METHOD STATEMENT INSTALLATION: ROOF GRIP RAILED WALKWAY	WI 515 Rev 00

SUBJECT: Installation of Roof Grip Railed Walkways for Clamp and Bonded Brackets

PURPOSE

To ensure Roof Grip Railed Walkways are installed in a correct and consistent manner on all roof types.

SCOPE

This instruction covers the general installation requirements for Roof Grip Railed Walkways. The instruction includes using a seam clamp type bracket for GRS Kliplock, Safrinta Saflock, Youngmens Diamondeck, MacSteel Novatexi and Craftlock roof sheeting profiles and bonded brackets for IBR or Corrugated roof sheeting. Details pertaining to the specific requirements for the various sheet profiles must be read in conjunction with this instruction.

This instruction includes:

- General checks and confirmation of planning,
- Positioning of walkways and layout,
- Loading onto roof
- Laying out of the walkway panels, fitting of the brackets and/or clamps, fitting of the walkways and fastening, checks/tests and maintenance of walkways,

RESPONSIBILITY

Engineering Manager

METHOD OF INSTALLATION

1) GENERAL CHECKS AND PLANNING

a. See Appendix A for general item identification and terminology.
The walkway system comprises

i. Walkway Railed panels
ii. Walkway bearers for sloping or along roof seam orientation
iii. Top claws
iv. Seam/Roof clamps
v. H connectors
vi. Rivet and fastners

b. See Appendix B for Tool Requirements
c. See Appendix C for Data Sheet on bonding medium.

d. This installation must be carried out according to the requirements of the roof sheet manufacturer's specification

e. Roof Grip Railed Walkway may be installed either **ACROSS THE ROOF SHEET SEAM** or **ALONG THE ROOF SHEET SEAM** also referred to as up the slope/angle of roof**.**

f. Ensure correct seam/roof clamps are supplied by doing trial sample test to confirm bracket and roof seam fitment.

g. Check amount of bonding agent (Soudal FixAll- Turbo) approximately one 290g tube for 60 clamps or 30 bracket sets for IBR of Corrugated roof sheeting.

h. When project is completed compile a Sign Off Sheet to confirm acceptance.

2) POSITIONING OF THE WALKWAYS

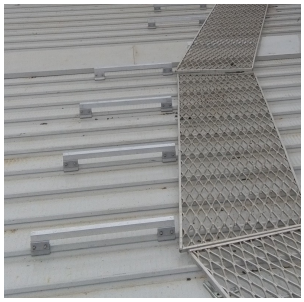
a. A drawing indicating the layout of the walkway will have been issued with the installation material or be supplied and discussed by the client. This position is determined by the engineer and architect and must be confirmed by the main contractors' site manager.
b. The walkways should align with each other as close as possible. This maybe affected by the alignment of the roof sheets and all walkway panels should be at the same level.
c. The calculated length of each walkway will be shorter than the site length by +/- 500mm. This is to allow for flashing, ridge capping etc.
In cases when walkway is required to be end to end flashing brackets should be supplied.
d. If possible all walkways should start as close to the roof ridge as possible. The gap at the end or bottom of the walkway should be left to vary according to the discrepancies in the measurements. If possible the distance should be balanced between the two ends. These distances should not exceed 300mm.
e. Should there be any discrepancies regarding the installation nothing should be done until the main contractor has resolved the issue. If standing time is incurred the main contractor must be informed and the amount of time noted for a claim to be made.

3) LOADING ONTO ROOF

a. Before moving any components check that everything has been received.
b. If the walkway is spread over a wide area of roof, more than one lay down area may be allocated. Ensure the correct walkway panels are allocated to the correct roof. Special panels will be identified by having the length written on it, except the standard 6m long panels which can fit anywhere. Check on the layout drawing where each component fits as it will be listed there.
c. The components must be carefully lifted onto the roof sheets and stored in the position that has been agreed with by the customer and the structural engineer . Do not overload these areas.
d. The walkways can be lifted either by crane or hoisting ropes. In either case the appropriate operators and equipment must be used to ensure a safe lift. Care must be taken to ensure no damage is done to the surrounding building or the walkway panels during the lift. The area below where the lift is taking place must also be cleared of personnel and cordoned off.
e. Neatly stacked piles should be made in the designated areas.
f. Secure all the components on the roof before leaving them.

