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## 1. Introduction

*Department of Minerals, Industry Regulation and Safety Code of Practice for Prevention of falls from height at workplaces* contains extensive safety information applicable to these tasks. Compliance with the safety precautions described in the Code of Practice is required for all roof works carried out on CSBP facilities.

This guide manual describes the control measures and safety working requirements that are specific to CSBP's facilities and must be read in conjunction with the Code of Practice. In some cases, the requirements of this guide manual are more stringent than the Codes of Practice.

All personnel directly involved in the roof works shall read and understand the applicable code of practice and this guide manual before commencing roof work.

## 2. Reference Documents

### 2.1 Regulations and Codes of Practice

Occupation Safety and Health Regulations 1996: Part 3, Division 5, Subdivision 57

Department of Minerals, Industry Regulation and Safety Code of Practice Prevention of falls from height at workplaces.

### 2.2 CSBP Standards and Guides

[CSBP-ES-14-302-03](#) Building Cladding Standard

[CSBP-GM-10-020-04](#) Contractor's Site Instructions

[CSBP-GM-11-031-51](#) Work Permit System

[CSBP-GM-11-031-20](#) Asbestos Management Plan

[CSBP-GM-11-031-23](#) STOP and Job Safety Analysis Risk Assessment

[CSBP-GM-11-031-01](#) Personal Protective Equipment

[WCEF-GM-OHS-040-03](#) Dropped object Prevention

[WCEF-PD-OHS-130-01](#) Asbestos Management Plan

[WCEF-PD-R&S-0018](#) Working at Height

[WCEF-PD-R&S-0019](#) Elevated Work Platforms

### 2.3 Australian Standards

AS1319: Safety signs for the occupational environment

AS1562.3: Design and installation of sheet roof and wall cladding – Plastic

AS/NZS 4389: Roof safety mesh

## 3. General Requirements

### 3.1 Job Safety Analysis (JSA)

Prior to the commencement of any roof works, the personnel directly involved shall complete a JSA, with reference to *Appendix 2 – Work on Roofs of Working at Height* ([WCEF-PD-R&S-0018](#)).

A copy of the JSA shall be provided to the Accountable Person for review and approval prior to commencement of the task. Refer to CSBP Guide Manual for *STOP and Job Safety Analysis Risk*

Assessment ([CSBP-GM-11-031-23](#)) for details and Appendix 2 – Work on Roofs of Working at Heights ([WCEF-PD-R&S-0018](#))

For works where there is a high risk identified, a Team Based Risk Assessment shall be completed. Refer to WesCEF Guide Manual *Team Based Risk Assessment* ([WCEF-GM-OHS-040-02](#)) for details.

## 3.2 Work Permit

A CSBP Work Permit is required prior to the commencement of any roof work on site. Work Permits will be issued in accordance with CSBP Procedure *Work Permit System* ([CSBP-GM-11-031-51](#)).

## 3.3 Personal Protective Equipment (PPE)

All PPE used shall be approved and acceptable quality complying with CSBP Guide Manual Personal Protective Equipment ([CSBP-GM-11-031-01](#)) and appropriate for the task being performed.

## 3.4 Training

All employees and contractors working at heights; or responsible for authorising works where there is a risk of falling shall be competent to work at height as defined in section 4 - *Working at Height* ([WCEF-PD-R&S-0018](#)).

# 4. Fragile or Brittle Roof Work

## 4.1 Inspection and Identification

All roofs and box gutters should be treated as fragile until a competent person has confirmed they are not. No sheeted roof or box gutter, no matter what the material, should be relied upon to bear the weight of a person. Roofs and box gutters are likely to be fragile if they are constructed from the following materials:

- Asbestos roof sheeting
- Polycarbonate or plastic commonly used in skylights
- Fibre cement sheets
- Metal sheets and fasteners where corroded
- Glass, including wired glass
- Wood slabs, slates and tiles

In this context, for assessing brittleness or fragility, a competent person is one who can demonstrate that they have:

- thorough knowledge of roofing and of the mechanical and physical properties and behaviour of the particular roofing material and methods of installation;
- extensive knowledge and experience of installing the product the roof is made of, its usage limitations, behaviour, and mode of failure in service; and,
- an understanding of the effects on the product the roof is made of 'under test' when purlin centres are increased and decreased, and the ways the roofing material could fail when the resulting structure becomes more or less rigid.

## 4.1.1 SIGNAGE

All roof access doors where fragile material forms the whole or any part of the roof shall be locked at all times and shall have warning signs, stating for example "DANGER FRAGILE ROOFING - USE WORKING PLATFORM", placed.



*Danger signs to be fixed at points of access to the roof.*

<sup>1</sup> Means a person who has acquired through training, qualification of experience a combination those things, the knowledge and skills required to do that thing competently

## 4.2 CHECKLIST

If a person is required to work on or from a roof of material that can break, easily snap or shatter or is weak or perishable, the following must occur;

- Persons informed that there is a fragile or brittle roof
- Provide safe access to the work area to enable employees to step directly onto a safe platform or area
- Work is carried out from a safe working platform that is located or constructed to allow work to be performed safely
- Fall injury prevention system is installed and used
- Another person present at all times when work is being performed on a brittle roof in case there is an emergency
- Training and instruction is provided on precautions to be taken and safe access
- Training in rescue techniques has been provided and rescue equipment is readily available for use at the workplace
- Warning signs are displayed at access points to any work area where fragile material is present
- Warning signs are fixed securely in a position where they will be clearly visible to persons accessing the works area
- Before the roof is removed, the brittle or fragile areas are identified and stability of the structure and soundness of the roof is assessed as part of the risk process

## 4.3 Asbestos

Repairs, removal or disposal of asbestos sheeting shall comply with the CSBP procedure *Asbestos Cement Building Products Removal* ([CSBP-GM-11-031-20](#)).



## 4.4 Working at Height

Where works involve a risk of a person falling control measures are to be implemented to prevent injury from work on fragile roofs. Refer to *Working at Height* ([WCEF-PD-R&S-0018](#)).



**persons shall not walk directly on fragile or brittle roofs**

## 4.5 Fragile or Brittle Roof Specific Controls

Where loads will be applied to areas containing fragile or brittle roof materials, additional control measures are to be implemented.

- Inspect the underside of the work area to determine the extent of fragile material, presence of safety mesh and the structure soundness of the work area and the safety mesh. If safety mesh is not present or structurally sound consider the installation of AS/NZS 4576 safety nets or the installation of a securely fixed safety mesh directly over the top of the brittle or fragile area.
- Provide temporary roof ladders or crawl boards of sufficient strength, where any person is required to carry out work on or adjacent to any part of a sloping roof sheathed in fragile material.
- Staging on the roof surface to spread load

## 4.6 Removal of Fragile or Brittle Roof

The removal of roofing materials and safety mesh (if installed) for the replacement of the roof or for demolition creates an opening which exposes persons to a fall from height risk. Control measures are to be implemented to provide edge protection. Refer to *Working at Height* ([WCEF-PD-R&S-0018](#)).

The sheeting should be removed first so that the safety mesh remains intact to provide maximum protection for the removal workers. Then the safety mesh (if installed) should be removed.

## 4.7 Repair & Maintenance

Installations of new cladding materials associated with repairs and maintenance to fragile roofing shall comply with *Building Cladding -Standard* ([CSBP-ES-14-302-03](#)).

If repairs and maintenance to fragile roofing does not involve installation of new cladding material, consideration should be given to the durability of the repair to limit the frequency of repair and maintenance works on or adjacent to fragile roofing.