

Aldeck
Under Purlin
Handrail Systems
Installation Guide

Compliance Testing to
AS 1657-1992 and AS/NZS 4994.1:2009

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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) National code of practice 2008 ,provides practical guidance to all duty holders related 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. Aldecks 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

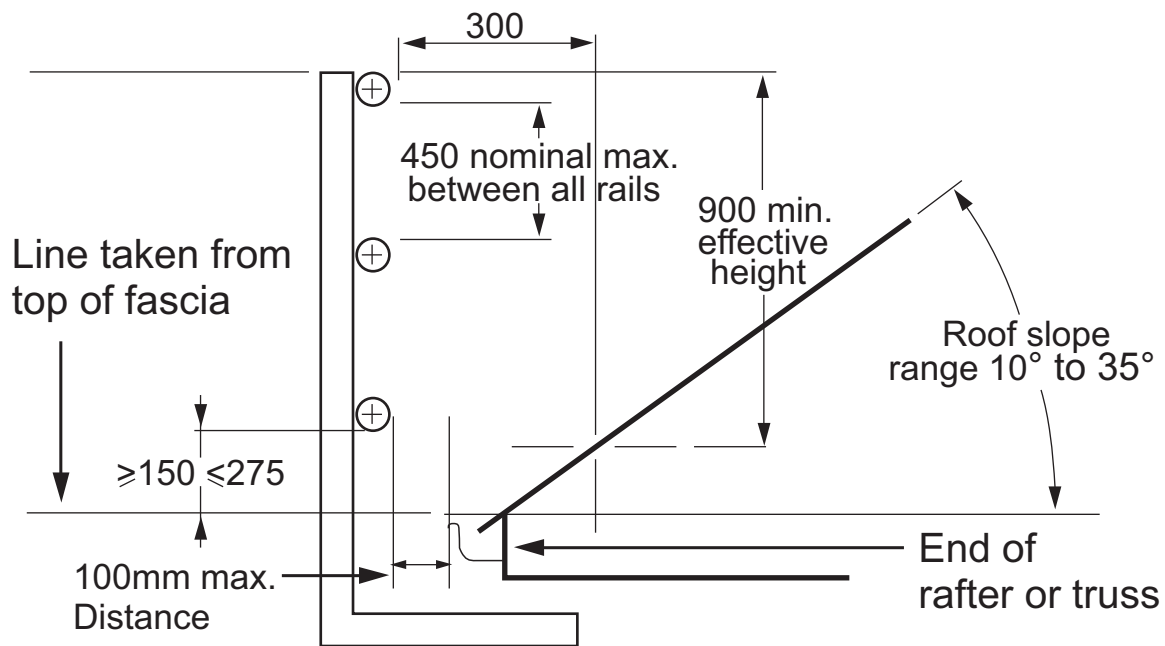
- The Aldeck handrail system should be erected and dismantled in accordance with legislation under the OH&S act. A thorough risk assessment should be conducted and a safe work procedure applied.
- The handrail system should only be installed, modified or dismantled by a component person familiar with the Aldeck safety rail system .
- Posts to be installed at a maximum of 3m
Handrail heights are dictated by the Australian standard and are dependant 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 midrails are used, the nominal clear distance between rails shall not exceed
450mm. The nominal clear distance between a midrail and a toeboard 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 roof edge protection, the rails shall be nominally parallel.

Aldeck | Handrail Systems

Introduction cont.

- Where the slope of the roof exceeds 35 degrees, the roof according to the code of practice (prevention of falls 2008) 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

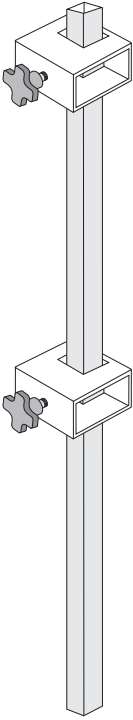


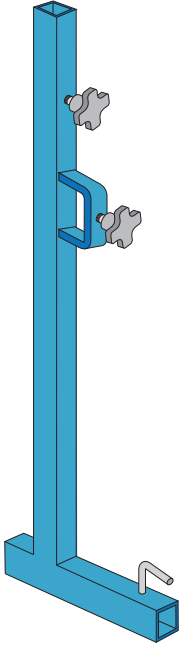
NOTE: Infill and toeboards are not shown for clarity.

DIMENSIONS IN MILLIMETRES

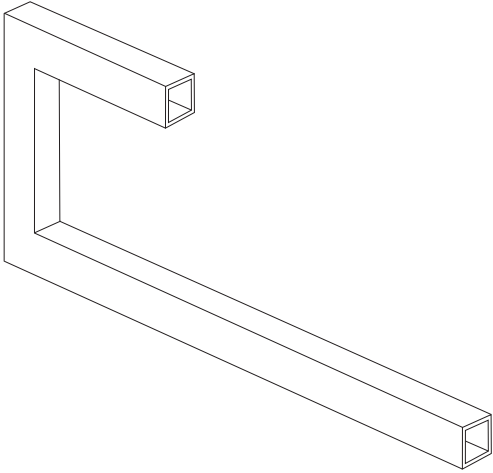
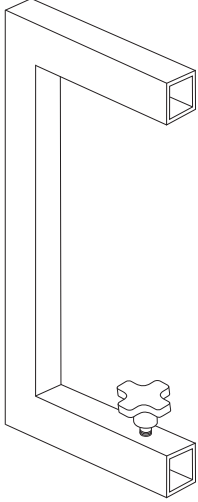
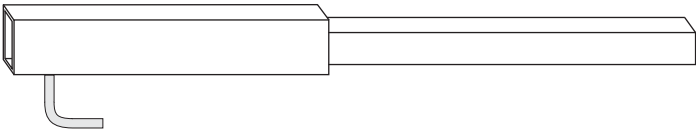
IMPORTANT

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.

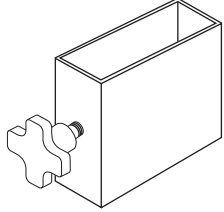
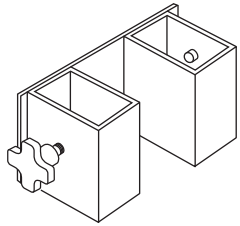
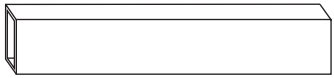
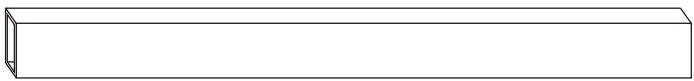
Aldeck Safety Rail Components		
Part No.	Description	Picture / Diagram
10	<p>Top Post</p> <p>Application Connects to the bottom post and holds rails.</p>	

11	<p>Bottom Post</p> <p>Application Used as a bridging piece between Handrail Posts and Support Bars in all set ups.</p>	
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Aldeck Safety Rail Components		
Part No.	Description	Picture / Diagram
12	Purlin Hook Bracket Application Usually used to hook onto the second purlin in from the perimeter purlins on a roof structure.	
13	Purlin Clamp Application Usually used to connect to the perimeter purlin on a roof structure.	
14	Beam Clamp Application Usually used to connect to the perimeter purlin on a roof structure.	
15	Gable End Connector Application Usually used to connect the handrail system to the gable end of a building.	
16	Timber Beam Connector Application Usually used to connect to Timber Beams.	

Aldeck <i>Safety Rail Components</i>		
Part No.	Description	Picture / Diagram
17	<p>J Bar</p> <p>Application Usually used to connect to a PFC steel beam.</p>	
18	<p>Offset Bracket</p> <p>Application Used to lower the Handrail System to avoid obstacles in the path of the Handrail System.</p>	
20	<p>Extension Bar</p>	 <p>Length can vary depending upon application.</p>

