



ENVIRO  
BUILD

# HYPERION<sup>®</sup>

NON-COMBUSTIBLE EXTERNAL DECKING SYSTEMS

## INSTALLATION GUIDE

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# A-CLASS ALUMINIUM DECKING ON FLAT ROOF

## INSTALLATION OVERVIEW

With solid flat foundations and flat roof areas a simple system using MESA adjustable steel support pedestals can be used (fig. 1). These pedestal support centres can be placed straight onto the ground with a protective rubber membrane and their heights adjusted by rotating the pedestal top.

- **3 mm, 6 mm or 8 mm Hidden Fasteners**  
These hidden clips are a great solution for maintaining a seamless finish, holding your decking boards in place while out of sight.
- **Hyperion Aluminium Decking Board**  
Beautifully engineered fire-resistant decking boards.
- **Starter Fastener**  
Screwed onto the aluminium bearer, allowing the first decking board to easily slide into place.
- **MESA Adjustable Steel Cradle**  
Twist to adjust levels on uneven or sloping surfaces with minimal effort for fast and effective installation.
- **MESA Aluminium Bearer**  
These low-profile bearers can be very easily screwed into the cradle of the steel pedestal.
- **Protective Rubber Membrane**  
A supportive base used in roofing solutions to prevent damage to roof membranes by steel pedestals.

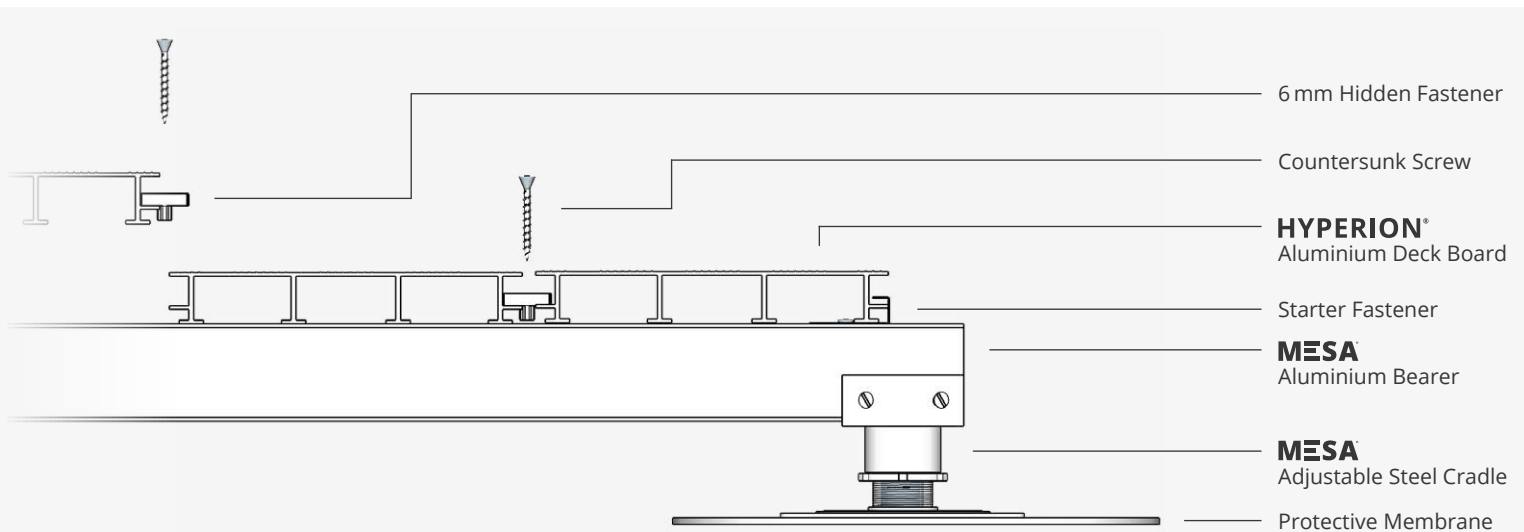


fig. 1

## RECOMMENDED TOOLS

- Power Drill
- Cutting Saw (with blade suitable for aluminium)
- Countersunk and Pan Head Tek Screws
- Spirit Level
- Safety Boots (steel toe caps & pierce resistant sole)
- Safety Gloves
- Face Mask (when cutting porcelain)
- Eye Protection
- Safety Helmet

## SUBSTRUCTURE SPACING

The height dimension of the aluminium bearer will determine how often it must be supported. Ensure that the distances between support centres beneath your bearers are no greater than below.

