

DE-FENCE



AOV Systems

DE-FENCE

Roof Access and Walkway Equipment

AOV Systems wide range of Roof Access and Walkway Equipment. Designed with safety and functionality in mind.

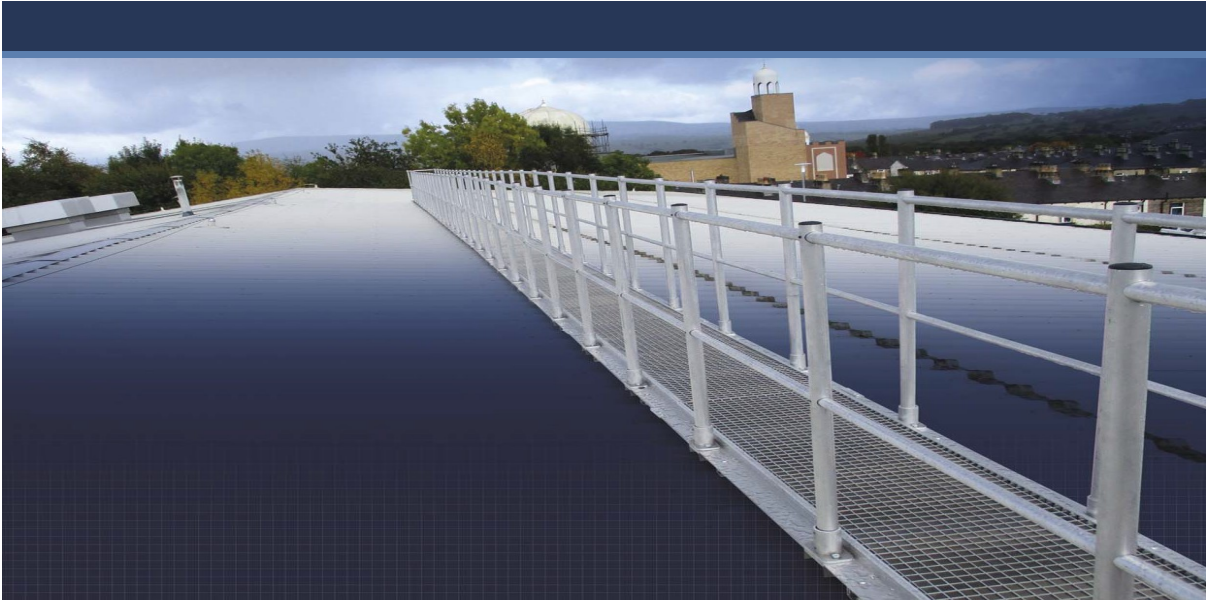
The AOV Systems **DE-FENCE** Range of Roof Access and Walkway Equipment consists of the following products. Each of these products has been developed with safety and functionality in mind.

Aluminium Walkways for Metal Profile Roofing (DFW-MPR)

Aluminium Walkways for Standing Seam Roofing Systems (DFW-SSR)

DFW Range

Aluminium Walkways for Metal Profile Roofing



DE-FENCE DFW range of aluminium walkways is a standardised modular system allowing specifiers to design compliant walkways for access on all major manufacturers and their metal profile roofing systems. A guardrail system can be added to either one or both sides of walkway.

Safety

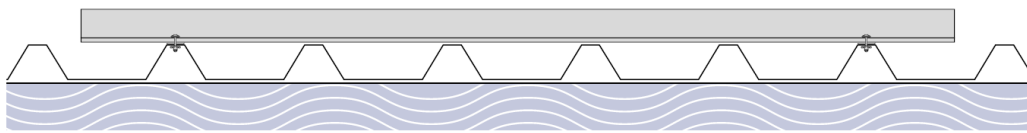
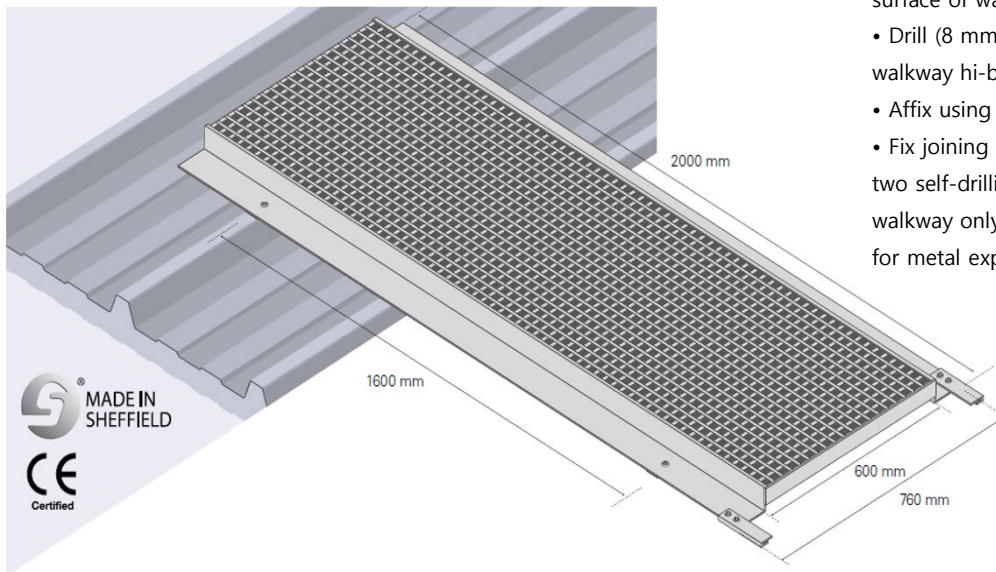
Manufactured in accordance with CE certification and tested to BS EN 516:2006 Class 1 Type C meeting all health and safety requirements demanded.

The range of standard componentry fixes to roofs of differing slope and profiles. The walkway can be configured with a handrail to withstand a loading of either 0.36 kN (general duty) or 0.74 kN (heavy duty) and can be supplied with an optional toe board if required. The Defence walkway is unique in that it can achieve these loadings without the need for additional bracing allowing the walkway to be placed against the area to be accessed.

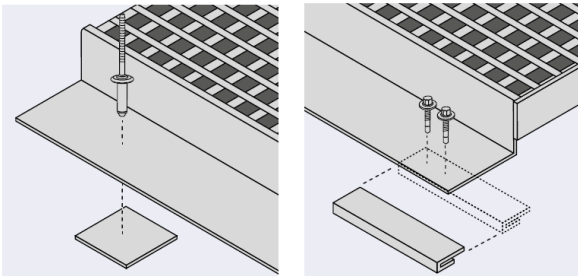
Installation Guide

Laying Walkways across the Fall of the Roof-on-Roof Pitches Less than 3°

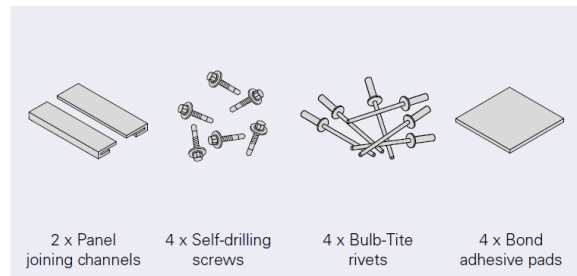
- Locate fixing position on crown of roof sheet.
- Affix hi-bond adhesive pad to contact surface of walkway.
- Drill (8 mm diameter) hole through walkway hi-bond pad & roof-sheet.
- Affix using RV6603/9/6W-Bulb-Tite rivet.
- Fix joining channel to walkway using two self-drilling screws but to one walkway only – provides flexibility for metal expansion. Tighten screw to 6 Nm.



