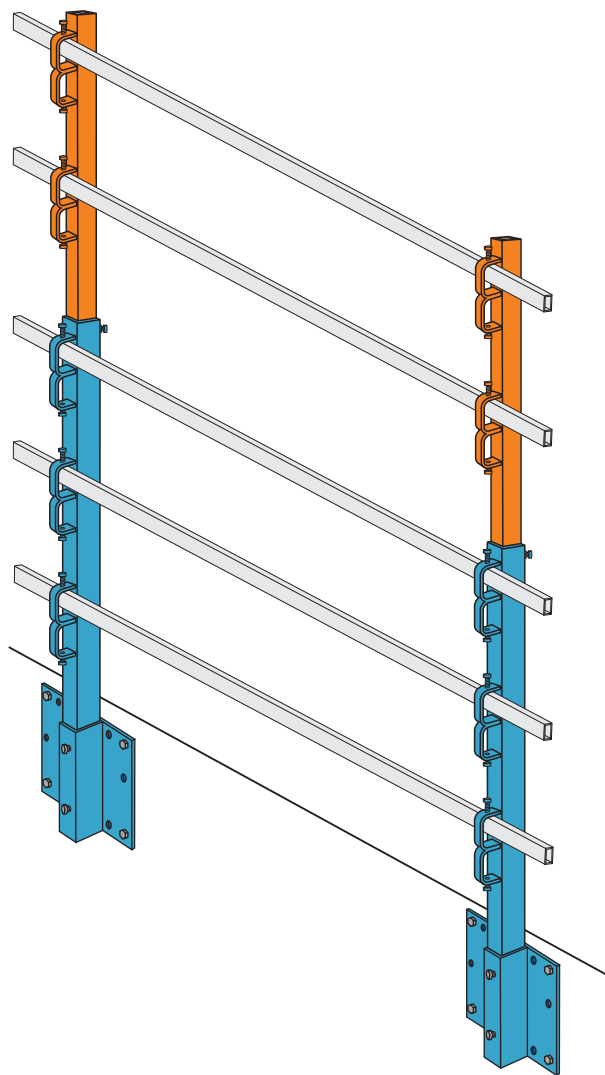


Revised May 2020

TELESCOPIC HANDRAIL SYSTEM INSTALLATION GUIDE

SIDE MOUNT



Compliance Testing to AS/NZS 4994.1:2009

Australian Patent 2017101261

Introduction

The Victorian occupational health and safety act 2004 requires for all people and organizations to ensure a safe and healthy work environment. The Occupational Health and safety prevention of falls compliance code that was updated in Dec 2019, provides practical guidance to all duty holders relating to fall hazards associated with construction work and requires all duty holders to identify all risks that involve the possibility of someone falling more than 2 metres and eliminate all such hazards ,so far as is reasonably practical.

It is also noted in the code that a fall from almost any height including falls from below 2m can result in serious injury or death. It is possible that a number of factors can combine to create a dangerous situation making the hazard identification and risk assessment process essential for work at any height.

An employer's primary duty of care is to eliminate the risk of injury to an employee. The best way of achieving this is before work commences, identifying potential risks and applying risk control measures as set out in the hierarchy of control matrix of the prevention of falls compliance code.