Aluminium Bearer Profile	Maximum Support Span
20 x 50 mm	400 mm
40 x 50 mm	600 mm
80 x 50 mm	1200 mm

- This span table is for 2.5 kN/m<sup>2</sup> with aluminium joists placed at no more than 600 mm centres.
- There should be a maximum of 600 mm between bearers in order to sufficiently support aluminium deck boards.

## PREPARING THE AREA

- Ensure the roofing membrane is 100% water-tight and free from debris.
- Check that the installation area has a drainage slope that complies with building regulations.
- It is recommended to install a gutter or scupper to allow the draining of excess water.

## LAYING THE PEDESTALS

1. Starting from the edge of the decking area, lay out your pedestals. The height of the steel pedestals can be adjusted by rotating the pedestal head and then locked into position using the locking nut (*fig. 2*). Refer to the *Substructure Spacing* section above for information on pedestal support spans.

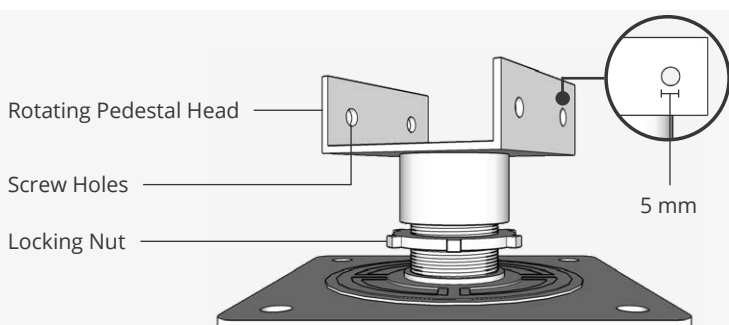
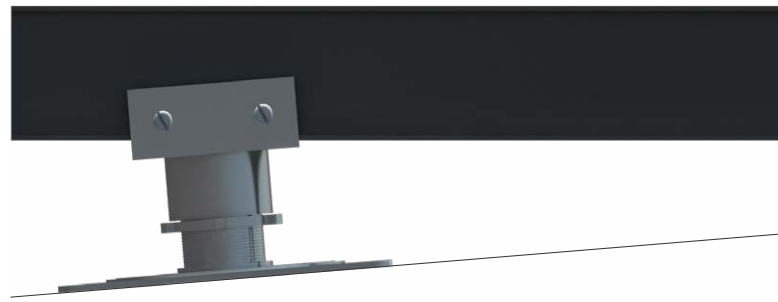


fig. 2



There needs to be a slope or fall of around 1:100 (i.e. 10 mm of fall for every metre width or length of decking)

2. Beneath each steel pedestal, lay a rubber membrane (or other sacrificial membrane) to protect the roof.
3. Use a spirit level to check the level of the pedestals.
4. To make up for gradients in the decking area, steel pedestals can be fixed to the bearers at an angle (*shown above*).

