Best Practice Guide

Working safely with fibre cement.

Australia & New Zealand July 2024

Make sure your information is up to date.
When specifying or installing Hardie™ products, ensure that you have the current technical information and guides. If in doubt, or you need more information, visit www.jameshardie.com.au or www.jameshardie.co.nz.

JamesHardie™

CONTENTS

DANGER:
PRODUCT CONTAINS SAND, A SOURCE OF RESPIRABLE CRYSTALLINE SILICA. MAY CAUSE CANCER BY INHALATION AND MAY CAUSE DAMAGE TO LUNGS AND RESPIRATORY SYSTEM THROUGH PROLONGED OR REPEATED INHALATION OF DUST FROM THE PRODUCT.

1 Introduction

At James Hardie we believe that safety should be of paramount importance to everyone.

We are committed to the safe use of our products.

This guide provides a straight forward approach to working with Hardie™ products.

Intact fibre cement products are not expected to result in any adverse toxic effects. The health hazard associated with fibre cement arises from the respirable crystalline silica present in dust generated by activities such as cutting, rebating, drilling, routing, sawing, crushing, or otherwise abrading fibre cement, and when cleaning up, disposing of or moving dust.

When doing any of these activities in a manner that generates dust, follow James Hardie instructions and best practices to reduce or limit the release of dust, warn others in the area and consider rotating personnel performing the cutting task to further limit respirable crystalline silica exposure.

If using a dust respirator, at a minimum use a AS/NZS1716 P2 filter and refer to Australian/New Zealand Standard 1715:2009 Selection, Use and Maintenance of Respiratory Protective Equipment for more extensive guidance and more options for selecting respirators for workplaces.

For further information, refer to our installation guides and Safety Data Sheets available at www.jameshardie.com.au or www.jameshardie.co.nz.

Note: PCBUs and others have general duties under the WHS laws relating to worker health and safety. Refer to your State or Local regulations for further guidance in the processing of materials containing crystalline silica.

FAILURE TO ADHERE TO OUR WARNINGS, SAFETY DATA SHEETS, AND INSTALLATION GUIDES MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

2 Silica Awareness

2.1 WHAT IS SILICA?

Commonly known as sand or quartz, silica is the second most common mineral on earth and is found in many common building products.

Silica is commonly found in building products like concrete, bricks, grout, ceramic tiles, glass, dirt and all fibre cement material such as Hardie™ products. It would almost be impossible for people not to come into contact with silica every day.

2.2 THE HAZARD

The capability to cause harm

Silica when it's intact is harmless. However, when it is cut, drilled or otherwise abraded, respirable crystalline silica (RCS) is released as dust particles invisible to the naked eye.

Poor housekeeping methods that disturb accumulated dust on workplace surfaces, such as dry sweeping, using compressed air or high-pressure water cleaners and general-purpose vacuum cleaners not designed for use with hazardous dusts can also lead to RCS exposure.

Exposure to respirable crystalline silica dust is an occupational hazard. Infrequent low level exposure to respirable crystalline silica dust is unlikely to be hazardous.

2.3 THE RISK

The likelihood of the hazard causing harm

James Hardie best practice recommendations are designed to minimise the risk of harmful exposure to respirable crystalline silica when installing fibre cement products and enable users to comply with applicable government safety standards.

Prolonged or repeated inhalation of respirable crystalline silica dust can cause damage to the lungs and respiratory system including a potentially fatal lung disease called silicosis. The inhalation of respirable crystalline silica can also cause other adverse health effects including cancer.

2.4 RISK FACTORS

Factors that affect the degree of risk include:

- Level of exposure
- Duration and frequency of exposure
- External health factors (e.g. lifestyle, genetics, smoking)

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Respirable Crystalline Silica is an occupational hazard and can be managed by adopting best practices, including use of appropriate tooling, implementation of appropriate systems and ensuring correct use of Respiratory Protective Equipment (RPE).

Click here to view a copy of our Fibre Cement SDS.