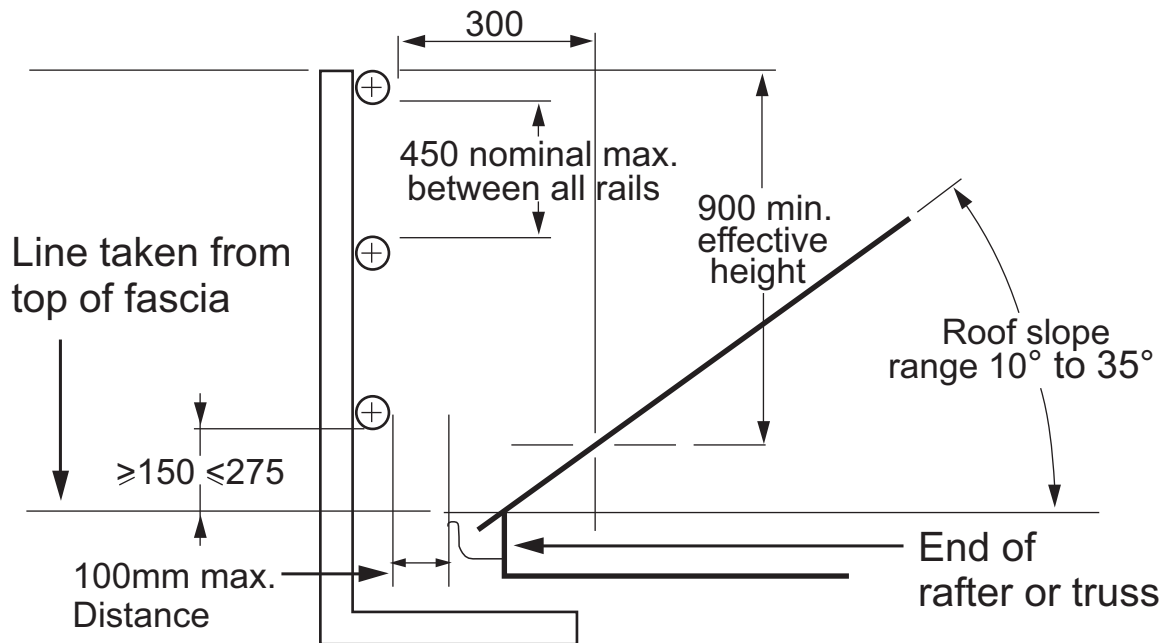
The use of perimeter guardrail is in the second highest control measure available, along with safety mesh and elevated work platforms. Only the possibility of carrying out work on the ground rates higher in the hierarchy than using a perimeter guardrail system. The Aldeck handrail system can be used pre, during or post construction to minimize the risk of people falling from height. The Aldeck handrail system is fully tested and complies with AS 1657-1992 and AS/NZS 4994.1:2009

- The Aldeck handrail system should be erected and dismantled in accordance with legislation under the OH&S act. A thorough risk assessment should be conducted and a safe work procedure applied prior to any work taking place.
- The handrail system should only be installed, modified or dismantled by a competent person, who has read and comprehended the installation guide relevant to the Aldeck hand rail system that they intend to install or dismantle.
- Posts to be installed at a maximum of 3 metres apart
Handrail heights are dictated by the Australian standard and are dependent on the roof pitch
Roof pitches from the horizontal
 - 0 to 10 degrees handrail need to be not less than 900mm high
 - 10 to 35 degrees, the top rail shall be located at an effective height of not less than 900mm
Above the point where a person could stand inside and adjacent to the edge protection on the sloping roof. This shall be not less than 300mm from the back of the fascia or outer edge of the truss or rafter where there is no fascia.
 - Where mid rails are used, the nominal clear distance between rails shall not exceed 450mm. The nominal clear distance between a mid-rail and a toe board or bottom rail shall not exceed 275mm.
 - Rails intersecting at corners of edge protection shall be securely connected to each other or to a post. The connection shall be one rail immediately above the other.
 - In any section of edge protection, the rails shall be nominally parallel.

Introduction cont.

- Where the slope of the roof exceeds 35 degrees, the roof according to the code of practice (prevention of falls 2019) is an inappropriate surface to stand on. Perimeter guard rails and catchment platforms are inappropriate measures to protect workers on a steeply sloping roof. In these circumstances, roof workers need a system to prevent sliding and to prevent falls from the perimeter, comprising one or more of the following
 - Elevated work platform
 - A work positioning system, such as a travel restraint or industrial rope system
 - A scaffold platform, located at the roof edge
 - A roof ladder

FIGURE 1 EFFECTIVE HEIGHT OF A GUARDRAIL



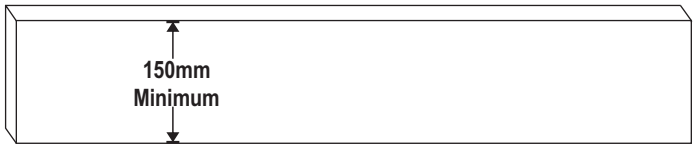
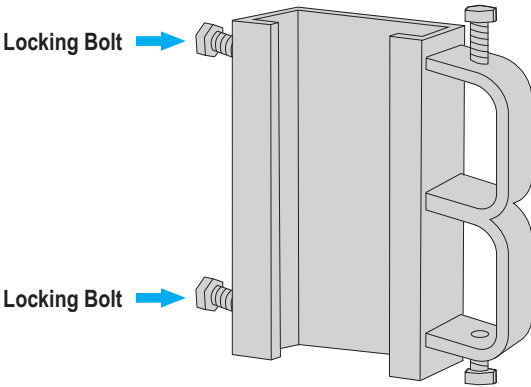
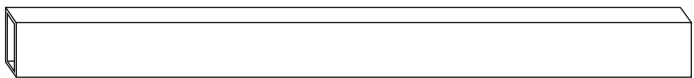


NOTE: Infill and toeboards are not shown for clarity.