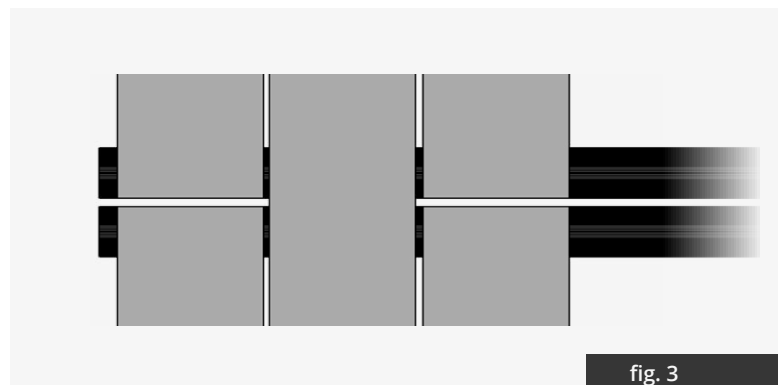


fig. 3

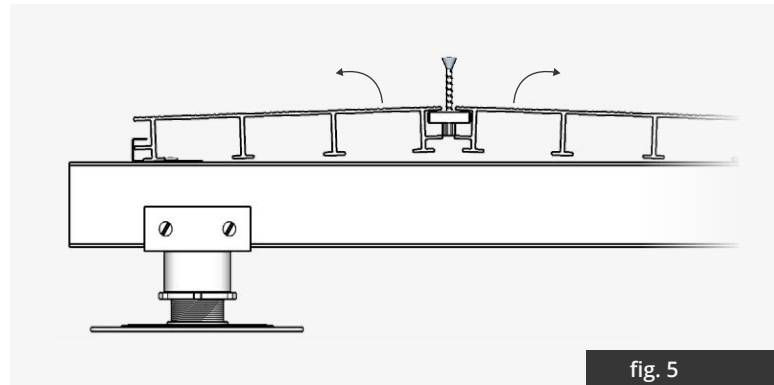
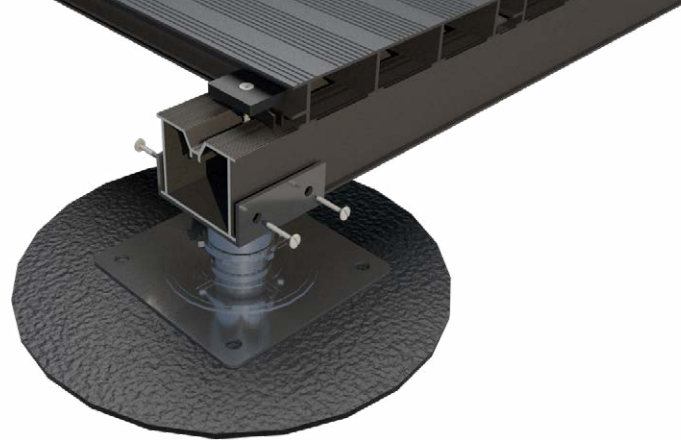
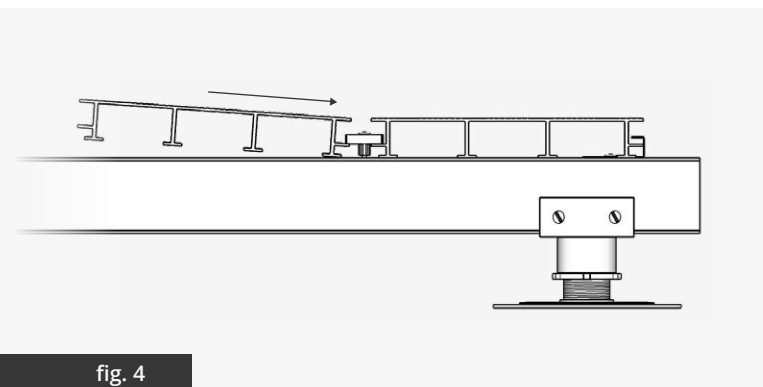
## LAYING THE BEARERS

5. Place your aluminium bearers on top of your steel cradles. Aluminium bearers can be laid end to end, supported by a pedestal. Make sure to leave a 10 mm expansion gap between the ends of the bearers.
6. A full bearer width must be used under deck board ends, therefore you should make sure to double up on bearers in your substructure at butt joints (*fig. 3*). About a 6 mm spacing between bearers at butt joints is recommended.
7. Using Tek screws, the bearers can be fixed to the steel pedestals. If using 20x50 mm bearers, ensure you are using small Tek screws supplied by EnviroBuild.

## INSTALLING DECKING BOARDS

With your subframe levelled and stable, you can now start installing your deck boards.

