been trained in the above control measures is required to as far as the employee is capable, to use those control measures, including personal protective equipment, in accordance with the assessment made.
  
- (c) An employee should report to the employer and OH&S representative any departure from control procedures or defects in PPE.

## **9. RISK ASSESSMENT**

- (a) Glass Wool and Rock Wool products manufactured in Australia are biosoluble (FBS-1) in accordance with the criteria of note and of NOHSC: 10005(1999)] and are not classifiable as hazardous.
- (b) The employer must ensure that the risk assessment is carried out by a competent person.
- (c) The assessment must be conducted in consultation with employees who are likely to be working with, or otherwise exposed to Glass Wool and Rock Wool, and their health and safety representatives.

### **9.1 What the Risk Assessment Should Cover**

The Risk Assessment should cover the following:

- (a) Identification of Glass Wool and Rock Wool in the workplace - this should include the type, form, location and potential usage including production, handling, storage, transport and disposal.
- (b) The nature if the hazard to health and safety (information about Glass Wool and Rock Wool can be obtained from product labels and MSDS provided by suppliers).

- (c) The exposure to Glass Wool and Rock Wool.
- (d) The measures required to control the exposure to Glass Wool and Rock Wool.

## **9.2 Determining Degree of Exposure**

There can be significant amounts of respirable fibres in all insulation wool products. Employers should ensure that they obtain information about the likely exposure levels that employees may experience with each given task.

There are several factors that alone, or in combination, largely determine the fibre levels present during specific application of insulation wool products. These factors include:

- Type and form of product
- Degree of disturbance
- Extent of binders, cladding or sealants
- Ventilation

These factors should be considered in assessing any level of risk to health and safety involved in the use of insulation wools.

## **9.3 Air Sampling**

Air sampling may be required if a task is not a typical one, or has not been previously monitored.

## **9.4 Revision of Risk Assessment**

The risk assessment should be reviewed whenever:

- (a) There is a change in the way the insulation wool is used.
- (b) There is a change in a process or procedure or in the environment in which the product is being used which may result in a change in exposure.
- (c) New information becomes available about the possible hazardous properties eg: introduction of FBS-I biosoluble fibres in January 2000, IARC evaluation review 2001.
- (d) Inspections and/or monitoring indicated exposure controls are inadequate.
- (e) New or improved control measures become available.

## **9.5 Records of Assessment and Monitoring**

The risk assessment of potential exposure to Glass Wool and Rock Wool must be recorded and made available to all employees, their OH&S representatives and Health and Safety Inspectors on request (refer Code section 9.3.2).

## 10. OVERALL STRATEGY

Action should be taken on a continuing basis to achieve the lowest possible level of airborne fibres and dust.

This could be achieved by, for example:

- (a) The greater attention to plant cleanliness and the containment of waste material.
- (b) Using work practices and materials (eg: dust suppressants ) that reduce the release of dust and fibres.
- (c) The provision of appropriate PPE.

Following this Guide and the specific schedules will result in fibre levels significantly below the exposure standard to 0.5 f/ml. Monitoring to date has shown that this is the case.

In addition, in situations where almost all the airborne insulation wool material is fibrous, a secondary, yet complimentary, standard of 2mg/m<sup>3</sup> of inspirable dust should be applied to avoid short term irritation, for example, of the nose and throat, from largely non-respirable fibres.

**Provided this Guide is applied, and the specified work practices nominated above are implemented, any risk to health should be contained and employees should not be exposed to unsafe conditions or face any measurable risk to health.**



## **11. WORK PRACTICES**

### **11.1 Pre- Delivery**

Prior to working with Glass Wool and Rock Wool, employers should ensure the following:

- (a) Glass Wool and Rock Wool material is ordered in a form and shape which requires a minimum of cutting and handling on site.
- (b) MSDS's that conform with the approved Worksafe Code of Practice are supplied and studied.

### **11.2 General Practices**

The employer should ensure safe work practices are developed which adopt work methods that minimise the release of, and exposure to, Glass Wool and Rock Wool.