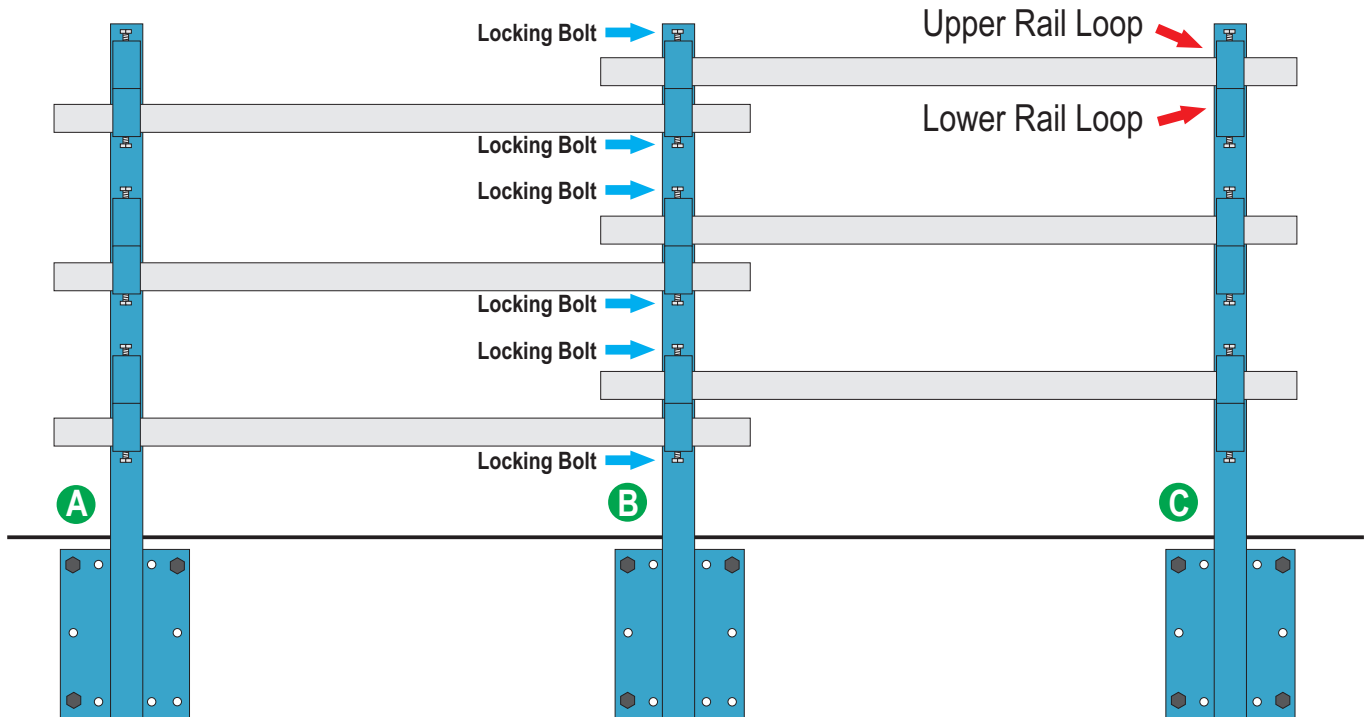
DIMENSIONS IN MILLIMETRES

IMPORTANT

It is important that the structure to which the temporary edge protection is to be attached can support the forces that may be applied when the edge protection restrains a person from falling from the edge.

Part No.	Description	Part No.	Description
1	<p>Base Post 1100mm</p> <p>Application Used as perimeter edge protection on concrete slabs or timber form work</p>	2	<p>Extension Post</p> <p>Application Used to extend Base Post from 1.1m anywhere up to 2.4m</p>
Picture / Diagram		Picture / Diagram	
<p>Upper Rail Loop →</p> <p>Lower Rail Loop →</p> <p>Upper Rail Loop →</p> <p>Lower Rail Loop →</p> <p>Upper Rail Loop →</p> <p>Lower Rail Loop →</p> <p>Upper Rail Loop →</p> <p>Lower Rail Loop →</p> <p>Locking Bolt ←</p> <p>Locking Bolt ←</p> <p>Through bolt location for 2.4m high post ←</p> <p>Through bolt location for 2m high post ←</p>		<p>Upper Rail Loop →</p> <p>Lower Rail Loop →</p> <p>Upper Rail Loop →</p> <p>Lower Rail Loop →</p>	