1. The first board must be fixed using starter fasteners.
  - Align starter fasteners on each bearer end where you want the deck board to start. Starter fasteners should be installed on every joist.
  - Securely screw each fastener into the bearer.
  - Slide the first decking board into the starter fasteners. The board will comfortably fit between the top of the screws and the underside of the fasteners.
2. To fix the next board 6 mm Hyperion hidden fasteners are recommended (3 mm fasteners may also be used). These should be placed into the groove of the fixed board.
  - Install one hidden fastener on each bearer.
  - Ensure that the screw holes in the fasteners are lined up with the bearers in your substructure.
  - The countersunk part of the fasteners should be face up.
  - Always use hidden fasteners at board ends.
  - With butt joints, never share a fastener across two board ends. There must be one fastener per board end.
3. Lightly screw the fasteners into place. Do not fully tighten yet.
4. Place the next board into position against the hidden fasteners. Raise the outer edge of the board and slide into the fasteners, ensuring that the deck board edge is fully in contact with the spacer tabs on the fasteners (*fig. 4*).
5. Fully tighten the hidden fasteners down to the bearers using a drill between the decking boards.
6. Repeat steps 2-5 until you have reached the last two boards.
7. The last board may need trimming to fit (*see page 6*).



## INSTALLING THE LAST BOARD

1. Method Using 6 mm Hidden Fasteners
  - Calculate the width of the last two boards, taking into account the 6 mm spacing gap that will be between them.
  - Mark on the last bearer where the outer edge of the last board is going to lie.
  - Using these marks, install Hyperion hidden starter fasteners onto the bearer and slide the last decking board into place.
  - Insert the penultimate deck board.
  - With the last two boards in place, slide the required number of 6 mm hidden fasteners down the groove by angling the boards upward (*fig. 5*). Use partially inserted screws as 'handles' in order to slide the clips more easily.
  - Secure the fasteners to the bearers between these final two boards.
2. Method Using 3 mm Hidden Fasteners
  - Install your deck boards up to the final board using 3 mm Hyperion hidden fasteners.
  - To fix the last decking board in place it must be screwed directly to the aluminium bearers.
  - Pre-drill pilot holes in the deck board 2 mm wider than the width of the screw shank.

## TRIMMED FINAL DECK BOARD

You may find that your final deck board must be trimmed to fit. Trimming aluminium decking boards can be done using a multi-purpose cutting tool or an aluminium suitable saw blade.

Any deck board that has been cut needs to be supported along its trimmed edge. A decking edge piece should be used to achieve this (fig. 6).

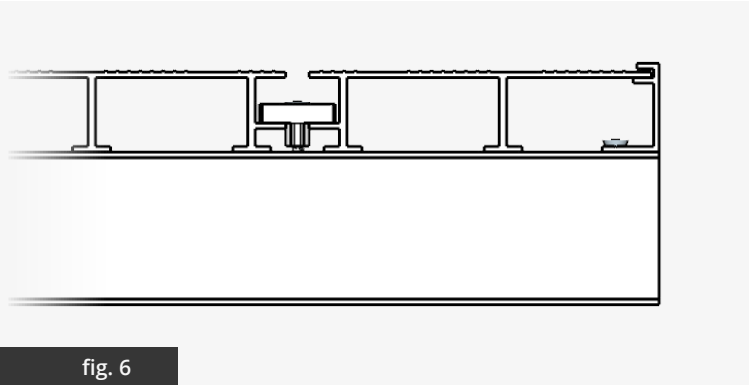


fig. 6

1. Before fixing into place, measure the length from the penultimate deck board up to where the deck edge piece will sit. Take into account the spacing gap from the hidden fasteners between the final two boards.
2. Trim the final decking board to size so that when it is installed, it will sit comfortably into the groove of the deck edge piece.
3. Remove the final trimmed board and then using a drill and Tek screws, fix the deck edge piece to your bearer ends. Use the dip in the deck edge piece as a guide for the screws and use one screw for each bearer the deck edge piece sits on.
4. Slide the final trimmed decking board into place before doing the same with the penultimate decking board.
5. With the last two boards in place, slide the required number of hidden fasteners into the groove between them. It may help to angle the boards upward (fig. 5).
6. Secure the fasteners to the bearers between these final two boards.



## EDGE PIECES AS TRIMS

Deck edge pieces can also be fixed to the ends of your decking to be used as a trim to give a smart, flush finish to the edge of your installed decking (fig. 7). Aluminium deck boards may overhang the edge of a joist by a maximum of 20 mm. Any deck board with an overhang greater than 20 mm must be supported.