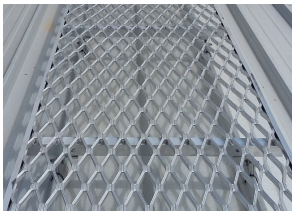
4) LAYING OUT THE WALKWAY

a. Clamp and/or bracket spacing is approximately 1,5meter apart as a guideline but will vary slightly according to the roof sheet type and for applications across or along the roof seam.
b. The same bearer is used for along the roof seam or slope and when levelling brackets are made but the orientation might vary.
c. The length of each walkway section has already been calculated. The total section length is divided into 6m long panels with one make up panel if requested and supplied to arrive at the desired final length. This length is estimated from drawings so it's accuracy will depend on the accuracy of the drawing. These lengths will take into consideration any obstacles along the route that were pointed out to the manufacturing team before manufacture. On bulk installations it might be agreed that only 6m lengths be supplied and that the installation team will measure and cut according to each trajectory's requirements.
d. The number of brackets required will depend on the roof sheet profile. The spacing of the brackets is taken from the roof sheet ridge spacing. The total length of the walkway segment is divided by the bracket spacing and then rounded up to the next whole number. If the result is a whole number then 1 extra bracket must be added. Consideration should be taken for walkway panel joints and if deflection is detected upon testing/walking after installation in the vicinity of a joint with H connector installed the bracket position could be adjusted or a additional bracket added.
e. With the walkway panels on the roof, lay them out adjacent to the position indicated by the client and the layout sketch. This will allow easy access to fit the brackets. See picture below:



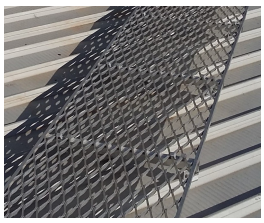
4) FITTING THE BRACKETS

a. Using this temporary walkway as laid down, mark out the positions of the bracket seam clamps on the roof sheets, using a fish line, chalk or similar. This line may be inline with the roof sheet ridges, perpendicular to them or at a random angle to them, depending on the requirements of the project.



Inline/Along
(Bearer)

Perpendicular/Across
(No Bearer required)



Diagonal
(Bearer)

b. Loosely position the clamps on the ridge and select the correct bearer for along/ sloping sections. Spaced at 1,5meter across or along.
c. Once laid out, check the positions of all the brackets to ensure they will allow the walkway to be installed in a workable position. If by placing any panels on top of the brackets it shows the panel needs to be moved any significant distance or into a position that will prevent a problem for any other service being fitted on the roof, you must get the approval of the client for this move, before fixing the walkway in position.
d. Lay the walkways on top of the bearers or clamps and loosely position the panels in the most suitable place. Leave a 3mm gap at any joint of two walkways. This is to allow for thermal expansion and when fitting of the H connector. Walkway panels should be fitted from one side to allow each H connector to be fitted in sequence.
e. If this joint occurs in the mid span of two brackets, the joint may be too flexible when tested after walking over the installed walkway. If this is the case an extra clamp support or bearer should be fitted under the joint or as near to the joint as possible.
f. If the walkway position is acceptable the bearers can be riveted to the clamps and the clamps tightened or bonded onto the seams depending on roof type.
g. Position the bearers on top of the seam clamps. Centralise the bearer between the two clamps. Check the positioning of the bearer is correct and that it matches the other bearers then drill and fix the bearer into position. Use rivets Dia 4.8mm x 40mm long with a Dia 5mm hole. Ensure all rivet stems are collected during installation and any excessive aluminium swarf is removed from the roof. On customised installations a bolted solution might be provided between the clamp and the bearer.

h. Seam Clamps must be fitted in strict accordance with the manufacturers specification. Ensure the roof sheet is not damaged in the clamp area and that the sheet is clean in the place that the brackets are to be fitted.

i. For IBR and Corrugated a non intrusive bonding process are followed as below:
   - Ensure the roof sheet is not damaged and is clean in the place that the brackets are to be fitted. Ensure the inside of the seam clamp is also clean and free of oils. The bonding agent will not stick to a dirty surface.
   - Check the walkway and bracket positions, ensuring ends will be suitably supported. If there are unsupported ends add an extra bracket in the required position, this can also be done later upon final testing post installation.
   - Apply the bonding agent to the inside of the bracket. Ensure there is enough to agent to cover both faces of the clamp. Turn the clamp over and apply it to the roof sheet. Make sure the bracket is straight in line with its mate, using the build line over the whole trajectory. Squeeze down on the bracket to ensure the bonding agent covers both sides effectively. Do not over squeeze as we do not want all of the bonding agent to squeeze out. It should form a +/-2mm cushion between the two surfaces. Make sure that the brackets remain inline.
   - The bracket should be left in position for 24 hours before the walkway is placed on top of it. A further 24 hours must be given before it is used to walk on.