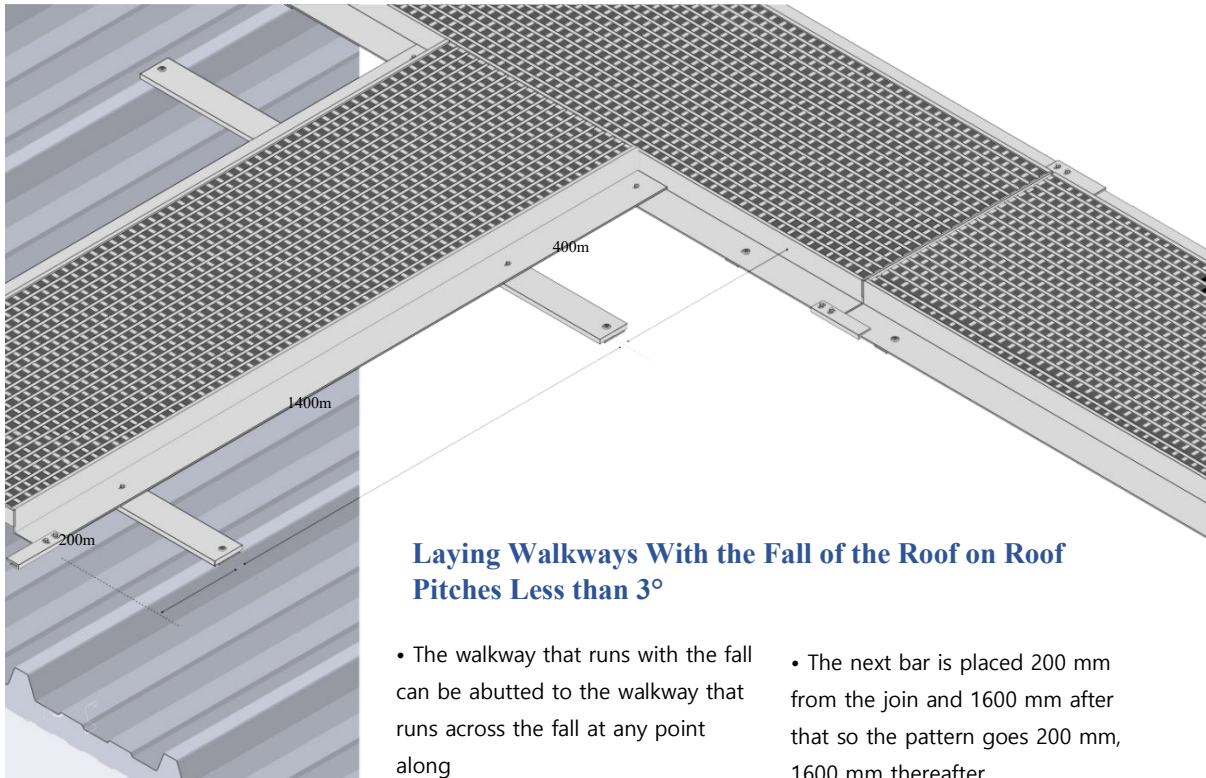
Fixing Detail



Components



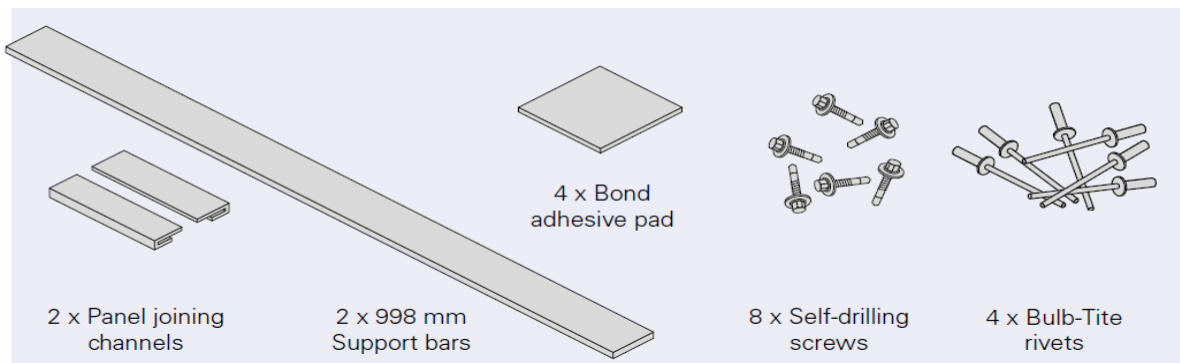
Installation Guide

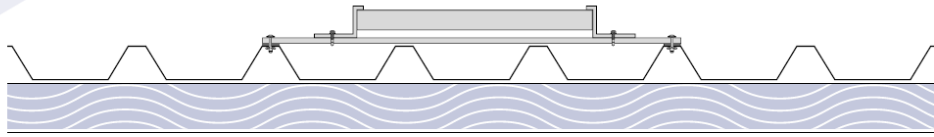


Laying Walkways With the Fall of the Roof on Roof Pitches Less than 3°

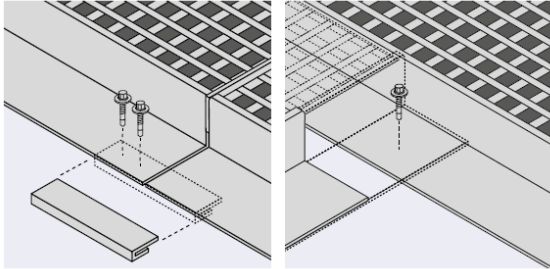
- The walkway that runs with the fall can be abutted to the walkway that runs across the fall at any point along its length.
- For the section of walkway that runs with the fall lay the bars across the crowns.
- The first bar must be a minimum of 400 mm from the walkway running across the crowns.
- The second bar must be spaced 1400 mm from the first.
- Use the adhesive pads to stick the bar to the roof then rivet.
- The next bar is placed 200 mm from the join and 1600 mm after that so the pattern goes 200 mm, 1600 mm thereafter.
- Abut walkway to existing walkway and join both walkways with self-drilling screw.
- Lay the walkway on the bars and fix with self-drilling screws.
- Join next section of walkway with panel joining channel as described on page 2.

Components





Fixing Detail



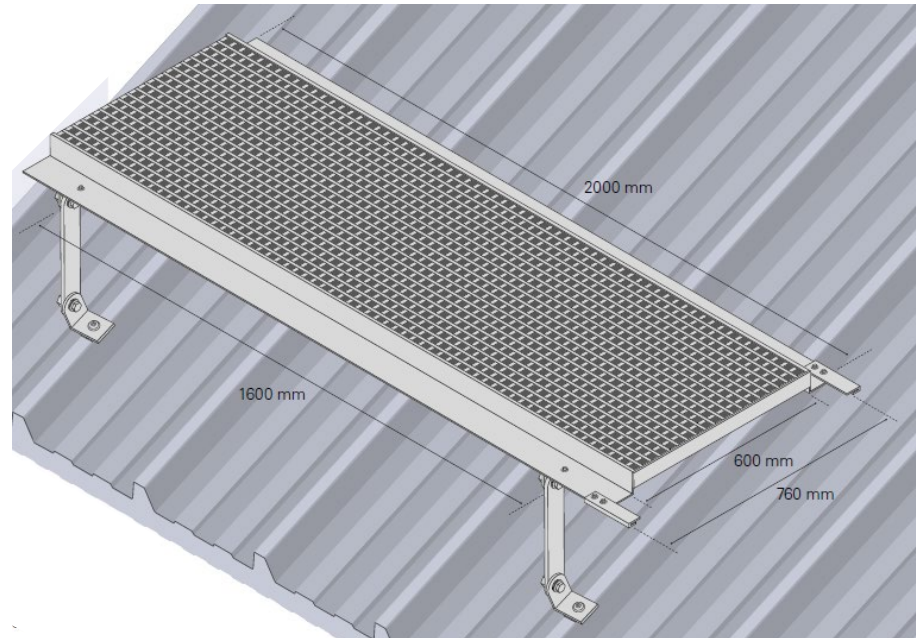
Upon completion check all fixings are to the required torque settings: Self drilling screws 6 Nm

Installation Guide

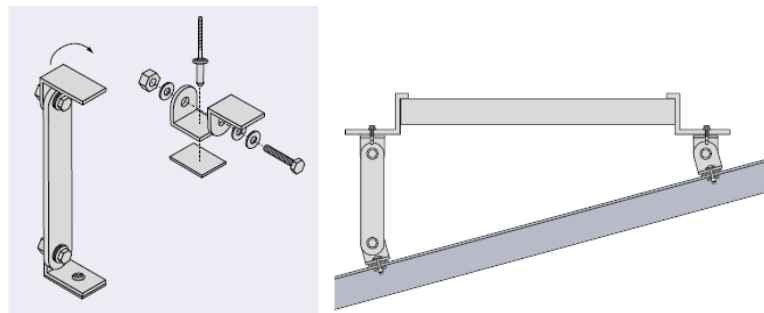
Levelled Walkways across the Fall on Pitched Roofs Greater than 3°

Where the roof pitch is greater than 3° The Defence Walkway system has a range of levelling bracketry to provide a compliant walkway.