- Use pan head screws to fix the deck edge piece.
- Place the deck edge piece on the end of your installed decking with the 'base' on top.
- Use two screws per deck board end.

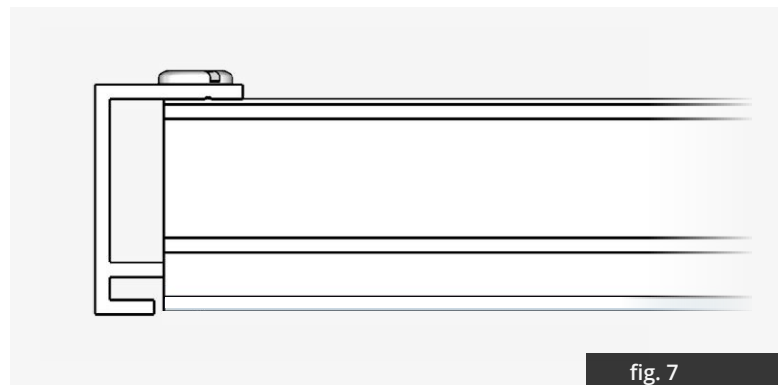


fig. 7



# A-CLASS ALUMINIUM DECKING ON STEEL BEAMS

## INSTALLATION OVERVIEW

Aluminium decking boards can be installed directly onto steel beams without the need for steel pedestals or aluminium bearers (fig. 8). The same steps as on pages 5–6 can be followed for installing aluminium decking to steel beams, with the exceptions:

- The maximum tolerance for the steel beams is  $\pm 2$  mm. This is how high or low a steel beam can be from the adjacent beam.
- Each deck board end should be supported by at least 35 mm on the steel beam.
- At least a 70 mm width is required on the steel beam to support two board ends at butt joints.