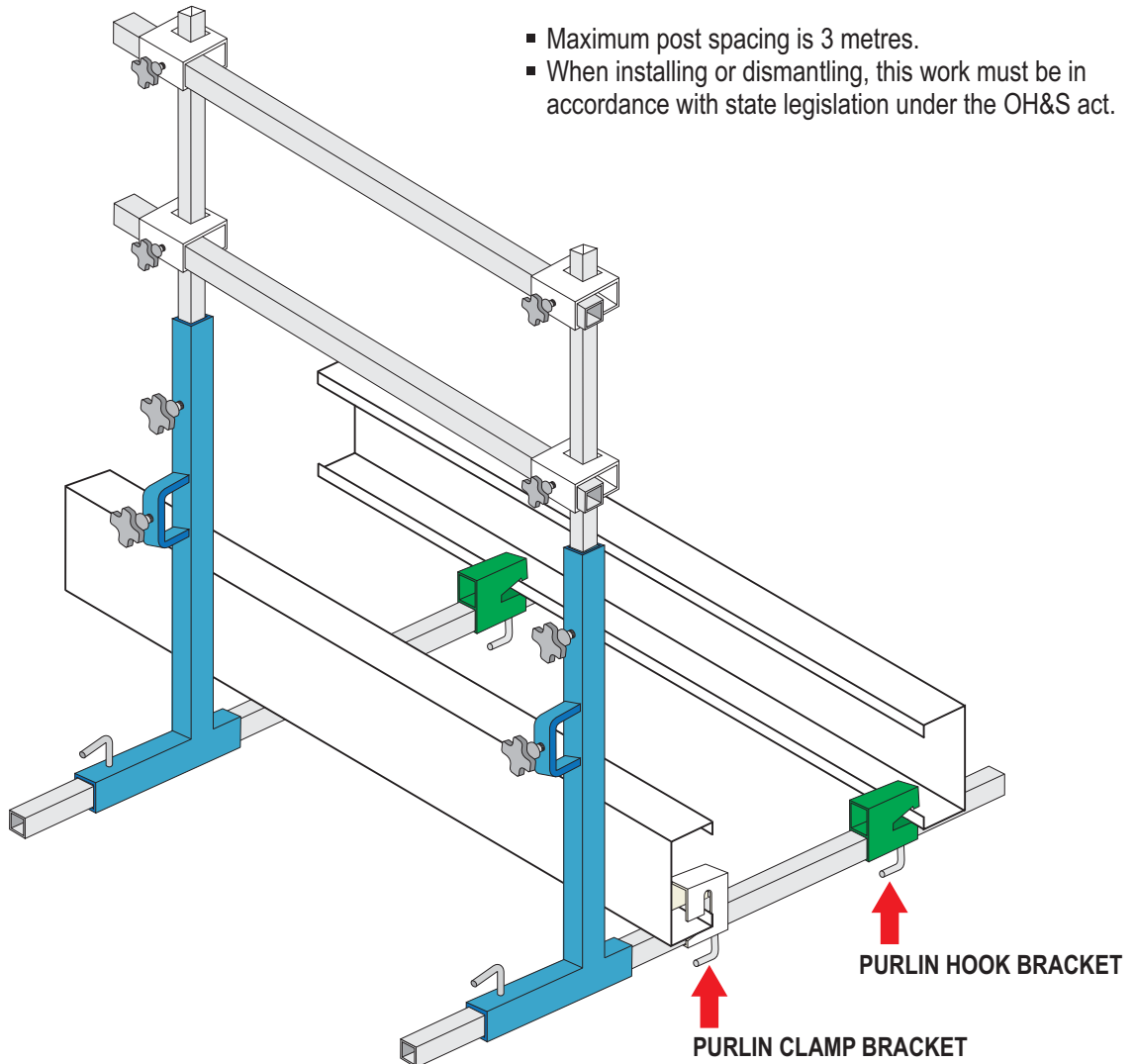
Aldeck Safety Rail Components		
Part No.	Description	Picture / Diagram
21	3rd Rail Clamp	
22	500mm Concrete Bolt on Bracket Screw 14 Gauge Concrete Concrete 50mm	<p>(4) minimum 6mm Excalibur bolts per bolt on bracket. Or (3) minimum 50mm x 10mm Dyna bolts per bolt on bracket.</p>
23 & 24	Support Bar 30mm x 30mm 1800mm Length or 900mm Length	<p>Application Usually used to bridge the support brackets to the perimeter purlins on a roof structure.</p>

Aldeck Safety Rail Components		
Part No.	Description	Picture / Diagram
C1	Handrail Joiners Application Used to join handrail. Required at every handrail intersection.	
C2	Adjustable Corner Bracket Application Used for corners or change of direction.	
C3	Handrail 2400mm Length	 <p>Used for corners and change in direction</p>
C4	Handrail 4600mm Length	 <p>Most common rail used</p>

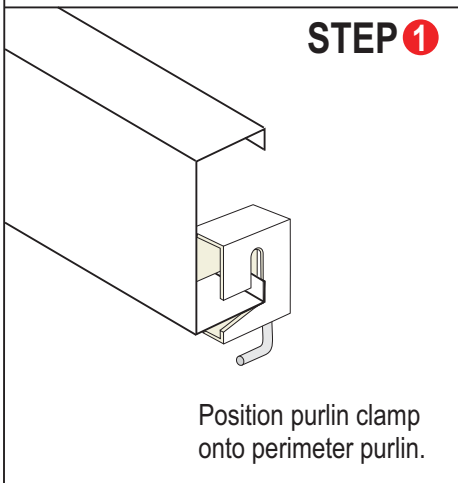
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Purlin Handrail (Off 2 Purlins)

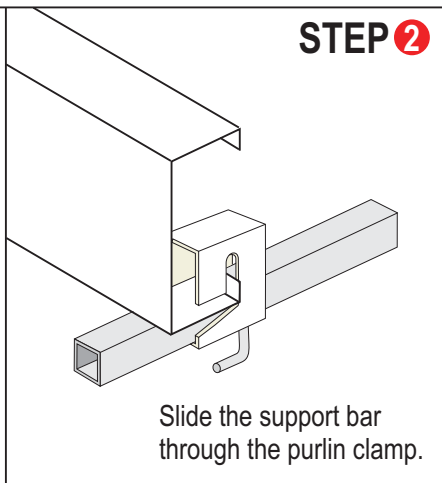
Aldeck



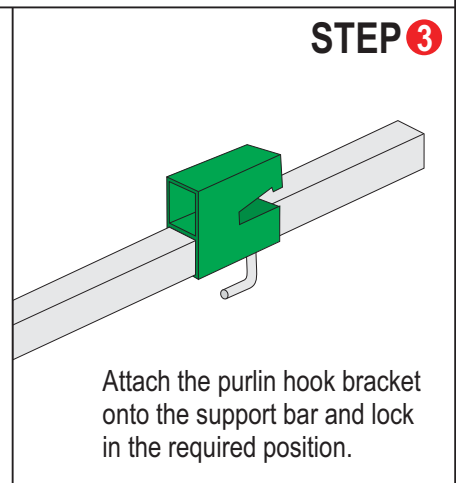
STEP 1



STEP 2



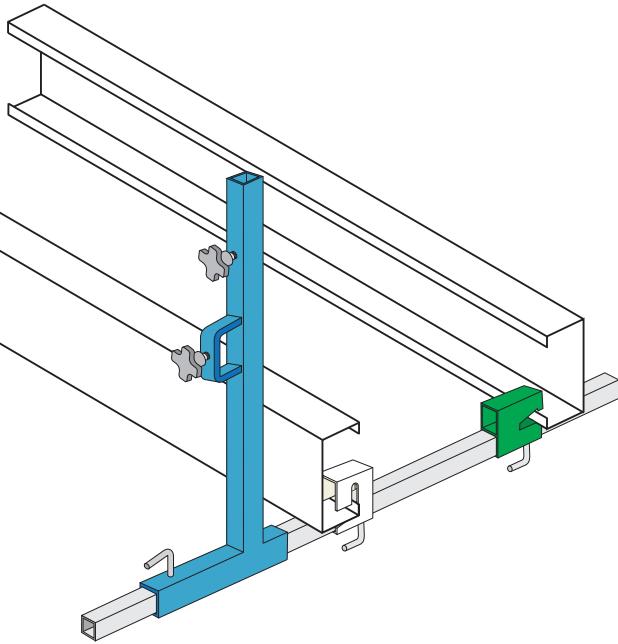
STEP 3



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Purlin Handrail (Off 2 Purlins)

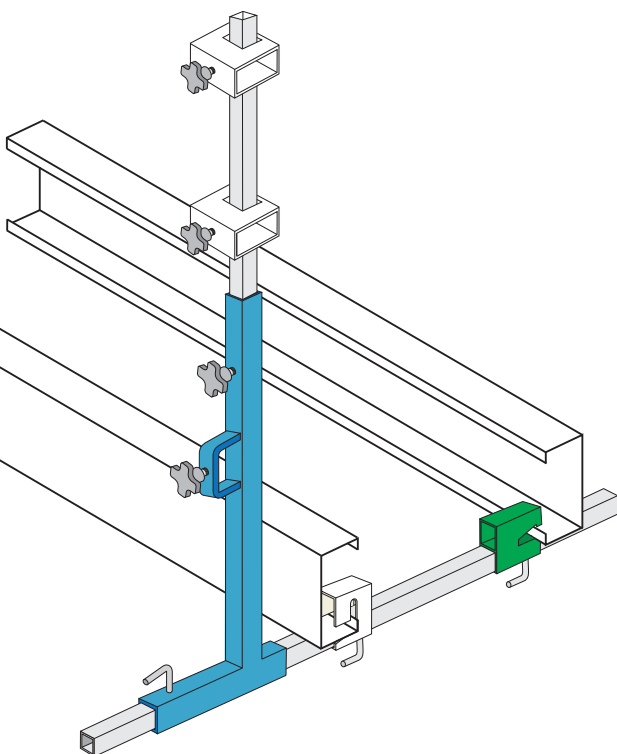
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STEP 4

Continue to slide the support bar through purlin clamp and wedge hook bracket into 2nd purlin.

Lock purlin clamp and support bar into position via locking handle on purlin clamp.