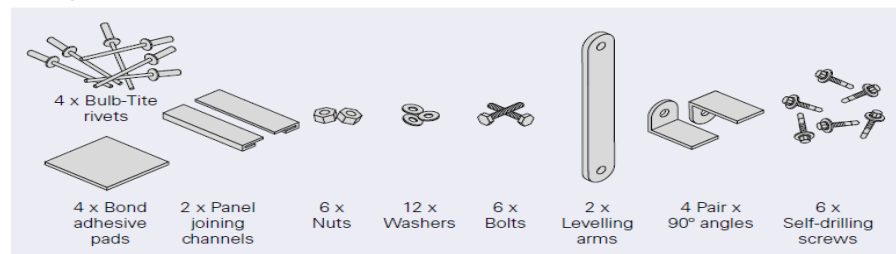
- Brackets need to be placed in a line across the crowns sited approx. 200 mm from each end of the walkway leaving approx. 1600 mm space between brackets.
- The upper brackets must be positioned first, stuck with adhesive pads and riveted.
- The upper support bracket consists of 2 x 90° angles joined by a M12 bolt and four washers, the nylon washers separating two metal surfaces.
- Once in the correct position tighten to 50 Nm.
- The bottom brackets need to be stuck and riveted to the crowns, taking care to position correctly.
- The levelling arm is then bolted to the angle using a M12 bolt. Bolt the top of the levelling arm to another 90° angle.
- Loosely tighten so that the height of the arm can be adjusted to ensure the walkway can be levelled. Once in the correct position tighten the bolts to 50 Nm.



Fixing Detail



Components



Upon completion check all fixings are to the required torque settings:
Self-drilling screws 6 Nm / Bolts holding walkway arms 50 Nm

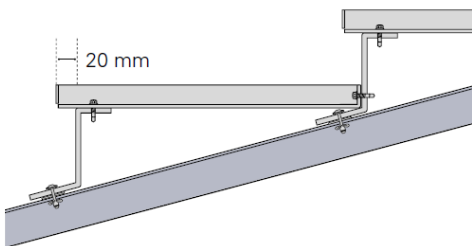
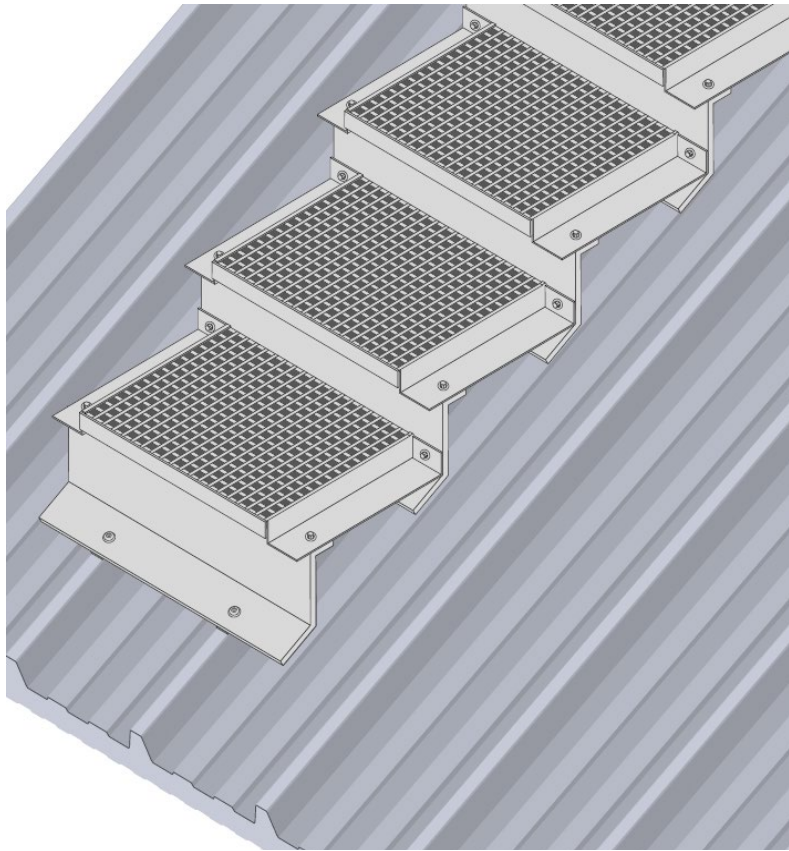
- Lay the walkway on the 'upper' brackets and temporarily hold in place with suitable clamps. The bottom brackets can then be adjusted to ensure the walkway is level.
- Once level fix the walkway to the brackets using a self-drilling screws.
- Join the next walkway using panel joining channels as previously described.

Installation Guide

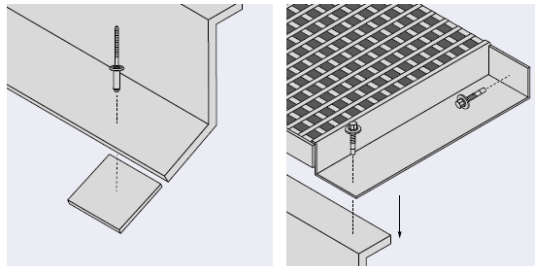
Levelled Steps With the Fall on Roof Pitches Greater than 3°

The angle of roof pitch and distance covered by the steps is required to calculate the length of treads and fall.

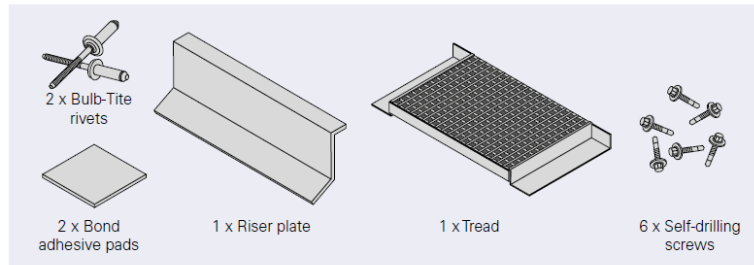
- Carefully lay the risers out along the length of the steps. Each step is 600 mm wide, the tread depth. Is dependent on the roof slope angle.
- Fix the bottom riser to the roof crown with adhesive pads and rivets.
- Lay the step on the top of the riser and using a spirit level check the tread is level. Fix the next riser to the roof with an adhesive pad, rivet to the roof. Then rivet first step to the two risers and repeat for remaining steps.



Fixing Detail

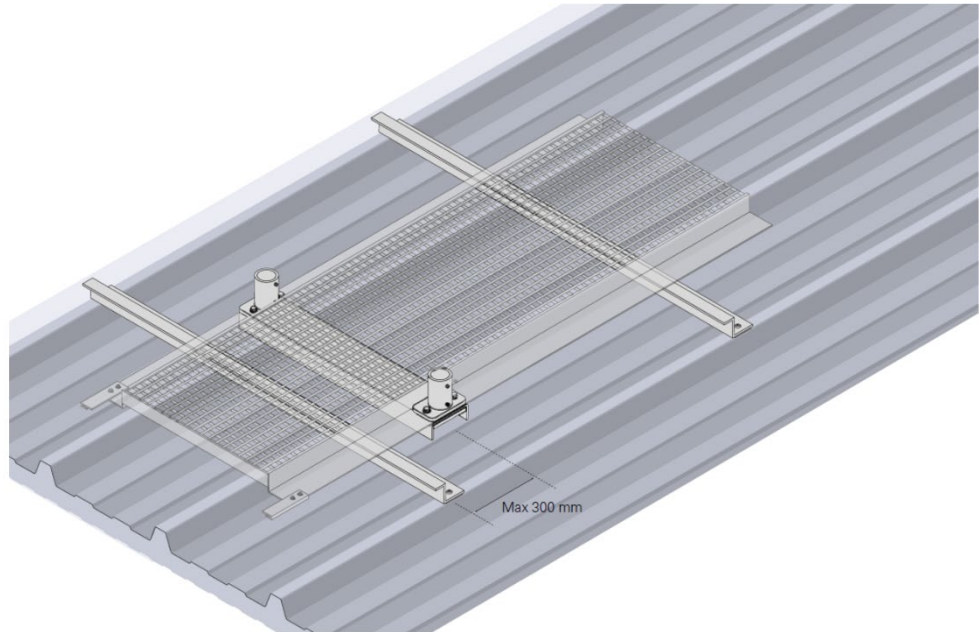


Components



Ensure everything is tightened to correct torque settings:
Self-drilling screws 6 Nm