Australia
New Zealand

3 Best Practice

3.1 WORKING SAFELY WITH HARDIE™ PRODUCTS

James Hardie believes that safety is of paramount importance to everyone and is committed to enabling the safe use of our products and safer work sites.
This guide provides information on what we consider to be the current best practices on how to work safely with Hardie™ products. Further guidance and information is available in our fibre cement SDS as well as on the Safe Work Australia and State and Territory WHS websites.
For technical information on the installation of our products, refer to the relevant product installation guides and technical specifications available at **www.jameshardie.com.au** and **www.jameshardie.co.nz.**

If you still have concerns about silica dust exposure levels, you should always consult a qualified occupational hygienist. A directory can be found at **www.aioh.org.au** and **www.nzohs.org.nz.**

SANDING, REBATING, DRILLING, CUTTING OR OTHER MACHINING

James Hardie encourages you to always minimise dust exposures. Therefore, when sanding, rebating, cutting, drilling or carrying out other machining of fibre cement products, as well as following our recommended cutting instructions, you should always wear a properly fitted P2 respirator (refer to page 5 for further guidance on Respiratory Protective Equipment) and setup a dedicated working area.

When using a power saw (e.g. track saw, circular saw or drop saw), dusts released must be controlled during work activity.

3.1.1 Cutting outdoors

Identify location of other workers and position cutting station in an open area. A vacuum attachment must be fitted to selected tool, in order to minimise dust exposure to all workers (both user and others nearby to work area). Use one of the following methods based on the required cutting rate:

BEST

- Hardie™ Villaboard™ Score and Snap Knife
- Hand guillotine
- Fibreshears

BETTER

- Dust-reducing power saw (e.g. circular saw) equipped with a fibre cement saw blade (e.g. Hardie™ Blade or Diablo fibre cement blade) and connected to a H or M class vacuum.

The best cutting technique involves using a score & snap knife, fibreshears or a hand guillotine.

3.1.2 Cutting indoors (and/or poorly ventilated areas)

Only cut using a score and snap knife, hand guillotine or fibreshears (manual, electric or pneumatic).

Note: While these tools produce insignificant amounts of respirable crystalline silica dust when cutting fibre cement, some state or local regulations may nevertheless require additional dust controls to be used.

3.2 HANDLING & STORAGE

Hardie™ products are robust and durable when installed and maintained in accordance with James Hardie's published literature current at the time of purchase. It is important to keep the product dry in storage and during installation.

If product becomes saturated prior to installation the following can occur:

- SHRINKAGE at joints.
- STAINING a deposit of soluble salts, usually white in colour.
- DIFFICULTY in handling due to the increased weight and added flexibility once saturated.

James Hardie is not responsible for damage due to improper storage and handling.

3.2.1 HANDLING

Where a material handling aid cannot be used, James Hardie recommends the use of the following handling techniques:

For Planked Products

- Do not lift planked products flat and in the middle (Figure 3).
- Carry the products on edge (Figure 4).
- If only one person is carrying the product, hold it in the middle and spread arms shoulder-width apart to better support the product (Figure 5).
- If two people are carrying the plank, hold it near each end and on edge (Figure 6).

Fig. 3

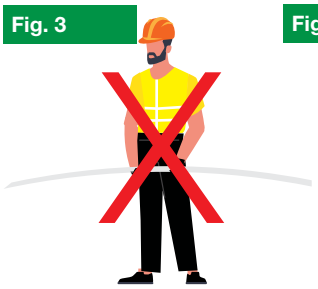


Fig. 4

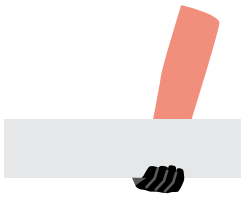


Fig. 5

Fig. 6

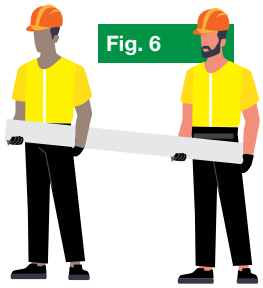


Fig. 7

For Panel Products

- Carry with two people (Figure 7).
- Hold the panel, ensuring the product load is distributed across the length of product.
- Exercise care when handling panel products to avoid damaging the corner.