STEP 5

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

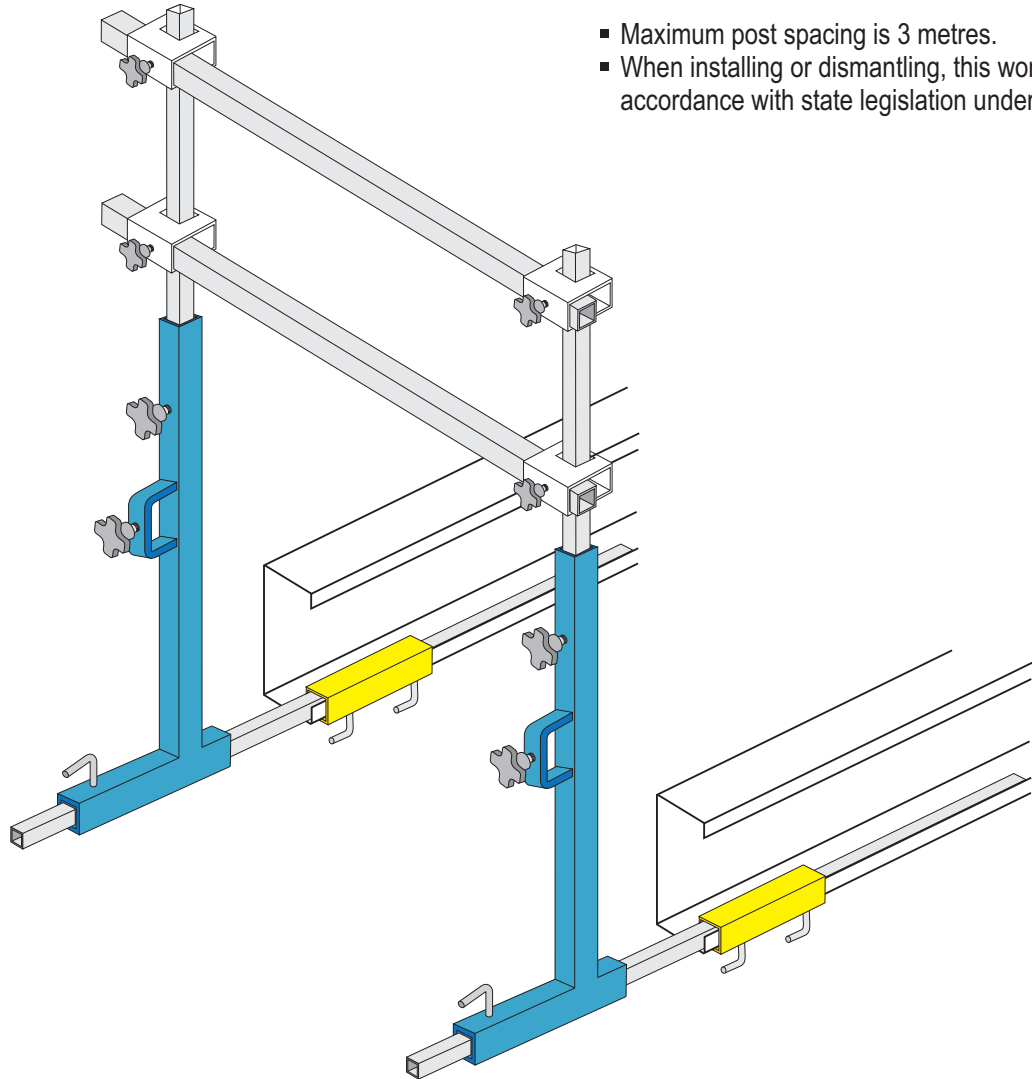
Join rails between posts via use of handrail joiners or corner brackets.

Repeat Steps 1 to 5 until installation is completed.

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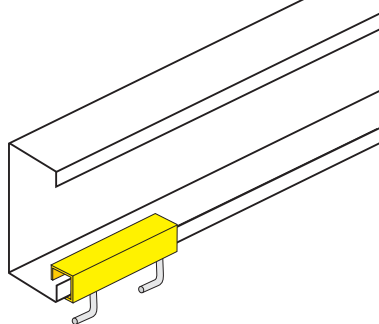
Purlin Handrail (Gable End)

Aldeck



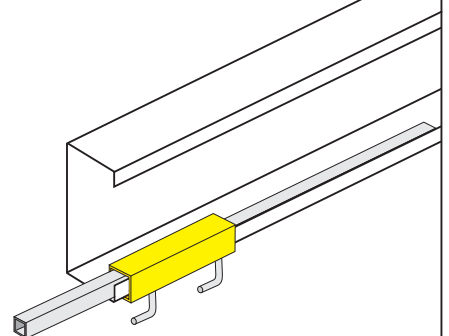
- Maximum post spacing is 3 metres.
- When installing or dismantling, this work must be in accordance with state legislation under the OH&S act.

STEP 1



Position gable end clamp onto purlin.

STEP 2



Slide support bar between purlin and clamp and lock clamp into position via locking handles.

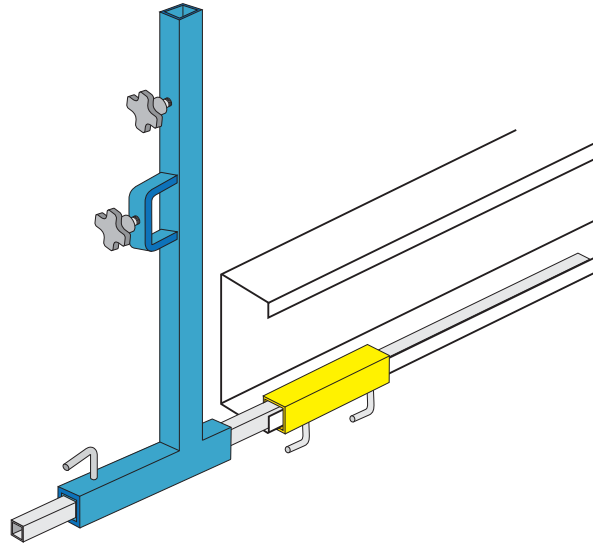
INSTALLATION GUIDE

Purlin Handrail (Gable End)

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STEP 3

Slide bottom posts onto support bar and lock into position via locking handle.



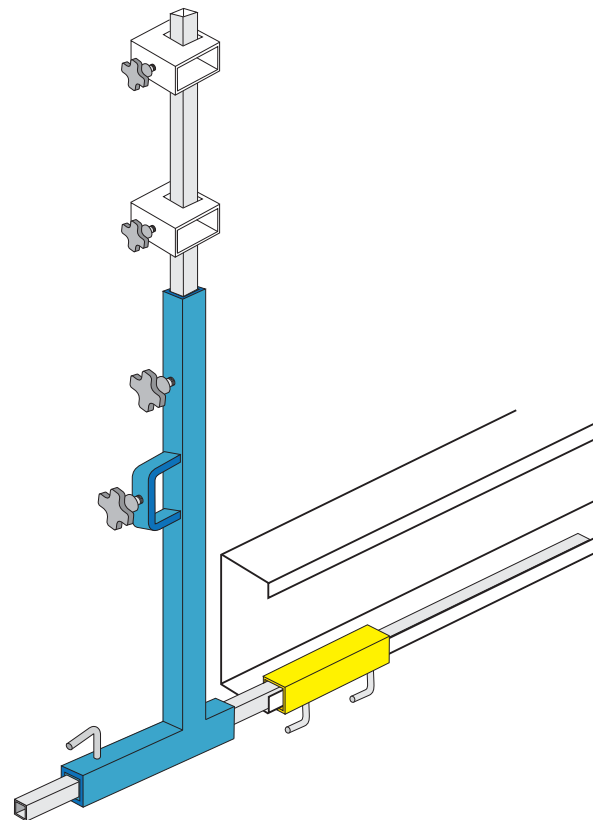
STEP 4

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

Join rails between posts via use of handrail joiners or corner brackets.

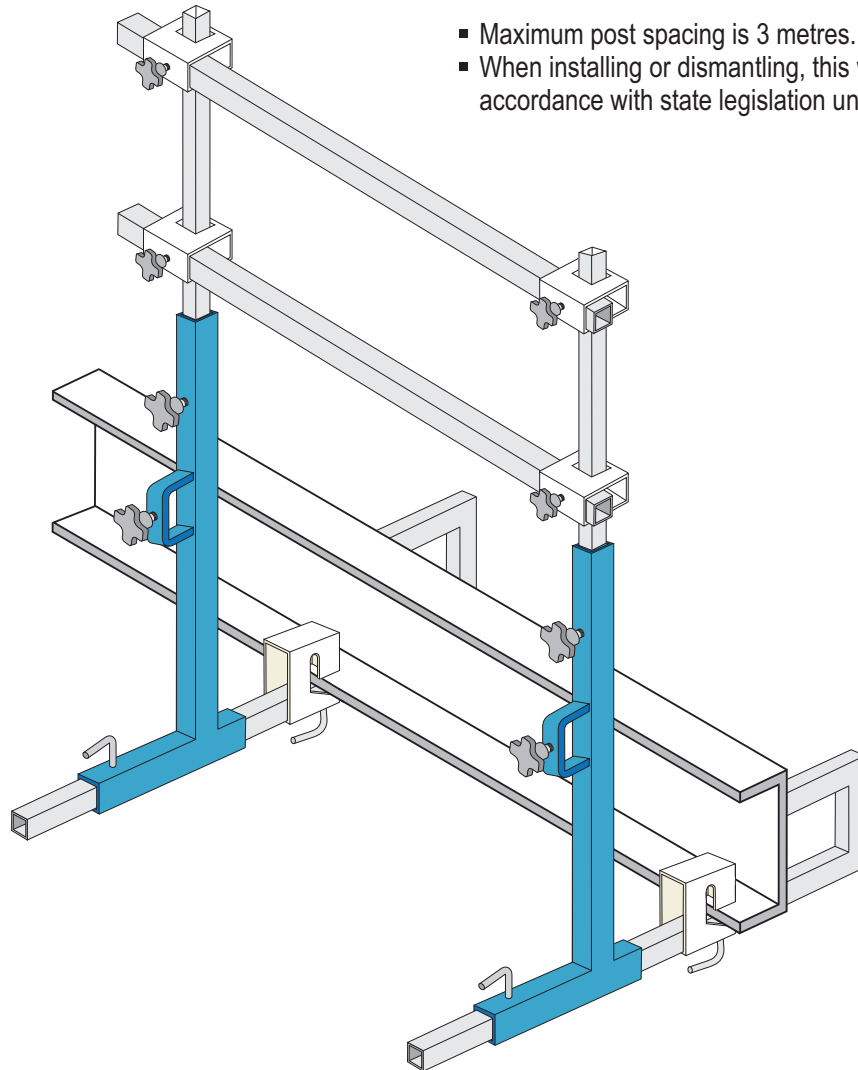
Repeat Steps 1 to 4 until installation is completed.