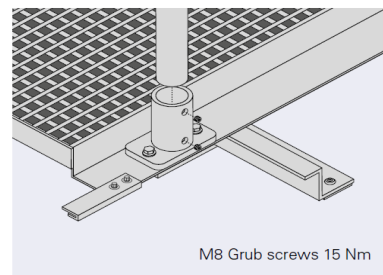
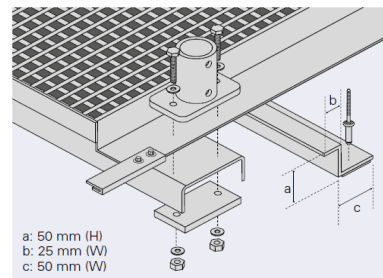
Installation Guide



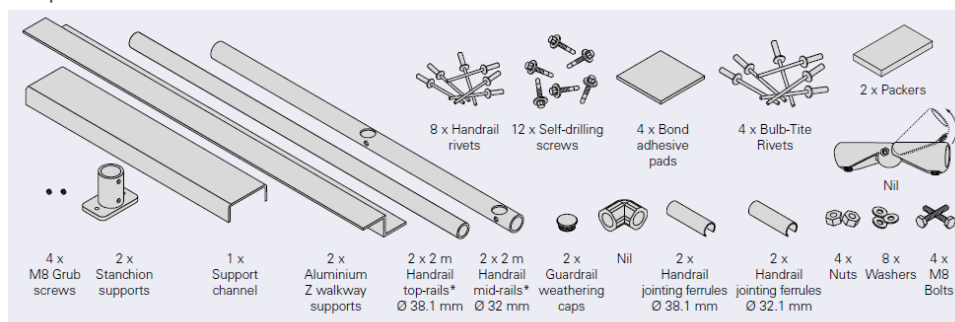
INSTALLATION GUIDE; Fixing Aluminium Guardrail Walkway

- Using adhesive pads and rivets fix the Z-sections to the roof crowns.
- Fit channel to underside of walkway using the M12 bolts, ensuring packer is in place beneath walkway and handrail base above.
- Using self-drilling screws affix the walkway panel onto the Z sections, ensuring the handrail base is no more than 300 mm from the Z section.
- Place the post supports a maximum of 300 mm from the fixing point to the roof. The stanchion centres must not be more than 2000 mm apart.
- Hold support post in place with suitable clamps, drill through walkway.
- Slide support channel under the walkway, put packer in place and tighten post support with M12 bolts ensuring nylon washer keeps metallic surfaces separated.

Fixing Detail



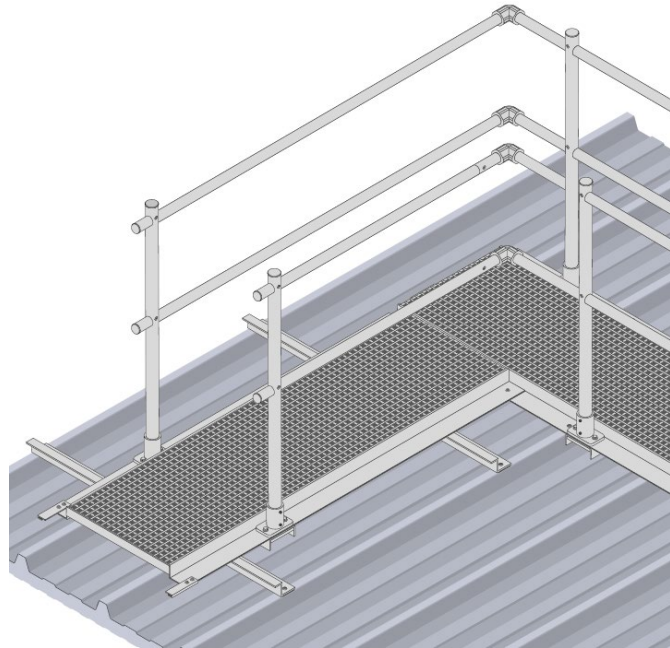
Components



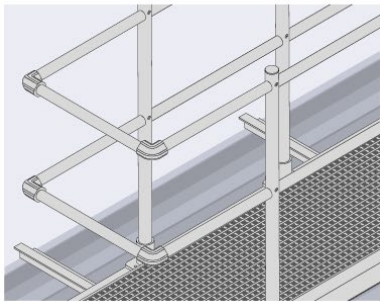
*Assuming handrail to both sides

DE-FENCE

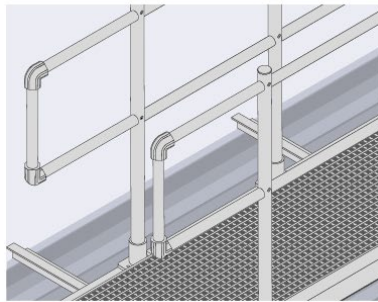
- Drop the stanchion into the post supports and loosely tighten with x 2 M8 grub screws.
- Slide both rails in place and use joining rivet to fix to stanchion.
- Join the rails with jointing ferrule riveting on one side only to allow for metal expansion.
- Put a rubber bung in the top of the stanchion and each of the guardrail ends.
- No toe board is shown. A 100 mm toe board system is available if required.



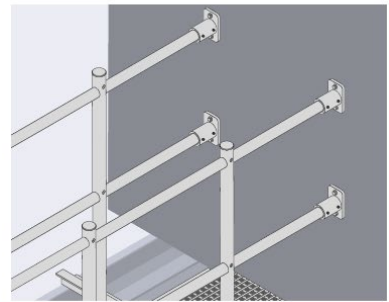
Guardrail closed end detail



Guardrail open end detail

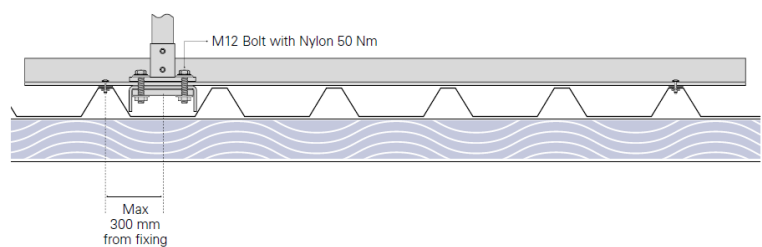


Guardrail wall fix detail



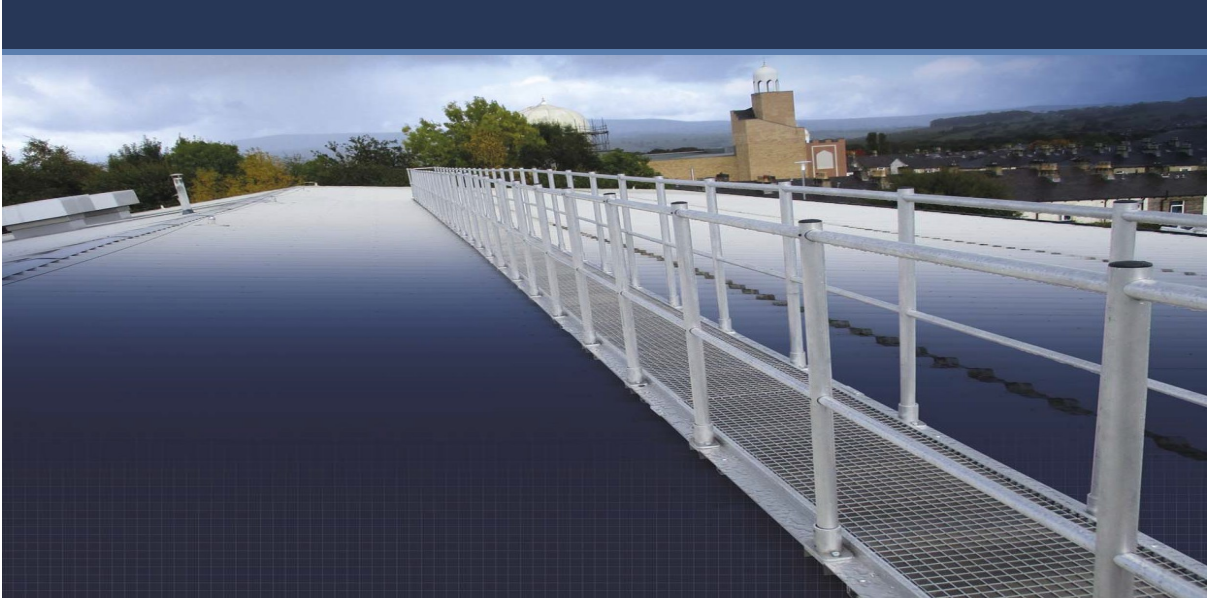
Ensure everything is tightened to correct torque settings:

Self drill screws 6 Nm /
Grub screws on tube fittings 29 Nm /
Handrail stanchion grub screws 15 Nm /
M12 bolts 12 Nm /
Bulb rivets with rivet tool



DFW Range

Aluminium Walkways For Standing Seam Roofing Systems



DE-FENCE DFW range of aluminium walkways is a standardised modular system allowing specifiers to design compliant walkways for access on all major manufacturers and their standing seam roofing configurations . A guardrail system can be added to either one or both sides of walkway.