Part No.	Description	Picture / Diagram
3	Kick Board	 <p>150mm Minimum</p>
4	Detachable Rail Bracket Application Used as additional rail holder when extension post is extended above 2000mm	 <p>Locking Bolt →</p> <p>Locking Bolt →</p>
5	Handrail 50mm x 25mm x 2mm or 38mm x 25mm x 2mm	 <p>3200mm Standard Length</p>
6	M8 Screw bolt For fixing into concrete	 <p>M8 x 60mm long screw bolts for fixing into concrete. Check page 5 for position and amount of bolts required</p>
7	Screw 14 Gauge Timber For fixing into timber.	 <p>(3) minimum 14mm x 75mm type 17 timber screws per post extending into support beams below floor.</p>



STEP 1 Position the First Base Post **A** (Part 1) into desired location and fix to structure using appropriate fixings
Concrete

For posts up to 2.4m high, minimum of (3) M8 screw bolts (60mm long) per post, set as diagram of posts **A** & **B** above.

Timber

For any height post minimum (4) 14 x 75mm timber screws per post, set as diagram of post **C** above. Timber screws must go through plywood and into timber support beams.

STEP 2 Position the next Base Post **B** in the desired location, no more than 3 metres apart. Install rails placing them consistently down the base posts in either the upper or lower rail loop for any one segment. It is important that each rail is placed in the corresponding Upper or lower rail loop. Lock rails into position using the locking bolts supplied in each rail loop.

STEP 3 Position Base Post **C** in the desired location, no more than 3 metres apart. Install rails placing them consistently down the base posts in alternate rail loops than the preceding segment of rails.

Repeat these 3 steps until the entire area you require has hand rail installed.

PLEASE NOTE: When fixing shade cloth or debris mesh to handrail system, four (4) x M8 screw bolts (60mm long) are required to be installed per post. Please refer to engineers supplementary notes for full clarification.

INSTALLATION GUIDE

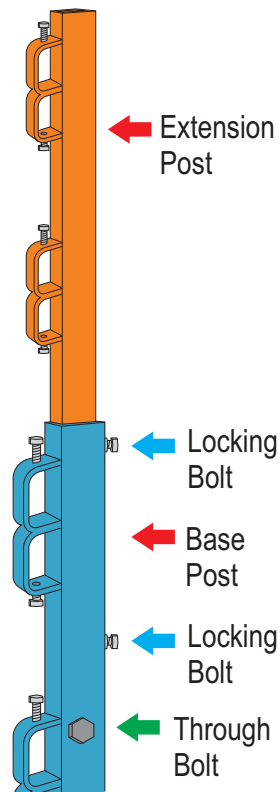
Telescopic Handrail System

Aldeck

STEP 4

To increase the height of the handrail system place the Extension Post into the Base Post. Lock into place using the Locking Bolts provided in the Base Post

A through bolt is provided in each Base Post to prevent the Extension Post from being able to collapse into the Base Post. This bolt needs to be moved to the higher location if the handrail is extended from 2m to 2.4m high

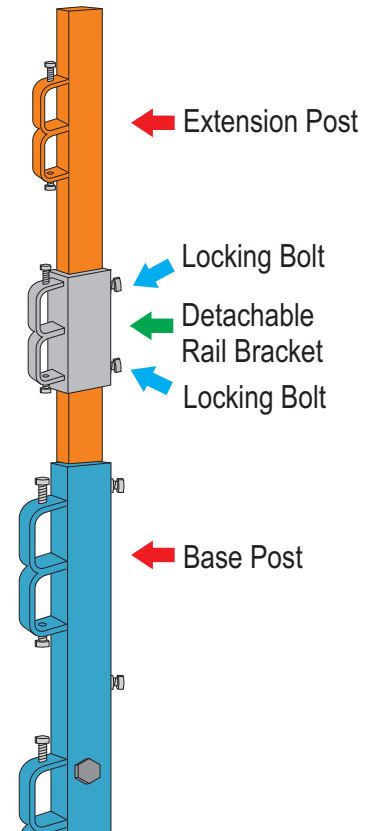


STEP 5

To extend the height of the system above 2 metres, Detachable Rail Brackets are required to be fitted onto the Extension Post. Space evenly between the rail loops above and below.

Lock into position with lock bolt supplied in each bracket.

Gap between rails must not exceed 450mm.



- Maximum post spacing is 3 metres.
- Rails may not exceed 600mm overhang from post
- When installing or dismantling, this work must be in accordance with state legislation under the OH&S act.

Please visit our website to view our latest installation manuals and videos at www.aldeck.com.au