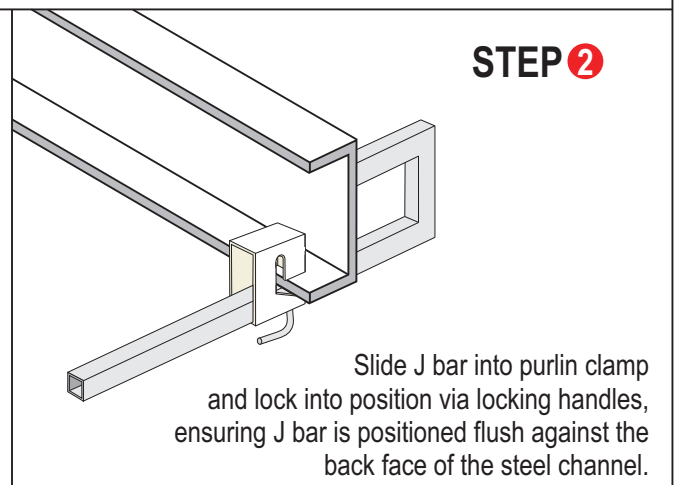
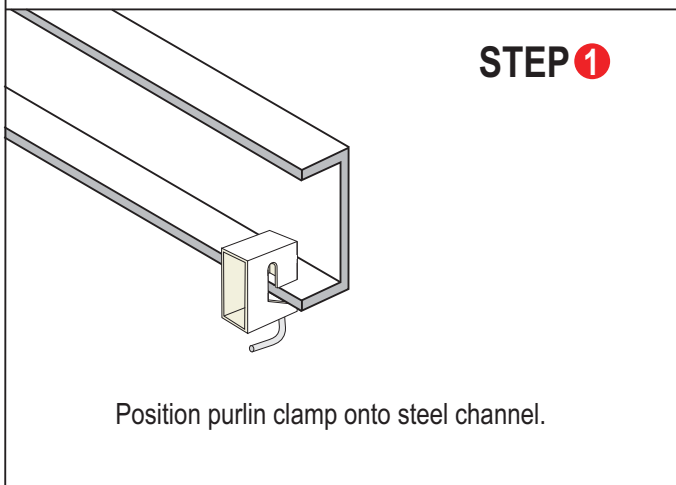
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Beam Handrail

Aldeck



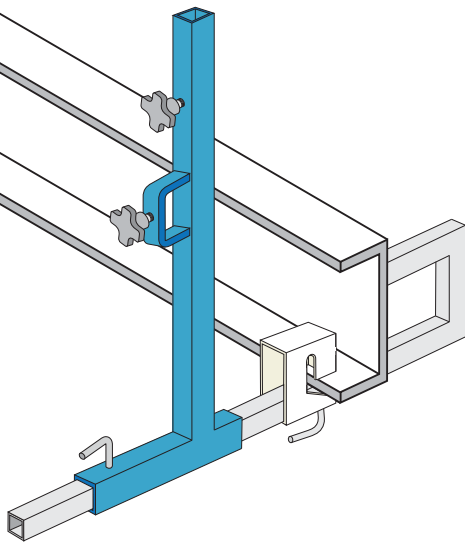
- Maximum post spacing is 3 metres.
- When installing or dismantling, this work must be in accordance with state legislation under the OH&S act.



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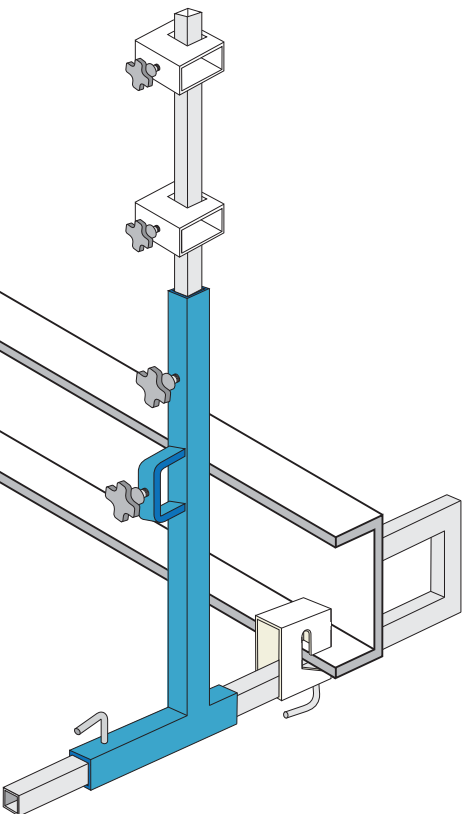
Beam Handrail

Aldeck



STEP 3

Slide bottom posts onto J bar and lock into position via locking handle.



STEP 4

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

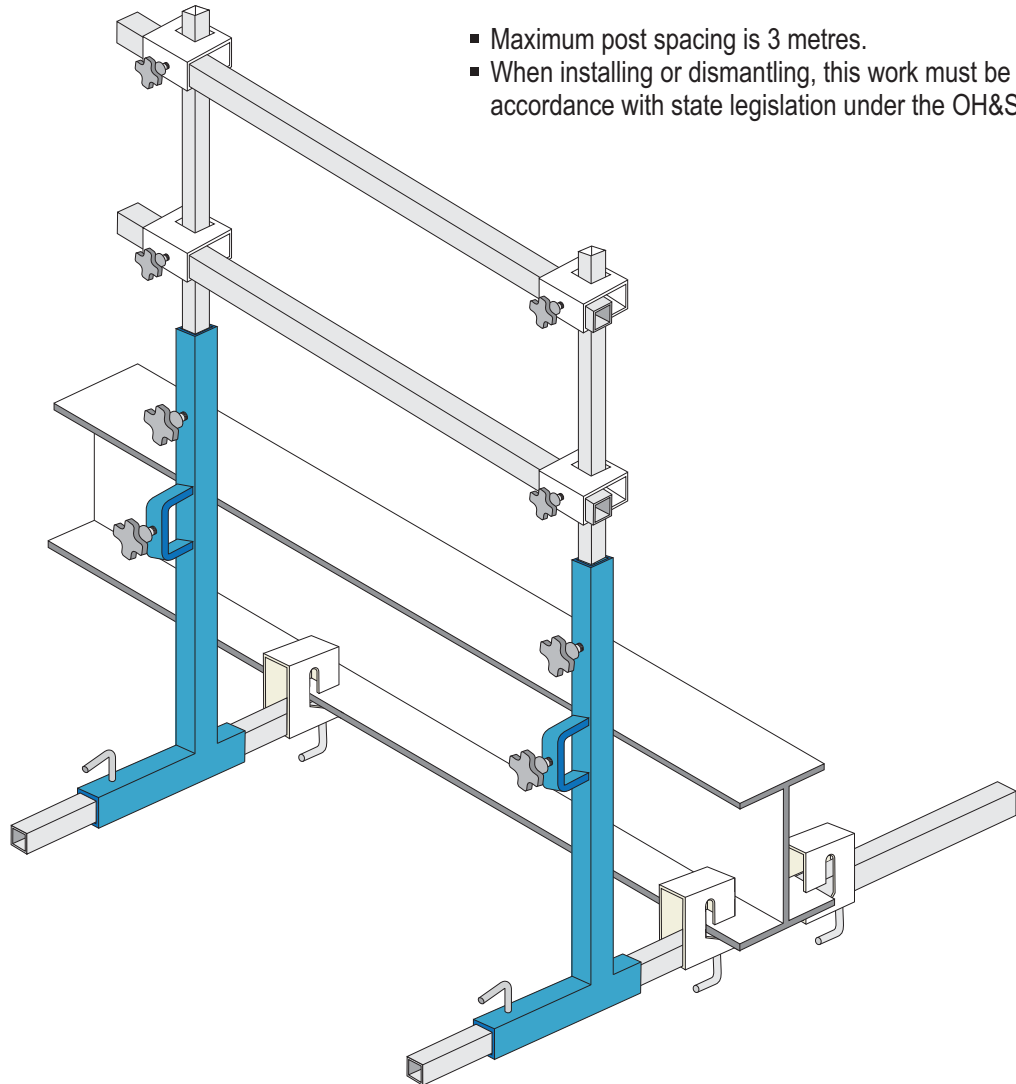
Join rails between posts via use of handrail joiners or corner brackets.

Repeat Steps 1 to 4 until installation is completed.

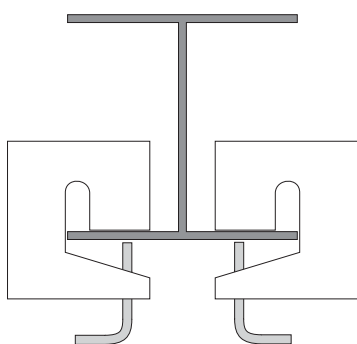
INSTALLATION GUIDE

I Beam Handrail

Aldeck

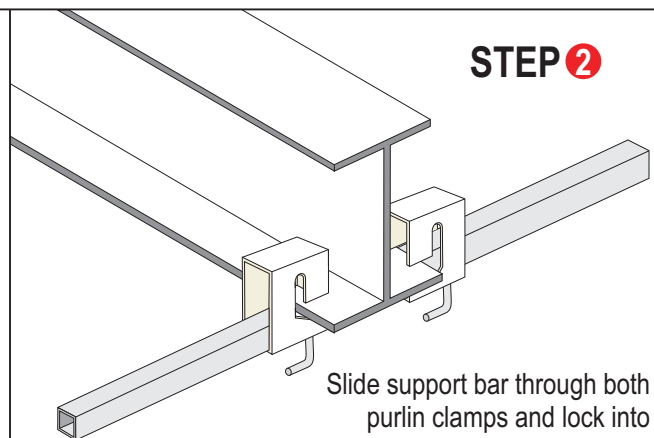


- Maximum post spacing is 3 metres.
- When installing or dismantling, this work must be in accordance with state legislation under the OH&S act.



STEP 1

Position purlin clamps onto each side of I beam.