Safety

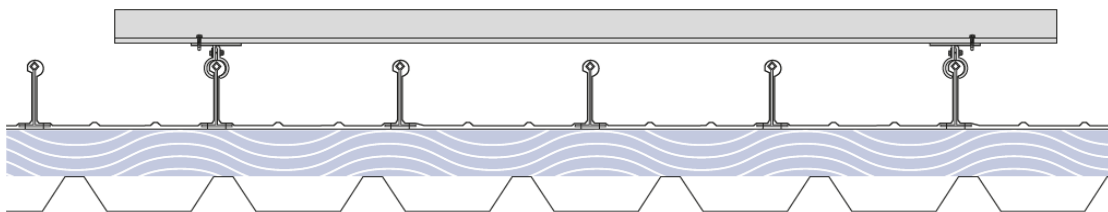
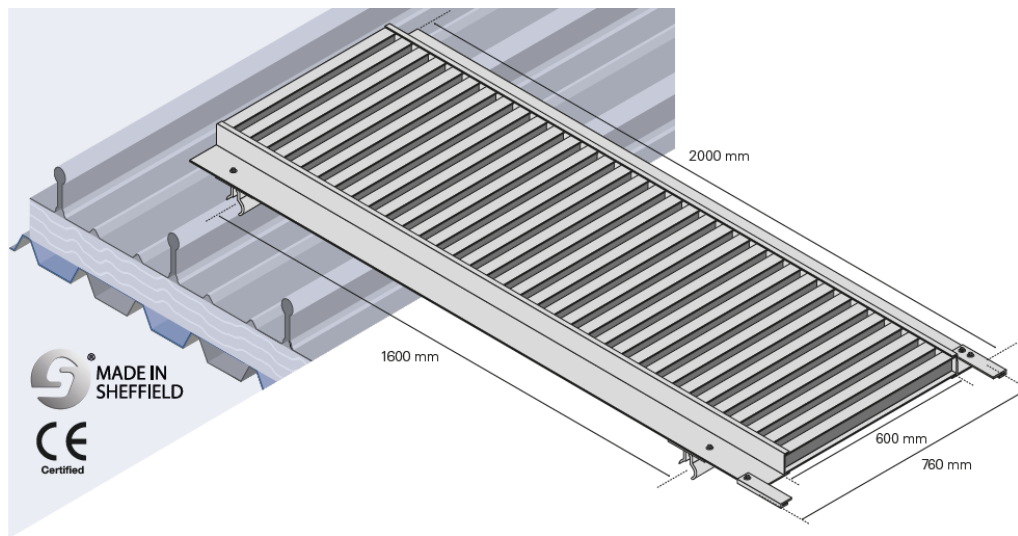
Manufactured in accordance with CE certification and tested to BS EN 516:2006 Class 1 Type C meeting all health and safety requirements demanded.

The range of standard componentry fixes to roofs of differing slope and seam widths. The walkway can be configured with a handrail to withstand a loading of either 0.36 kN (general duty) or 0.74 kN (heavy duty) and can be supplied with an optional toe board if required. The Defence walkway is unique in that it can achieve these loadings without the need for additional bracing allowing the walkway to be placed right up against the area to be accessed.

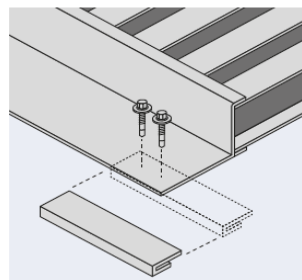
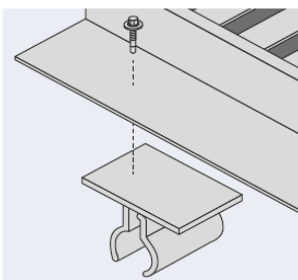
INSTALLATION GUIDE.

Laying Walkways across the Fall of the Roof-on-Roof Pitches Less than 3°

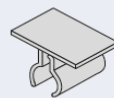
- Set clamps in a line, spaced to a maximum of 1600 mm for medium duty and maximum of 800 mm for heavy duty. Tighten M6 bolt to 5.9 Nm.
- Use self-drilling screws to fix walkways to the clamps.
Tighten to 6 Nm.
- To join two walkway sections use the joining channel.
- Fix joining channel to walkway using two self-drilling screws but to one walkway only—provides flexibility for metal expansion. Tighten screw to 6 Nm.