### **11.3 Systems at Work**

The following engineering controls, general house keeping, and work practices, should be adhered to when handling Glass Wool and Rock Wool materials:

- (a) Work practices are designed to minimise the release of, and exposure to, fibres and dust.
- (b) Packaging and transport of materials is carried out so as to minimise the release of fibres and dust.

- (c) correct tools are used for the task. Where required, manual tools should be used to trim or cut Glass Wool and Rock Wool materials. If it is essential to use power tools, these should be fitted with exhaust extraction at the point of dust generation, or other effective local exhaust ventilation supplied.
- (d) Designation of work areas using ropes (or similar barriers) and appropriate signs are utilised, where practicable, for all overhead work involving Glass Wool and Rock Wool. Where practicable, employees not engaged in Glass Wool and Rock Wool work should not be within 3 metres of the Glass Wool and Rock Wool work areas. An example of an appropriate sign as follows.

**GLASS WOOL/ROCK WOOL WORK AREA  
FOLLOW SAFETY INSTRUCTIONS**

- (e) All warning labels must comply with the Australian Standards AS 1319.
- (f) Glass Wool and Rock Wool material should be stored in low traffic areas, and in intact containers or under sheet covers.
- (g) Glass Wool and Rock Wool materials to be sprayed or gunned should be used and handled in a wet, rather than dry form, where possible.

- (h) Work areas should be cleaned regularly to remove any build up of fibres and/or dust. Visible waste materials should be removed promptly to avoid being trampled and spread about.
- (i) Cleaning could be by an industrial vacuum cleaner, but wet mopping and wiping is acceptable if vacuuming is not possible.
- (j) Waste should be placed in plastic bags or other containers which prevent fibre and dust emission, and disposed of in accordance with requirements of the local environment protection and waste disposal authorities.
- (k) Adequate washing facilities should be available on site to wash the skin, and to treat dust in the eyes.

## **12. INFORMATION**

### **12.1 Material Safety Data Sheets**

The employer is required to ensure that Material Safety Data Sheets are obtained and are readily available to employees and their representatives.

### **12.2 Labels**

The manufacturer is required to ensure that any container or package of Glass Wool and Rock Wool is clearly and appropriately labelled.

### **13. EDUCATION AND TRAINING**

Supervisors and employees who work with Glass Wool and Rock Wool must be provided with information, instruction and training.

This must include:

- Any occupational health information relating to Glass Wool and Rock Wool and handling and/or exposure obtained from labels and MSDS.

## **SCHEDULE I**

### **REMOVAL OF GLASS WOOL AND ROCK WOOL PRODUCTS**

- (a) Procedures to be applied for removal depend on the form of the original insulation wool installed.
- (b) The two basic forms of Glass Wool and Rock Wool product are bonded and unbonded. The bonded form of Glass Wool and Rock Wool contain binding agents, that have been cured in the manufacturing process prior to packaging and delivery, and the products have a specific shape. The unbonded form can be loose packed.
- (c) Respiration protection will be necessary when working in enclosed or poorly ventilated spaces or where the Glass Wool and Rock Wool insulation has undergone physical change.
- (d) Removal of bonded material is easier and less dusty than unbonded forms. Any physical abrasion, including cutting, should be kept to a minimum during removal. Such removal can be performed in a dry condition if there is minimal physical abrasion. Only in circumstances where heat or other conditions have made the bonded Glass Wool and Rock Wool attach itself to the substrate, should physical abrasion take place. If this occurs, removal should be performed as for unbonded Glass Wool and Rock Wool removal.
- (e) Removal of unbonded material is more difficult and more dusty. The unbonded material should be thoroughly wetted

before removal takes place. Dry removal may be necessary when there are electrical and heat considerations.

(f) Details of the specific work practices are found in section 11.

## **SCHEDULE 2**

### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

- (a) Where exposure levels are such that personal protective equipment is required, it is required to be readily available in the workplace. Protective equipment is not to be regarded as a substitute for control measures to reduce exposure levels.
  
- (b) Respirators are required to be correctly fitted, maintained in good condition, and kept in clean storage when not in use.