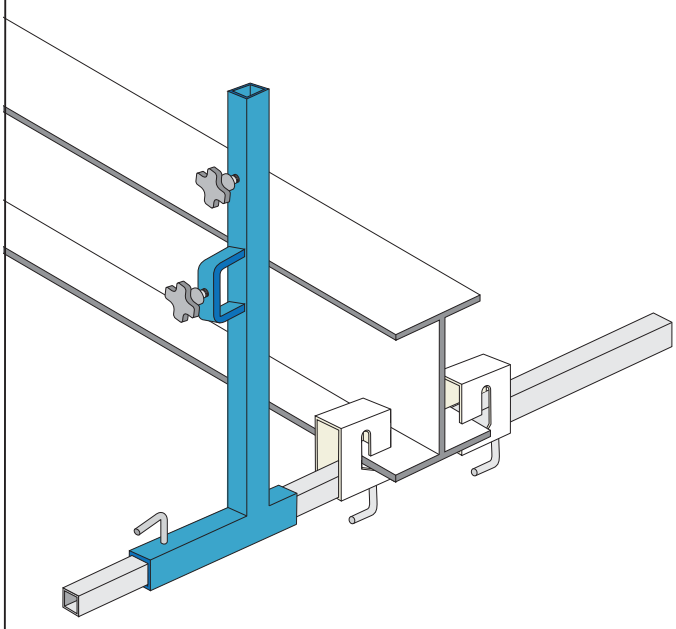
STEP 2

Slide support bar through both purlin clamps and lock into position via locking handles.

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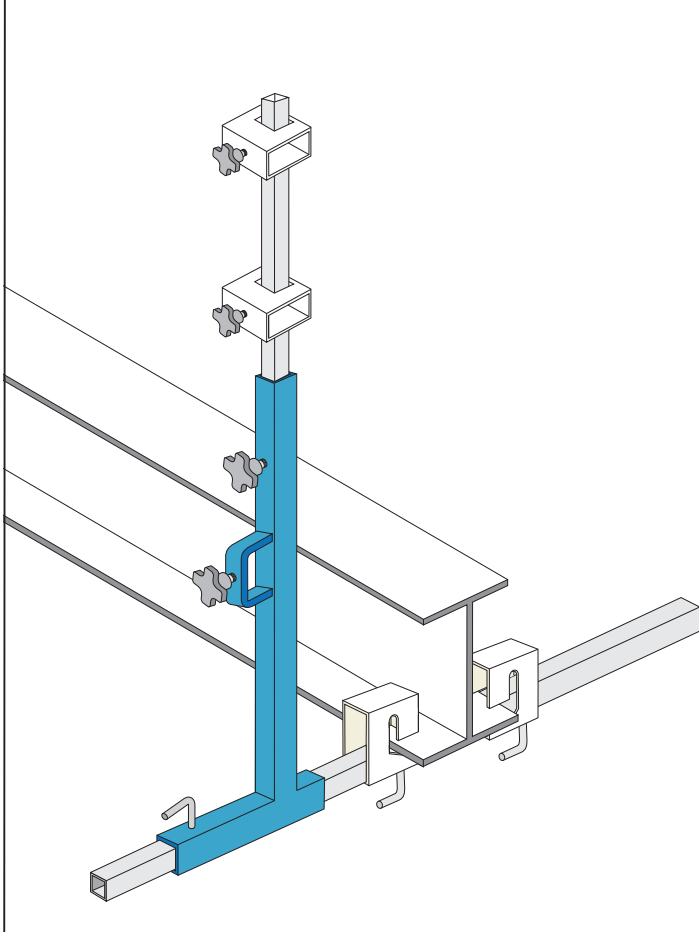
I Beam Handrail

Aldeck



STEP 3

Slide bottom posts onto support bar and lock into position via locking handle.



STEP 4

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

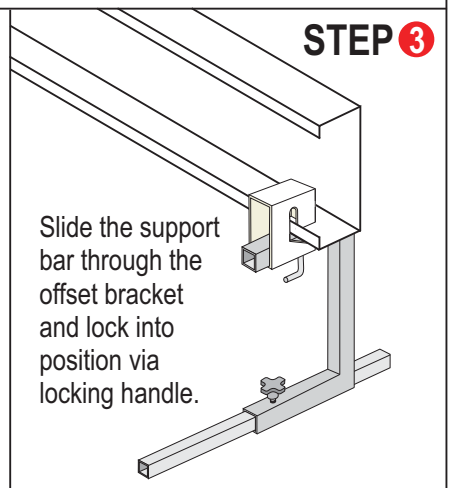
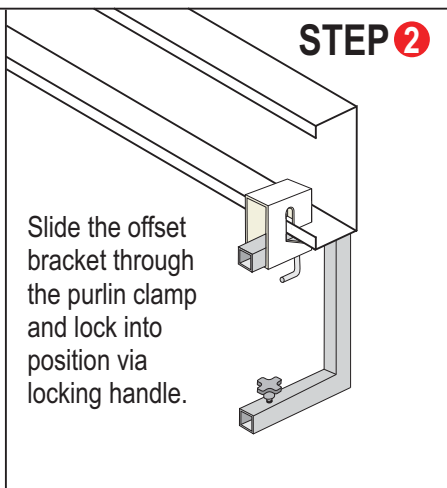
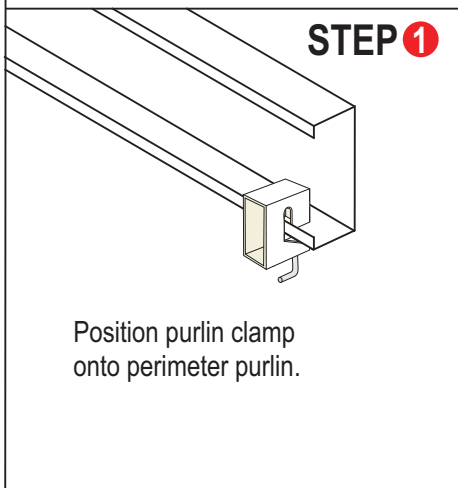
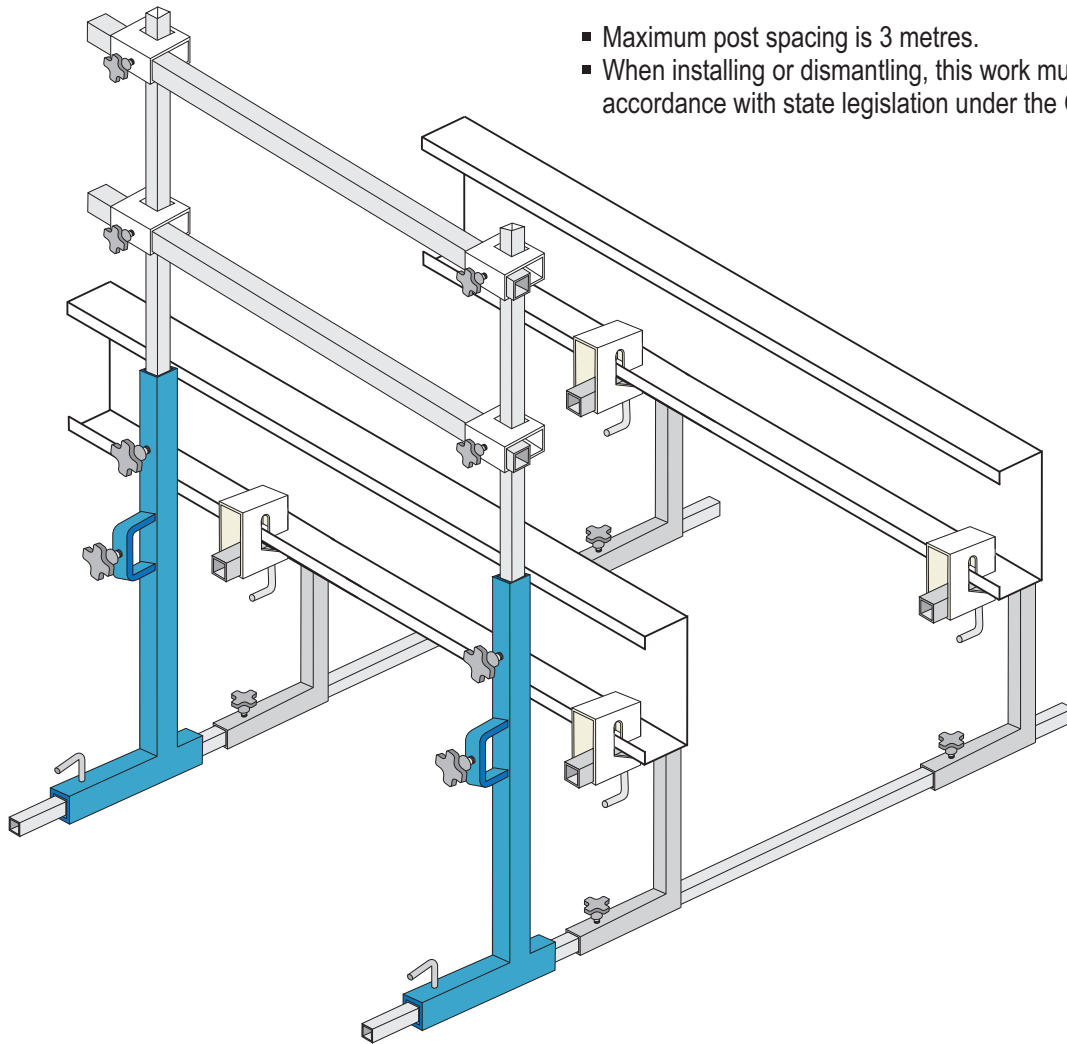
Join rails between posts via use of handrail joiners or corner brackets.

Repeat Steps 1 to 4 until installation is completed.