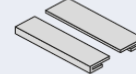
Fixing Detail



Components



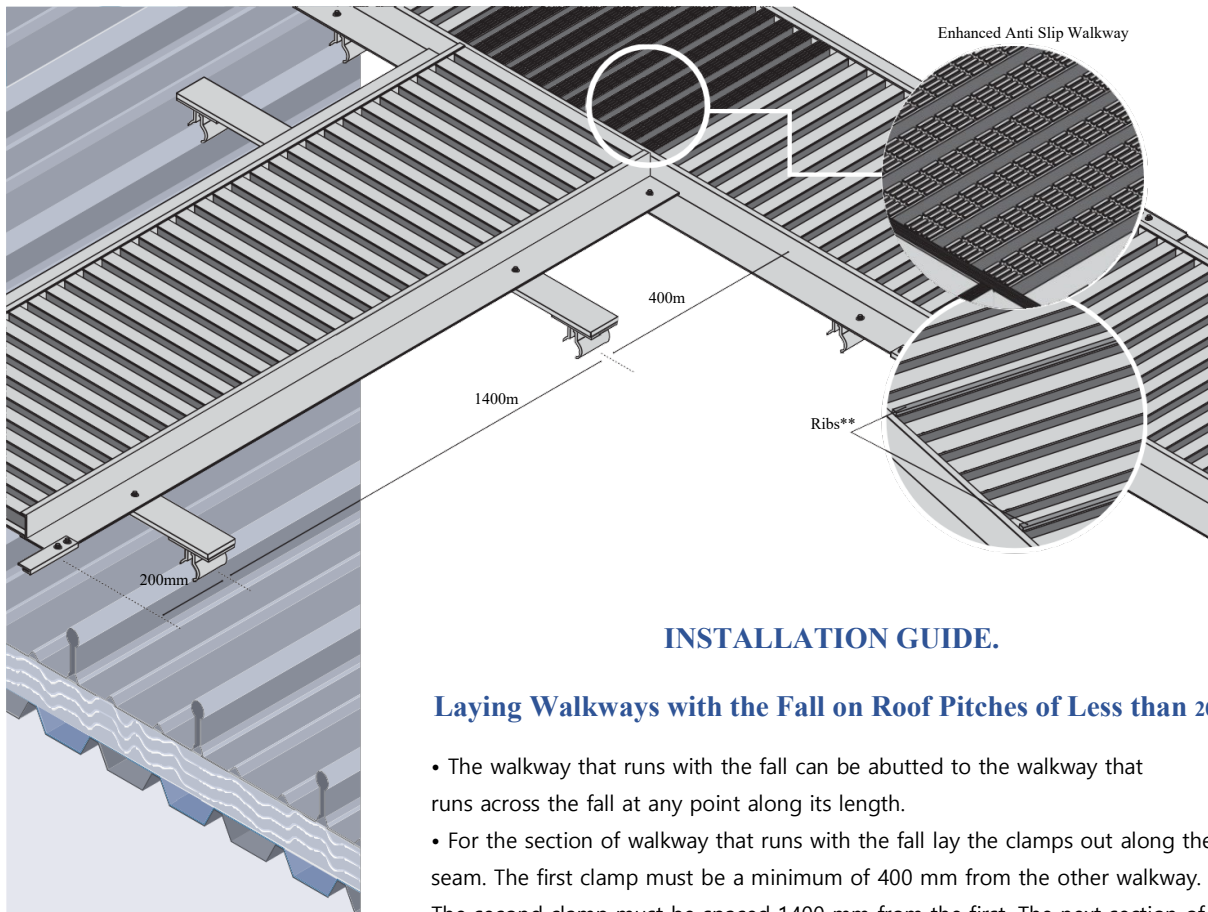
4 x Standing seam flat top clamp



2 x Panel joining channel



8 x Self-drilling screws

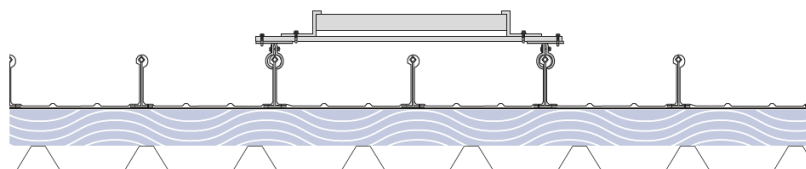
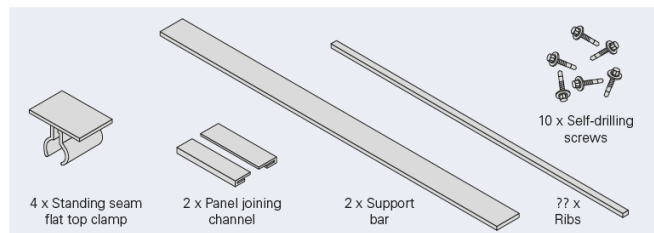


INSTALLATION GUIDE.

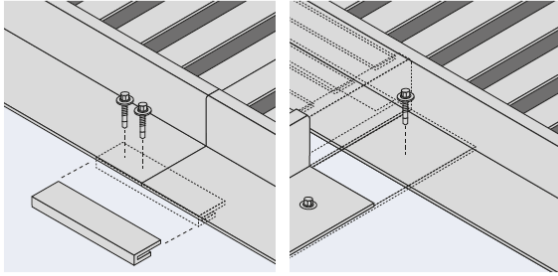
Laying Walkways with the Fall on Roof Pitches of Less than 20°.

- The walkway that runs with the fall can be abutted to the walkway that runs across the fall at any point along its length.
- For the section of walkway that runs with the fall lay the clamps out along the seam. The first clamp must be a minimum of 400 mm from the other walkway. The second clamp must be spaced 1400 mm from the first. The next section of walkway is clamped 200 mm from the join and 1600 mm after that, so the pattern goes 200 mm, 1600 mm thereafter. Leave clamps loose until final position can be determined.
- Support bars are supplied in and trimmed to size on site. Lay support bar across the two clamps, check they are level and tighten. Attach to the clamp using a self-drilling screw ensuring there is enough clearance left to lay the walkway flat on the bar.
- Abut walkway to existing walkway and join both walkways with self-drilling screw.
- Join walkway to support bar using self-drilling screw.
- Join next section of walkway with panel joining channel as described on previous page.

Components



Fixing Detail



Upon completion check all fixings are to the required torque settings: Self drilling screws 6 Nm / Clamp bolts 5.9 Nm

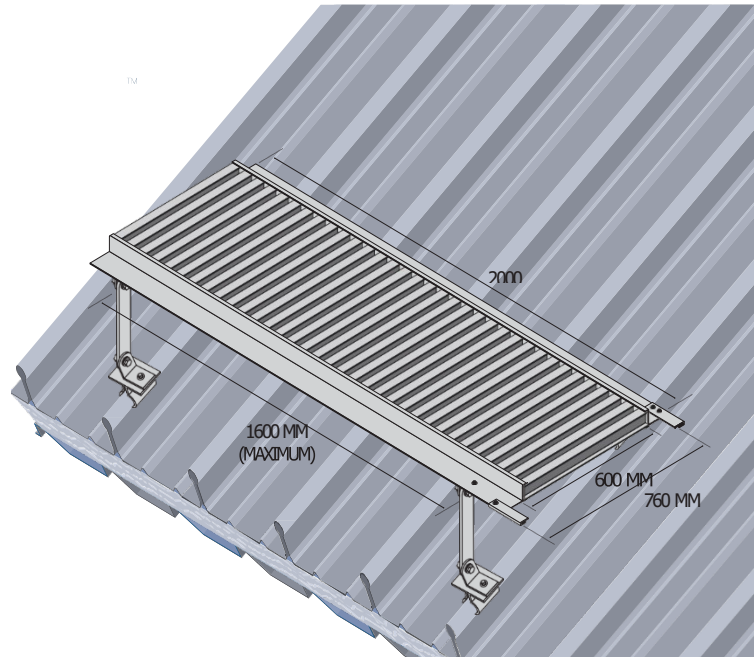
*Enhanced Anti Slip Walkway—slip resistance testing requirement—BS 7976-2:2002+A1:2013 on panel, corner and Tjunction configuration. ** The walkway can be used as a ramp up to 20°. Up to 10° standard panels are used, over 10° additional ribs are required to increase slip resistance.

INSTALLATION GUIDE.

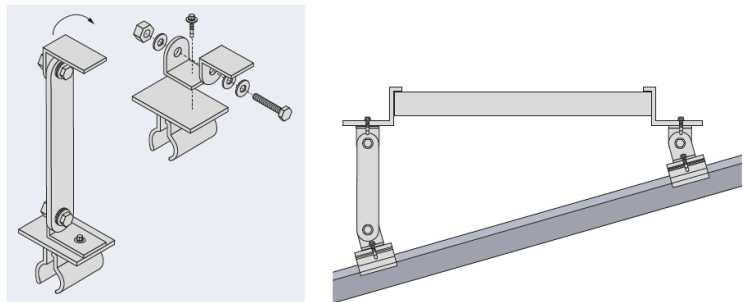
Levelled Walkways across the Fall on Pitched Roofs Greater than 3°

Where the roof pitch is greater than 3° the Defence Walkway system has a set of levelling bracketry to provide a level, compliant walkway

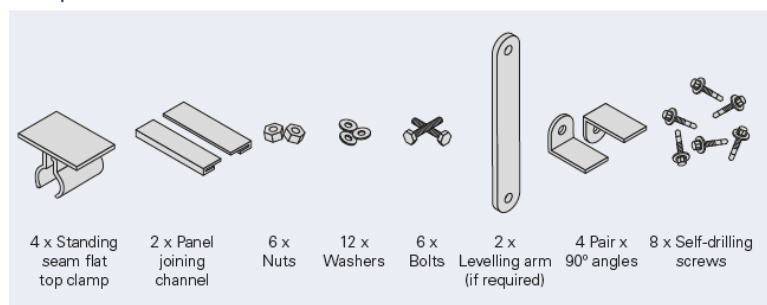
- Clamps need to be paced in a line across the seams sited 200 mm from each end of the walkway leaving a middle spacing of maximum 1600 mm.
- Place the upper clamps in position first, tightening the clamp bolt.
- The upper support bracket consists of x 2 90° angles. Attach the first to the clamp with the self-drilling screw. Bolt the second to the first with the M12 bolts. Tighten loosely to allow movement in the brackets making sure x 4 washers are used, the nylon washer separating the metal bracket and metal washer. Once in the correct position tighten to 50 Nm.
- Bolt the bottom clamp to the seam leaving loose enough to slide the clamp up and down the seam.
- A 90° angle is bolted to the clamp and the levelling arm is then bolted to the angle using a M12 bolt. Bolt the top of the levelling arm to another 90° angle. Loosely tighten so that the height of the arm can be adjusted to ensure the walkway can be levelled. Once in the correct position tighten the bolts to 50 Nm.
- Lay the walkway on the 'upper' clamps and temporarily hold in place with suitable clamps. The bottom brackets can then be manipulated by sliding along the seam and the levelling arm adjusted to ensure the walkway is level.
- Once level secure the walkway to the clamps using a self-drilling screw.
- Join the next walkway using panel joining channels as previously described.