j. For Kliplock, Saflock, Diamondeck, Novatexi and craft lock when applying the non intrusive mechanical clamps tighten the clamp bolts to the correct torque. (10-12 N.m) Make sure the clamp is sitting up correctly and it is in line with the previous and following clamp.

k. Check the walkway and clamp position ensuring walkway ends will be suitably supported. If there is H connector joint that is insufficiently supported, add an extra single bracket to give the required support. If this clamp is to be positioned on a lap, endure this is brought to the attention of the client or move one roof seam distance.

5) FITTING THE WALKWAY PANELS

a. Once all brackets are in position, carefully move the walkways to lie with rail base on top of the bearers or clamps. Leave a 3mm gap at any joint of 2 walkways. This is to allow for thermal expansion and fitting of the H connector.
b. Once the walkway is laid out and you are satisfied with the position fasten the Top Claw to clamp the rail rim.
c. Secure the walkway to the clamps or bearer using the Top claw with M8 allen cap screw and nut.
d. Position the H connectors between the walkways and fix on one side. Ensure the H connector gives correct support to both walkway panels.
e. Fix H connectors at all Corner and Tee junctions where walkways meet.. Ensure there is good support for both walkways.
f. Where the walkway crosses over flashing the seam clamp cannot be fitted. Depending on the height of the flashing a second bearer must be fitted under the first to give the correct support. The second bearer may be bonded to the flashing if required with Soudal FixAll.

g. The last bracket should not be more than 250mm from the end of the walkway.
h. Tee connections must be correctly supported by brackets and H connectors and rail trimmed to reduce any gaps between joining walkway panels.
i. A final walk over the complete installation must be carried out to ensure the walkway is installed correctly before handing over to the main contractor.

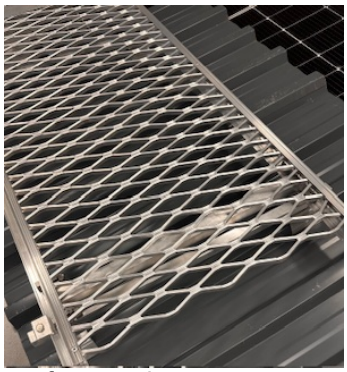
TESTS AND SIGN-OFF SHEET

j. On completion of the installation a ‘Sign Off Sheet” must be completed. A responsible person for the main contractor must be employed to carry out this task. Any snags found must be corrected before leaving site.

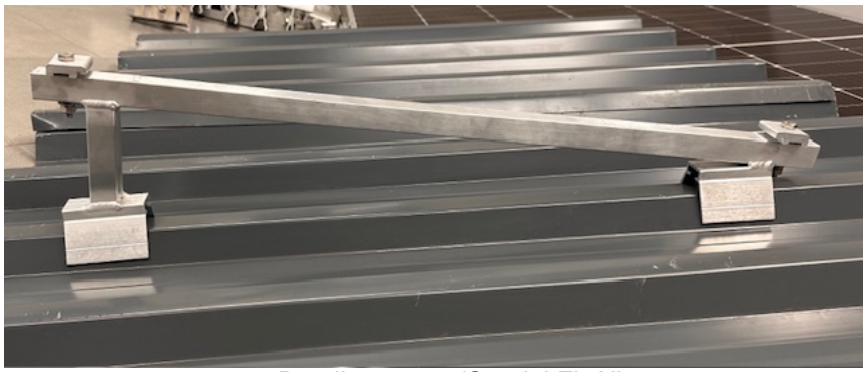
Date	Name	Sign

Appendix A Walkway Component Terminology:

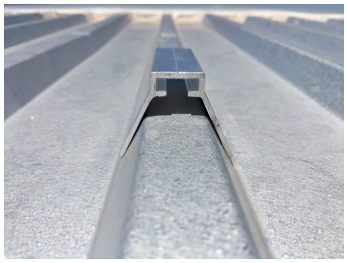
Railed Walkway



Levelling Bracket

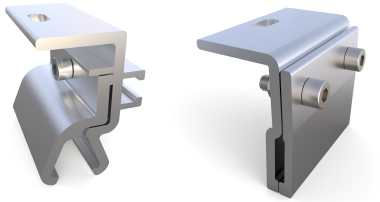


Bonded roof seam clamps



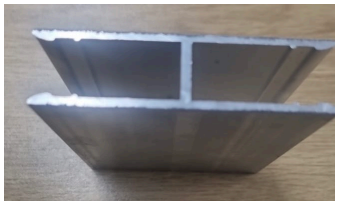
Bonding agent (Soudal FixAll-Turbo)

Mechanically fastened seam clamps

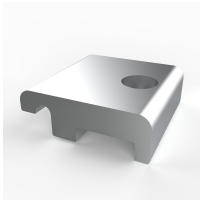


Bearer

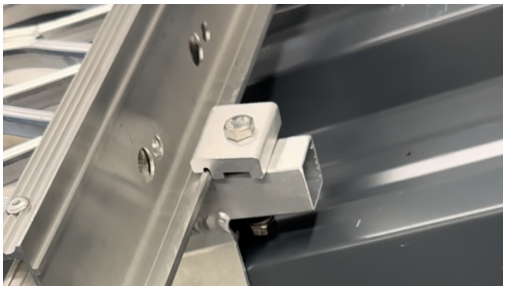
H connector Top Claw



Top Claw



Fastners assembled



Appendix B Tool Requirements:

- Building line/Fishline or laser
- Chalk line for easy marking of clamp lines
- Poprivet gun and drill
- Silicon gun/caulking gun (For IBR/Corrugated roof applications)
- 6mm Allen key and/or allen key bits
- 13mm spanner
- Angle grinder with nonferrous blade for trimming and cutting of walkways
- Rags and solvent to clean clamps/areas to bond
- Cargo strap or other tensioning mechanism for inserting walkway panels into H connectors

Appendix C Details on Bonding Agent Fix ALL Turbo:

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Technical data

* These values may vary depending on environmental factors such as temperature, moisture, and type of substrates. ** This information relates to fully cured product.

Product description

Fix ALL Turbo is a high quality, neutral, elastic, one-component adhesive-sealant with very fast strength build-up based on SMX-polymer. Fix ALL Turbo is a KOMO-certified construction adhesive based on BRL3107.

Properties:

- Quickly manipulable and very fast build-up of strength with thin adhesive layer and on porous substrates.
- Very high final strength
- Good extrudability
- Good adhesion to most common substrates, even on slightly wet substrates
- Permanently elastic after curing
- Can be painted with water based systems
- Good weather and UV resistance
- No staining on porous surfaces such as marble, granite and other natural stones

Applications:

- Bonding in building and metal industry.
- Elastic bonding of objects, panels, profiles and other pieces on the most common substrates.
- Sealing and bonding in the building and construction industry.

Shelf life

15 months in unopened packaging in a cool and dry storage place at temperatures between +5°C and +25°C.

Chemical resistance

Good resistance to (salt)water, aliphatic solvents, hydrocarbons, ketones, esters, alcohols, diluted mineral acids and alkalis. Poor resistance to aromatic solvents, concentrated acids and chlorinated hydrocarbons.

Application method

Application method: Apply the adhesive by means a caulking gun in uniform adhesive strips or dots (every 15 cm) on one of the substrates. Always apply an adhesive dot or strip on the corner and edges of panels. Do not apply the glue in a closed circumference, but interrupted. Bond the substrate and tamp with a rubber hammer. If necessary, support the bonded materials. For bonding on absorbent and porous substrates with thin adhesive layer, the adhesive is already hand tight after approx. 20 minutes and can be loaded after about 3 hours. Thicker adhesive layers or non- absorbent substrates extend the curing time.

Cleaning: Clean with Soudal Surface Cleaner or with Soudal Swipex, immediately after use Cured Fix ALL Turbo can only be removed mechanically.

Health- and Safety Recommendations

Take the usual labour hygiene into account. Consult label and material safety data sheet for more information.

Discolouration due to chemicals, high temperatures, UV-radiation may occur. A change in color does not affect the technical properties of the product.