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Purlin Offset Handrail

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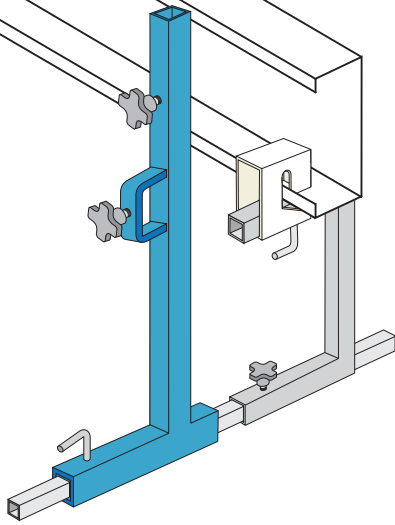
INSTALLATION GUIDE

Purlin Offset Handrail

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STEP 4

Slide bottom posts onto support bar and lock into position via locking handle.



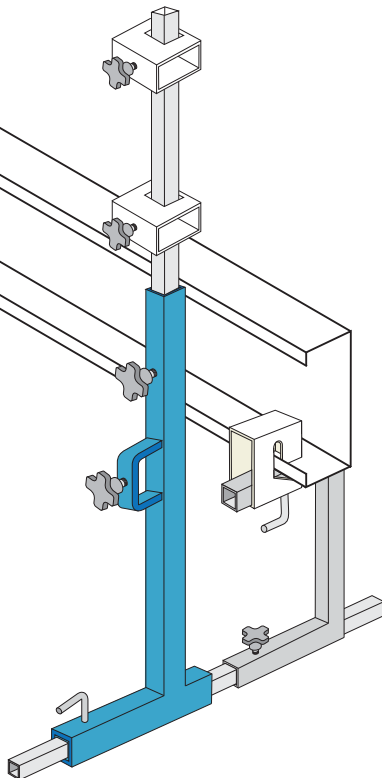
STEP 5

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

Join rails between posts via use of handrail joiners or corner brackets.

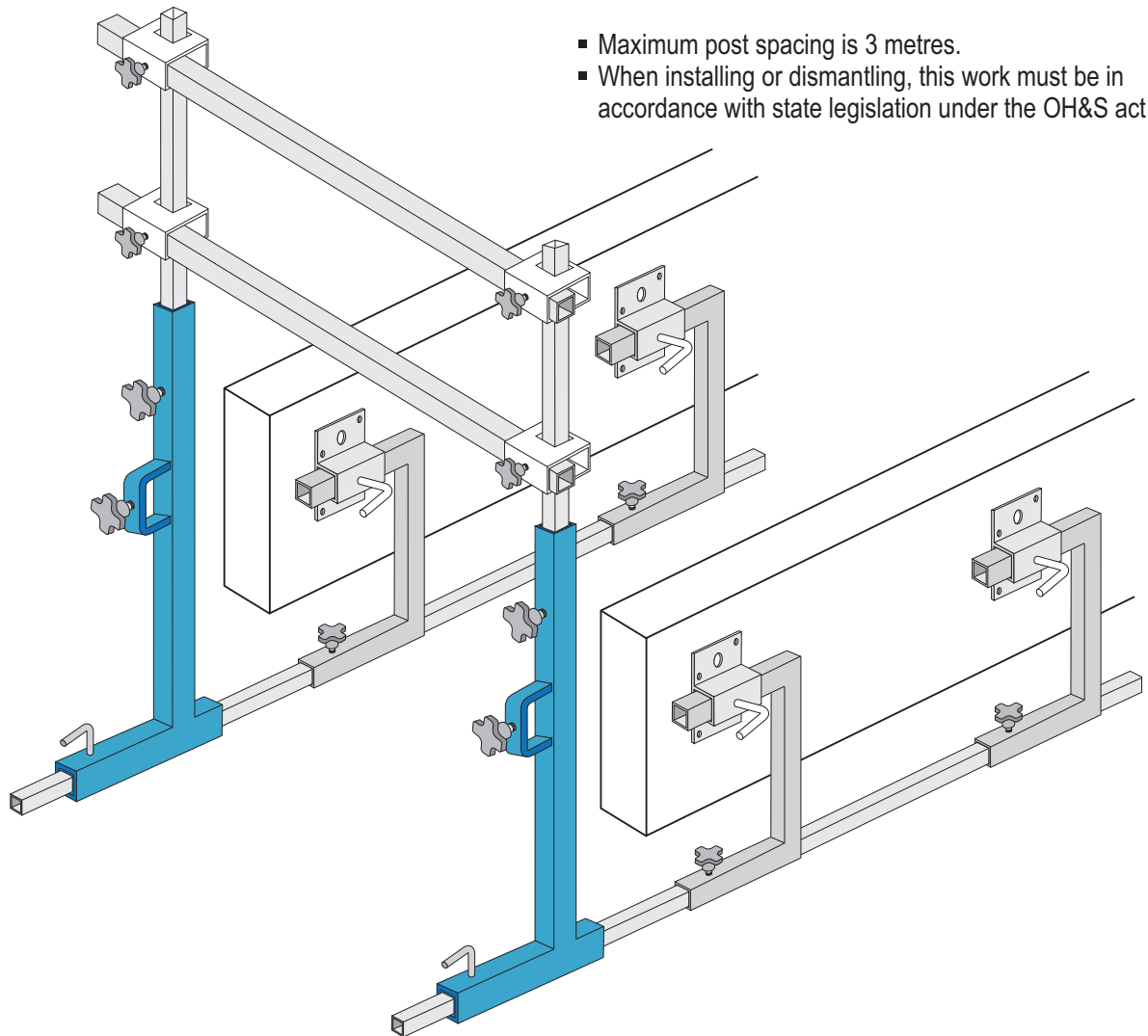
Repeat Steps 1 to 5 until installation is completed.



INSTALLATION GUIDE

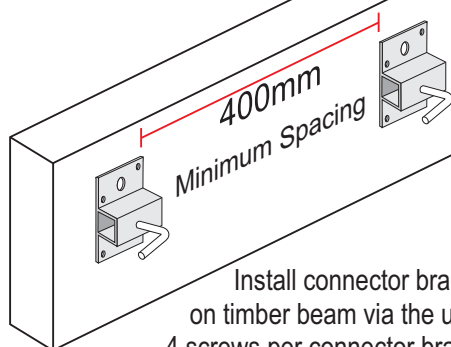
Timber Beam Handrail

Aldeck



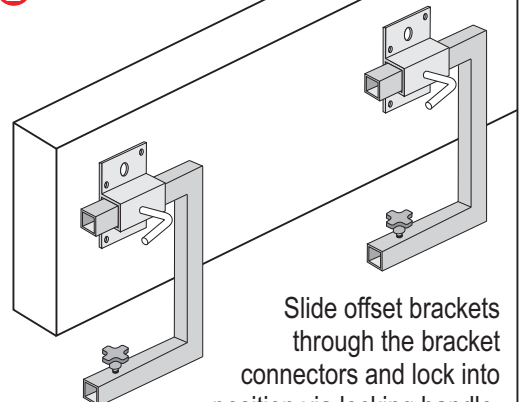
- Maximum post spacing is 3 metres.
- When installing or dismantling, this work must be in accordance with state legislation under the OH&S act.

STEP 1



Install connector brackets on timber beam via the use of 4 screws per connector bracket. Connectors need to be minimum of 2 and 400mm apart.

STEP 2



Slide offset brackets through the bracket connectors and lock into position via locking handle.

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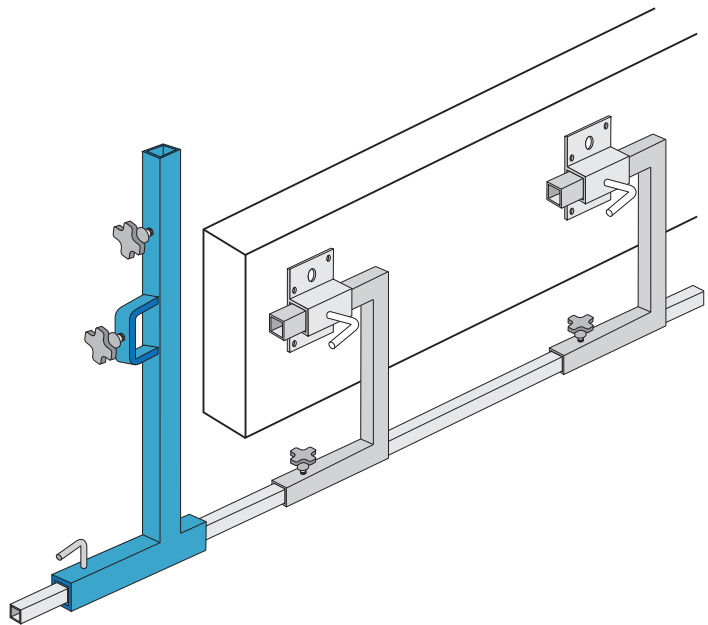
Timber Beam Handrail

Aldeck

STEP 3

Slide support bar through the bracket connectors and lock into position via locking handle.

Slide bottom posts onto support bar and lock into position via locking handle.