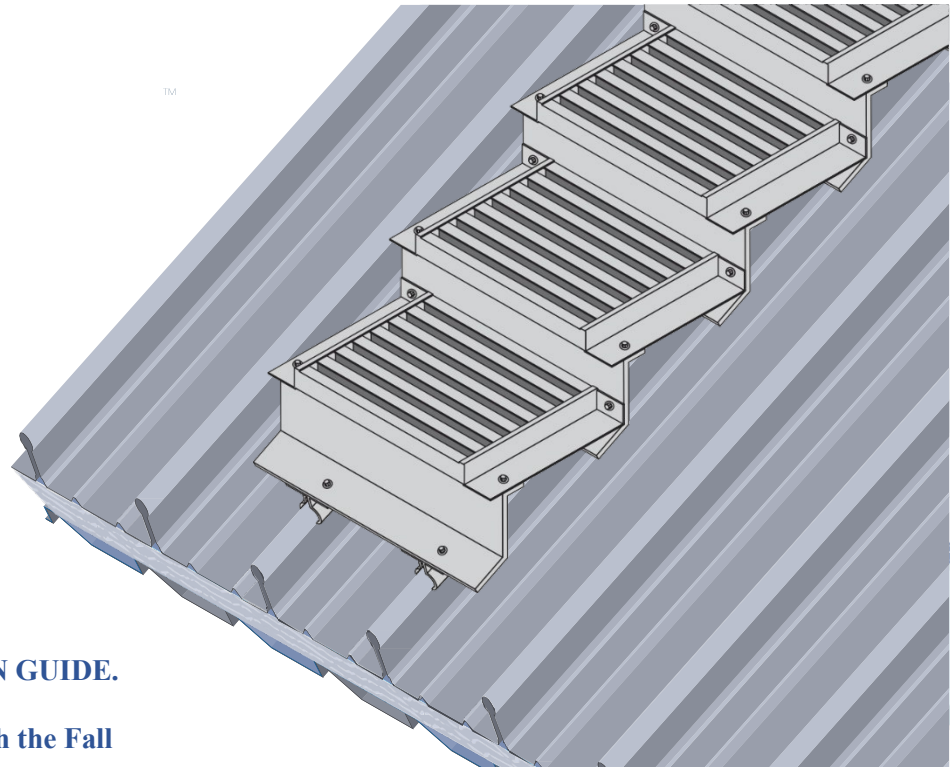
Fixing Detail



Components



Upon completion check all fixings are to the required torque settings:
Clamp bolts 5.9 Nm / Self-drilling screws 6 Nm / Bolts holding walkway arms 50 Nm



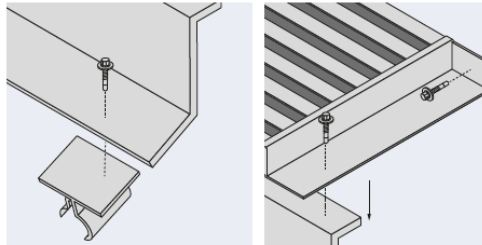
INSTALLATION GUIDE.

Laying steps with the Fall

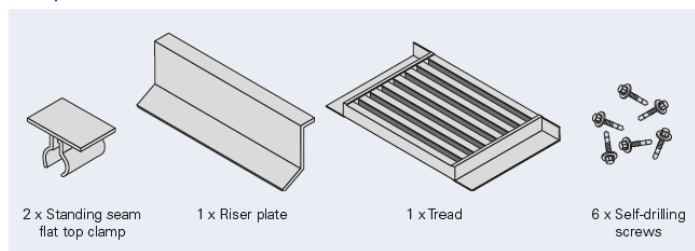
The angle of roof pitch and distance covered by the steps is required to calculate the length of treads and fall.

- Lay the fixing clamps out along the length of the steps. Each step is 600 mm wide, the tread depth, is dependent on the roof slope angle. Loosely tighten so they can be moved into position.
- Use x 2 self-drilling screws to fix the riser to the clamp.
- Lay the step on the top of the riser and using a spirit level check the tread is level. Use a self-drilling screw to fix the step to the next riser once the step is level.
- Repeat process for the remaining steps.

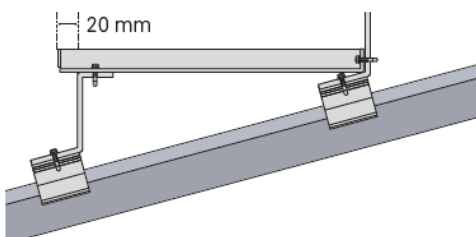
Fixing Detail

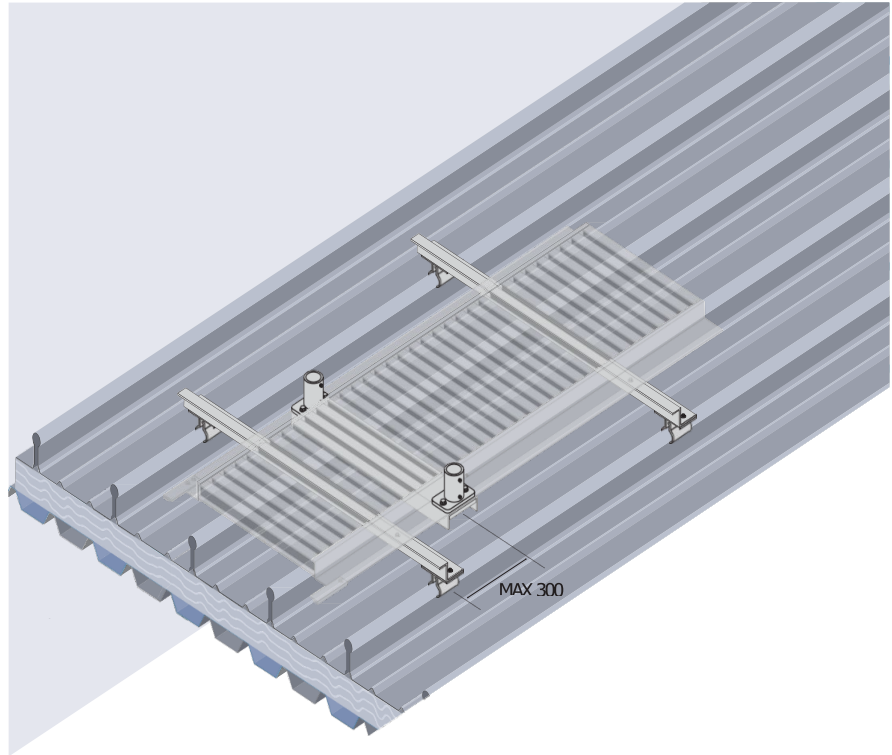


Components



Ensure everything is tightened to correct torque settings:
Self-drilling screws 6 Nm / Clamp bolts 5.9 Nm



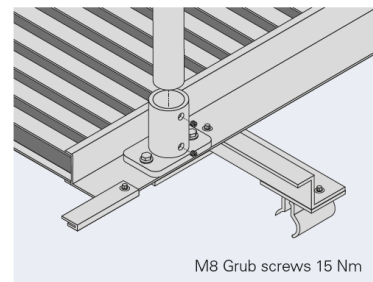
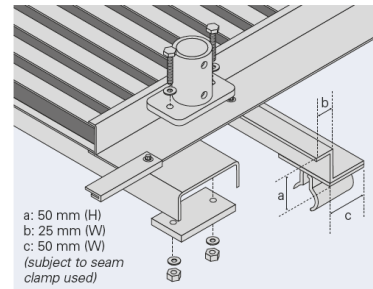


INSTALLATION GUIDE.