3.2.2 STORAGE

Fig. 1

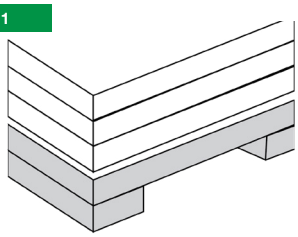
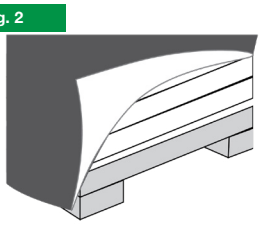


Fig. 2



- **STORED** in their original packaging in a covered area when possible.
- **COVERED** on a pallet and must not be stored directly on the ground (Figure 1).
- **PROTECTED** with a waterproof covering, if storage outside is unavoidable (Figure 2).
- **STORED** flat and above ground (Figure 1).

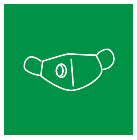
4 Minimising Respirable Crystalline Silica Dust Exposure

4.1 OVERVIEW

Cut Outdoors
Ventilation outdoors is better than indoors. This enables faster dispersion of any dust and reduces the risk of exposure. James Hardie recommends always cutting outdoors when using power saws.

Use The Right Tool For The Right Product
A variety of tools can be used when cutting Hardie™ Fibre Cement. See next page for details of the best tool for the job depending on product and finish required.

On-Tool Dust Extraction
Use on-tool dust extraction when using power tools to drill and cut Fibre Cement. Vacuum must be H or M-class rated.



Use an Appropriate Respirator
When sawing, sanding, rebating, drilling or machining fibre cement products, always wear your P2 respirator (correctly fitted in accordance with manufacturers' instructions), ask others in close vicinity to do the same.

Cleaning Methods
Make sure you clean up BUT never dry sweep. Always use a H or M Class vacuum. It is recommended that removal of waste products are handled in a way that stops Respirable Crystalline Silica from being released into the air. This could be managed by placing it in a covered bin or container, as wet waste or waste bagged.

Additional Administrative Control Options
Consider rotating personnel performing the cutting task and staging cutting activities across more than one day to further limit respirable crystalline silica exposure.

4.2 ACTIVITY & TOOLING

The below table provides an overview of common activities undertaken with Hardie™ products. Read through and select relevant tooling and environmental conditions for the activity and use appropriate recommended controls.
Note: Refer to Section 4.1 Overview for further information on controls.

Activity	Tooling	Recommended Environment	Recommended Controls	
			Respiratory Protective Equipment	Dust Control Method
Cutting	▪ Track Saw	Outdoors	P2 Respirator	Tool equipped with dust collection system; vacuum must be H or M-class rated.
	▪ Circular Saw			
	▪ Drop Saw			
	▪ Plunge Saw			
	▪ Fibreshears	Indoors or Outdoors	P2 Respirator	If cutting indoors, use alternate equipment such as fibreshears, hand guillotine or score and snap knife. Preferred option is to cut outdoors with recommended dust control method.
	▪ Hand Guillotine			
	▪ Score and Snap Knife			
Drilling	▪ Drill	Outdoors	P2 Respirator	Tool equipped with dust collection system; vacuum must be H or M-class rated.
	▪ Hole Saw			
Sanding / Abrasion	▪ Grinders	Outdoors	P2 Respirator	Tool equipped with dust collection system; vacuum must be H or M-class rated.

4.3 CUT QUALITY & TOOL SELECTION

James Hardie always recommends using “best” level cutting methods where feasible.

Where more precise cut edges are required, the following tooling types can provide these means:

- Track Saw
- Circular Saw
- Drop Saw

Once the right tool for the job has been selected, ensure the saw is equipped with an appropriate commercially available dust collection system; and operate and maintain tool in accordance with manufacturer's instructions to minimise dust emissions.

Dust collector must provide the air flow recommended by the cutting tool manufacturer, or greater, and be rated to either H or M-Class.

Where drilling, sanding or abrading is required, a dust extraction system e.g. attachment, shroud, must be fitted to minimise dust exposure.

If a lower level cut quality is opted-for and feasible for the product concerned, the following equipment and/or alternate methods can provide these means:

- Score and Snap Knife
- Hand Guillotine
- Fibreshears

Example: On-tool Dust Extraction System

Example: Score & Snap Knife

For information and advice
call 13 11 03 | jameshardie.com.au
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