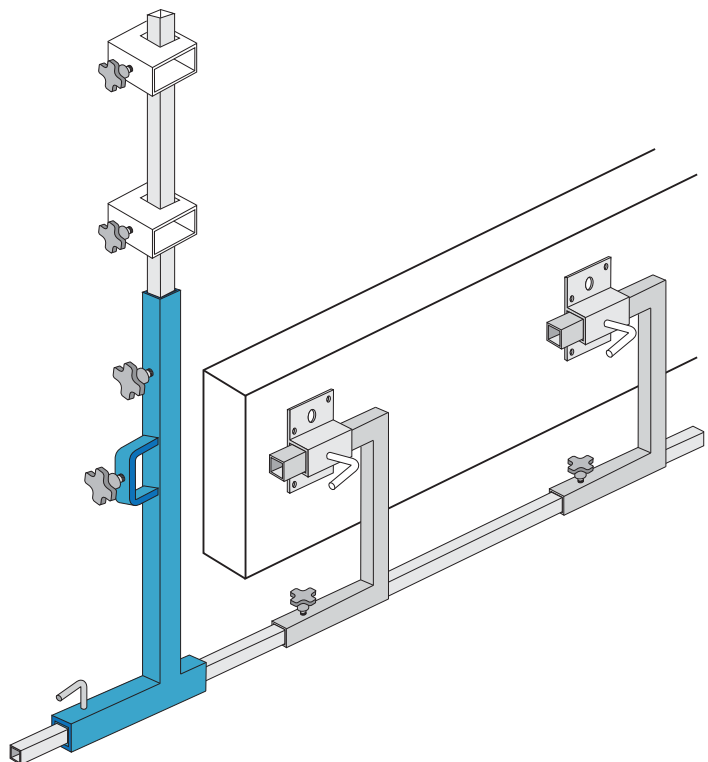
STEP 4

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

Join rails between posts via use of handrail joiners or corner brackets.

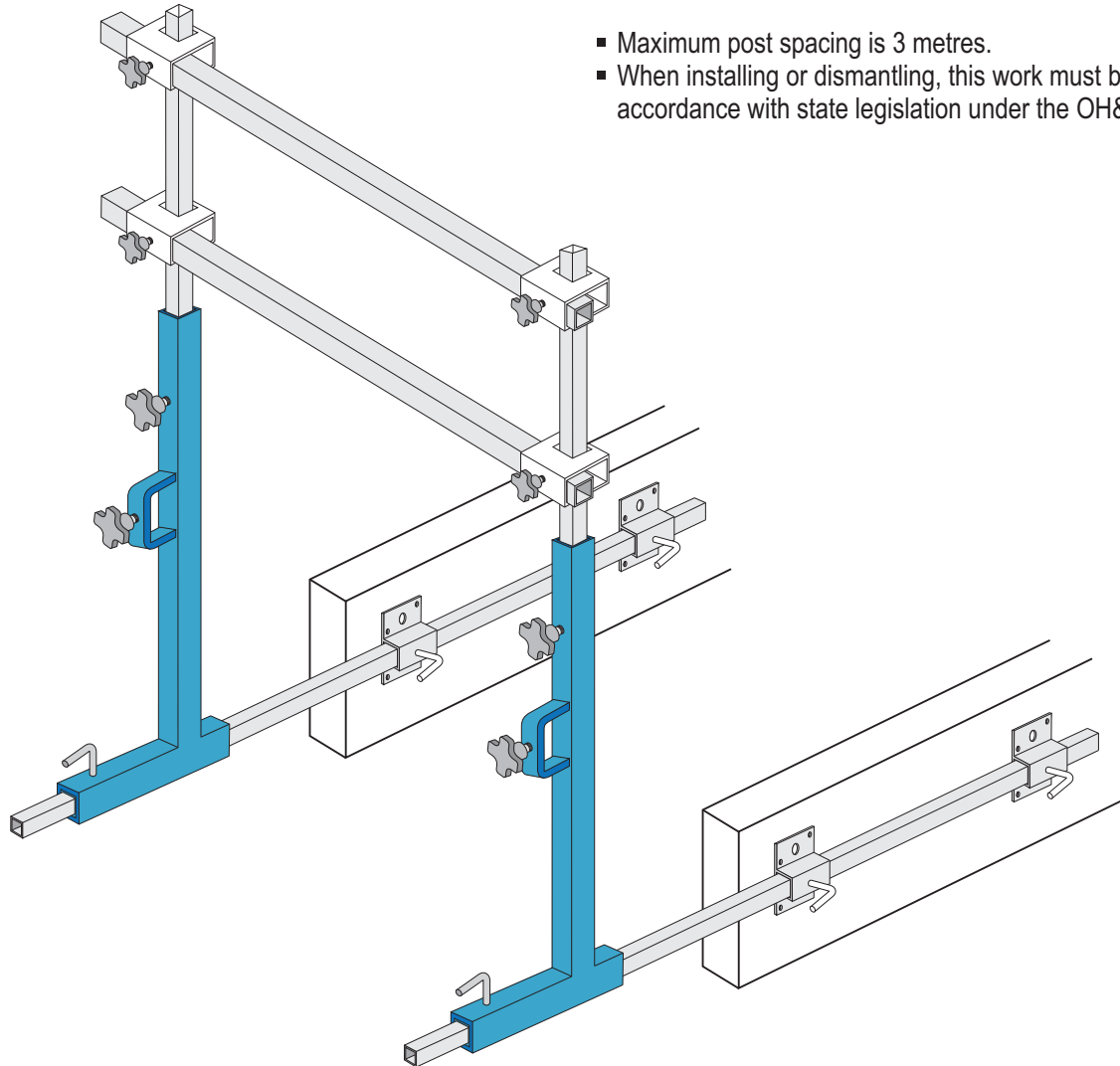
Repeat Steps 1 to 4 until installation is completed.



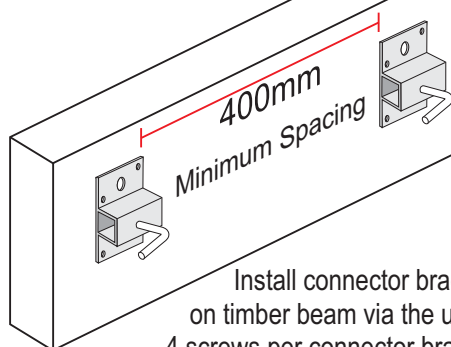
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Timber Beam Handrail (Alternate)

Aldeck

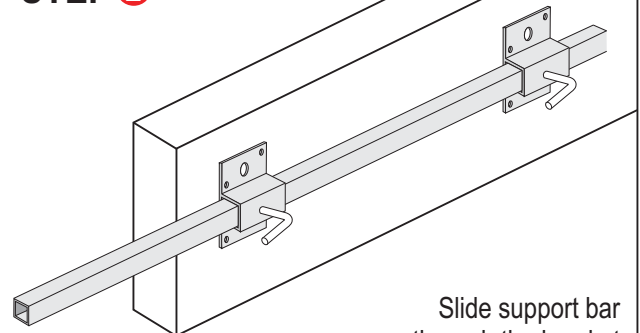


STEP 1



Install connector brackets on timber beam via the use of 4 screws per connector bracket. Brackets need to be minimum of 2 and 400mm apart.

STEP 2



Slide support bar through the bracket connectors and lock into position via locking handle.

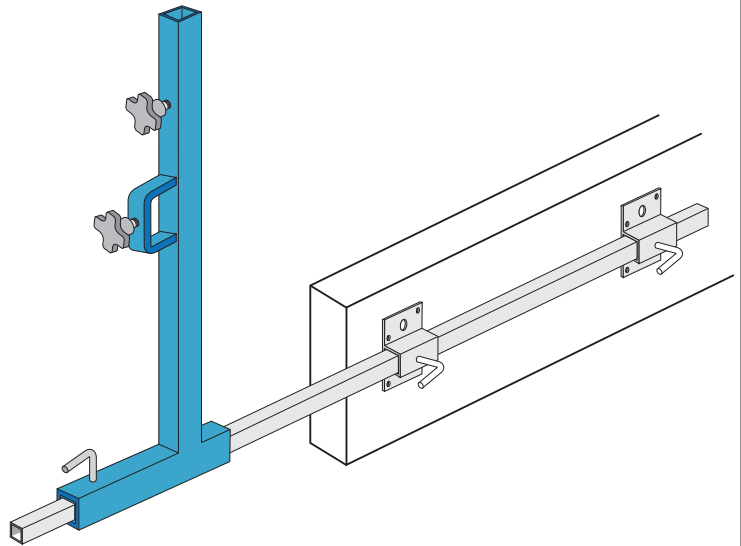
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Timber Beam Handrail (Alternate)

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STEP 3

Slide bottom posts onto support bar and lock into position via locking handle.



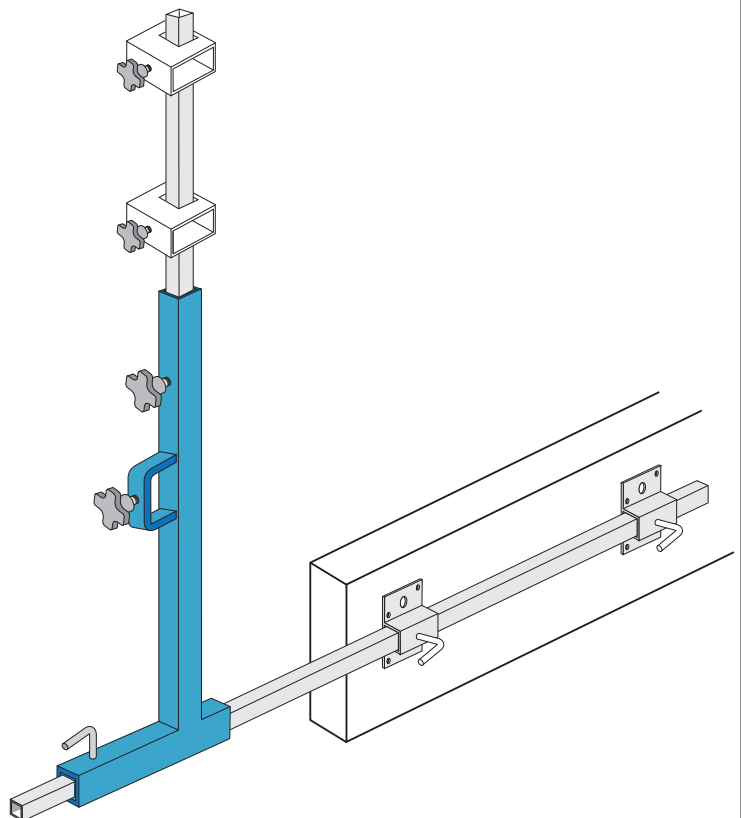
STEP 4

Slide top post into bottom post and lock into position via locking handle.