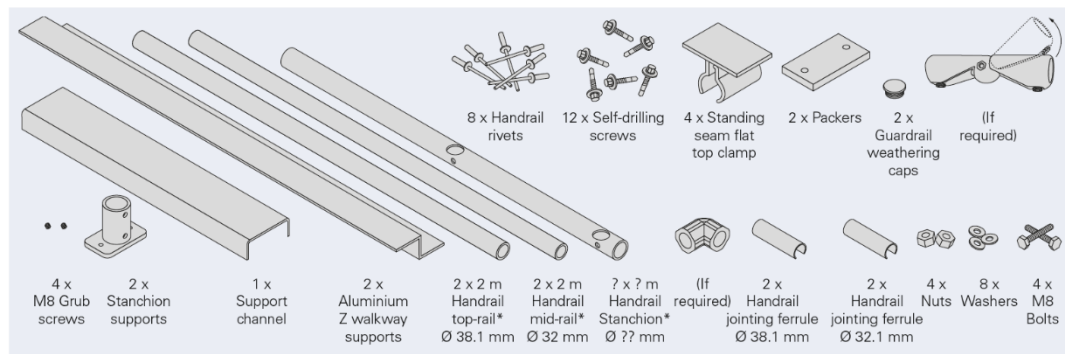
Fixing Aluminium Guardrail Walkway

- Loosely affix the seam clamps onto roof.
- Using self-drilling screws affix the Z-sections to the top of seam clamps. Max 6 KN torque.
- Fit channel to underside of walkway using the M12 bolts, ensuring packer is in place beneath walkway and handrail base above.
- Using self-drilling screws affix the walkway panel onto the Z sections, ensuring the handrail base is no more than 300 mm from the Z section.
- Place the post supports a maximum of 300 mm from the fixing point to the roof. The stanchion centres must not be more than 2000 mm apart.
- Hold support post in place with suitable clamps, drill through walkway.
- Slide support channel under the walkway, put packer in place and tighten post support with M12 bolts ensuring nylon washer keeps metallic surfaces separated.
- 2000 mm Stanchion centres for 0.36kN Handrail.

Fixing Detail

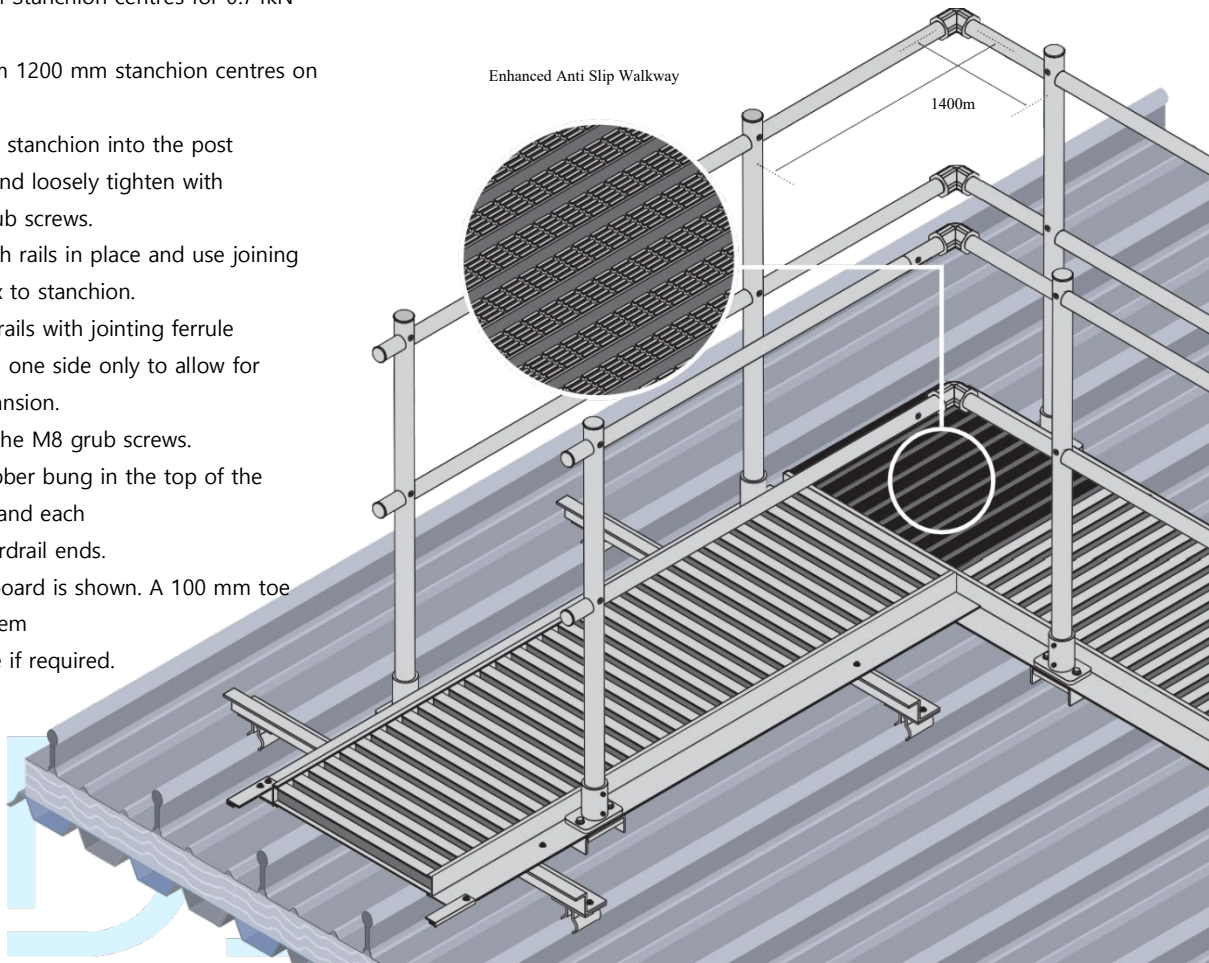


Components

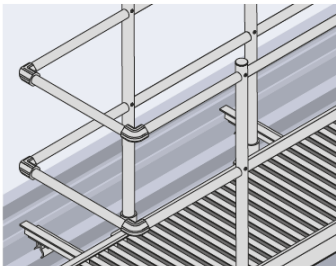


* Assuming handrail to both sides

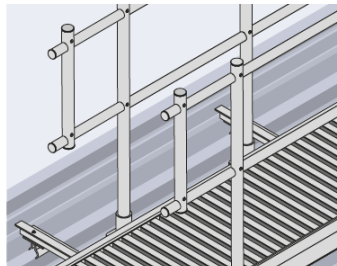
- 1000 mm Stanchion centres for 0.74kN Handrail.
- Maximum 1200 mm stanchion centres on corners.
- Drop the stanchion into the post supports and loosely tighten with x 2 M8 grub screws.
- Slide both rails in place and use joining rivet to fix to stanchion.
- Join the rails with jointing ferrule riveting on one side only to allow for metal expansion.
- Tighten the M8 grub screws.
- Put a rubber bung in the top of the stanchion and each of the guardrail ends.
- No toe board is shown. A 100 mm toe board system is available if required.



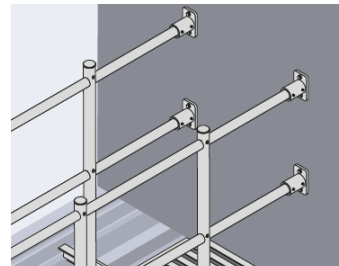
Guardrail closed end detail



Guardrail open end detail

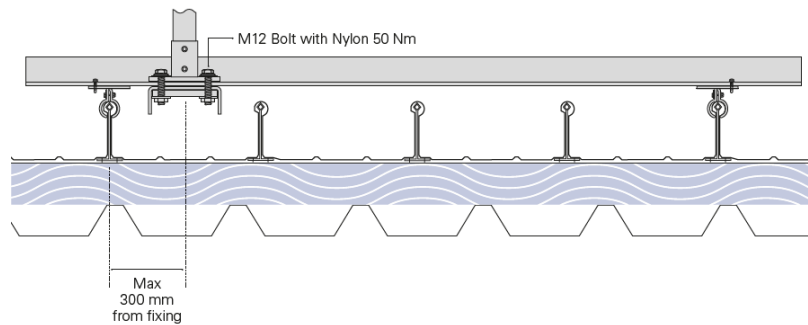


Guardrail wall fix detail



Ensure everything is tightened to correct torque settings:

Self drill screws 6 Nm /
Grub screws on tube fittings 29 Nm / Handrail stanchion grub screws 15 Nm / M12 bolts 50 Nm / Standing seam clamp bolt 5.9 Nm / Bulb rivets with rivet tool



**Enhanced Anti Slip Walkway—slip resistance testing requirement—BS 7976-2:2002+A1:2013 on panel, corner and T-junction configuration.

About Us

AOV Systems covers the entirety of the UK. We offer an exciting range of Smoke Ventilation, Natural Ventilation, Control Panels, Roof Access Hatches, Gated Handrails, Louvres and Rooflights. Offering supply only as well as supply and installation packages.

Contact

AOV Systems Ltd

Unit G11

Woodroyd Mills

Cleckheaton

WF15 6PS

Tel: 01494 266652

Email: info@AOV-Systems.com

Web: www.AOV-Systems.com