Slide handrails into post supports and lock into position via locking handles on posts.

Join rails between posts via use of handrail joiners or corner brackets.

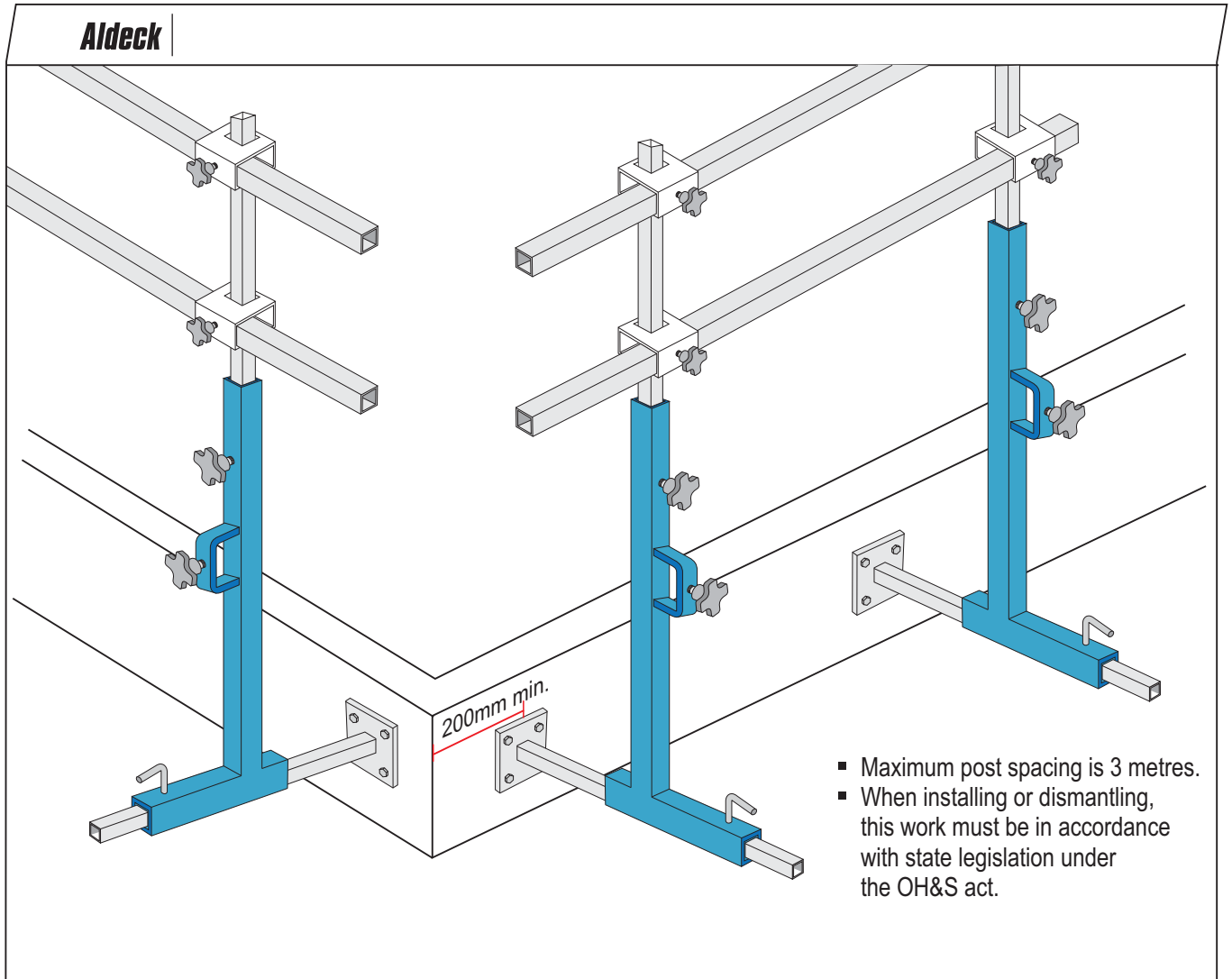
Repeat Steps 1 to 4 until installation is completed.



INSTALLATION GUIDE

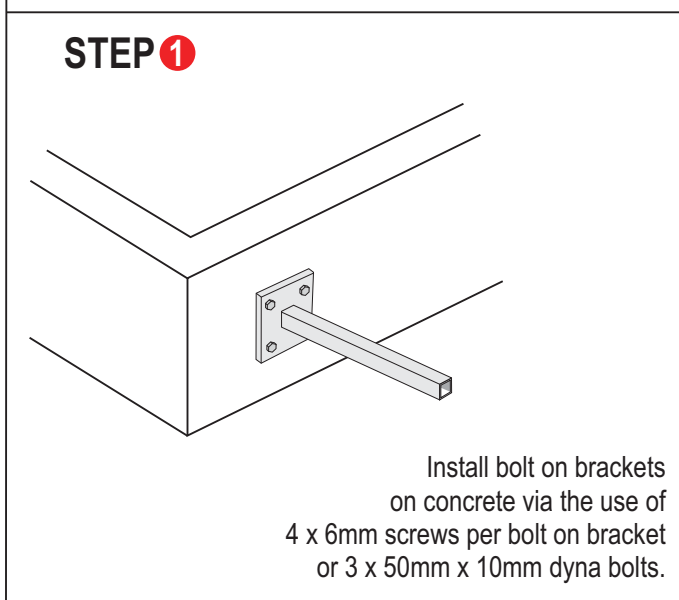
Concrete Bolt On Handrail

Aldeck



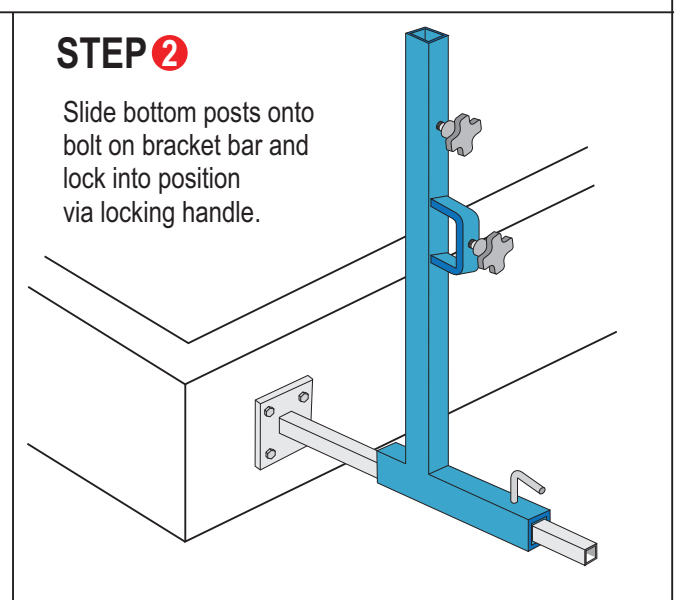
- Maximum post spacing is 3 metres.
- When installing or dismantling, this work must be in accordance with state legislation under the OH&S act.

STEP 1



Install bolt on brackets on concrete via the use of 4 x 6mm screws per bolt on bracket or 3 x 50mm x 10mm dyna bolts.

STEP 2



Slide bottom posts onto bolt on bracket bar and lock into position via locking handle.

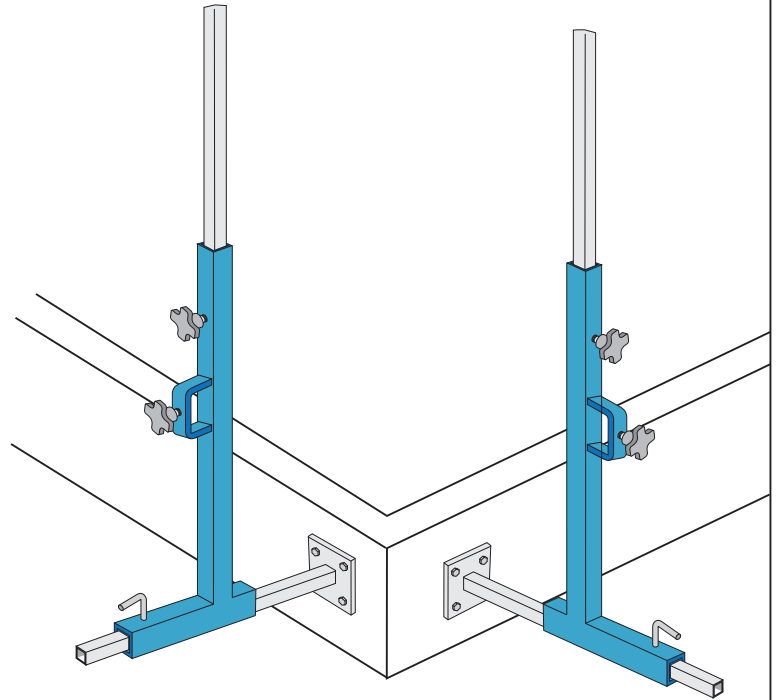
INSTALLATION GUIDE

Concrete Bolt On Handrail

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STEP 3

Slide top post into bottom post and lock into position via locking handle.



STEP 4

Slide handrails into post supports and lock into position via locking handles on posts.

Join rails between posts via use of handrail joiners or corner brackets.

Repeat Steps 1 to 4 until installation is completed.