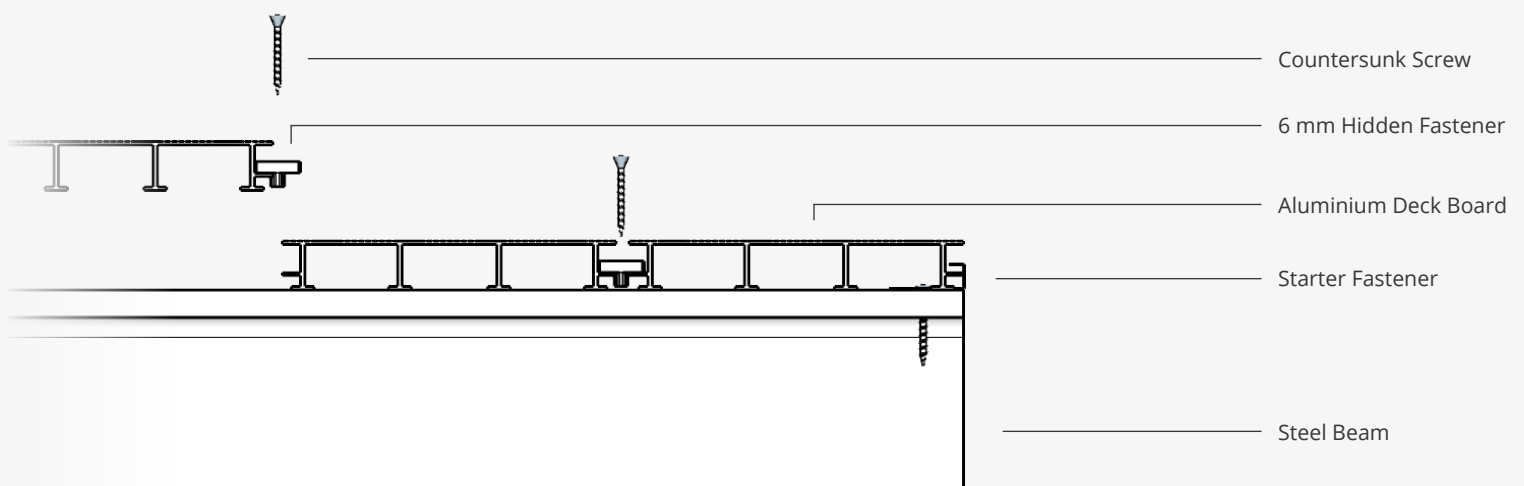
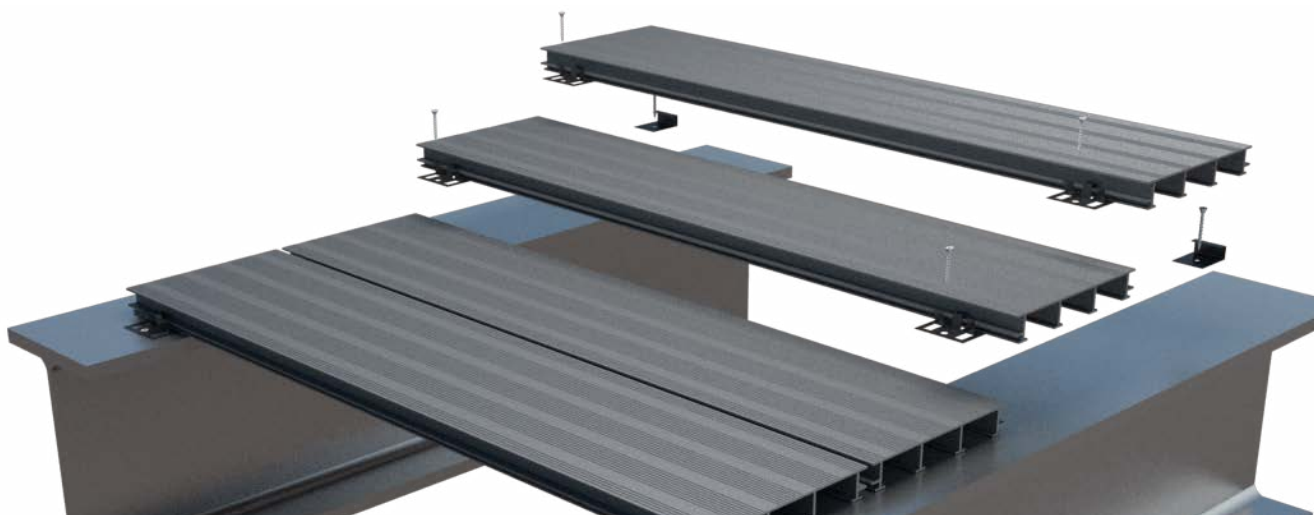


fig. 8



# A-CLASS COMPONENT FIRE RATINGS

## NON-COMBUSTIBLE SYSTEMS

Introducing an entirely new range of non-combustible materials from EnviroBuild, with solutions for every project. The fire rated systems make no compromise on quality or sustainability and are supported by an on-hand expert team.

## WHAT ARE NON-COMBUSTIBLE FIRE RATED SYSTEMS?

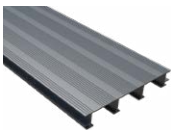
Almost every component within a system has to be individually tested to EN13501-1, and achieve either A1

or A2, s1, d0 certification. The exception are specifically listed exempted items including, electricals, door frames, membranes, gaskets and fixings. There are no longer "system level" fire tests like BS8414 available.

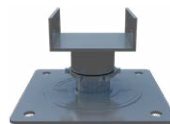
## WHEN ARE NON-COMBUSTIBLE SYSTEMS NECESSARY?

All balconies on buildings started since February 2019 over 18 m where people sleep are included in the legislation.

## COMPONENTS



**Aluminium Decking Board**  
EN13501-1 tested  
Class A2 s1 d0



**Adjustable Steel Cradle**  
EN13501-1 tested  
Class A2 s1 d0  
(Class A1 available)



**Decking Edge Piece**  
EN13501-1 tested  
Class A2 s1 d0



**Aluminium Bearers**  
EN13501-1 tested  
Class A2 s1 d0  
(Class A1 available)



**Protective Rubber Membrane**  
Membranes are exempt from legislation. Always check with building control.



**Starter Fasteners**  
Fixings are exempt from legislation. Always check with building control.



**3 mm Hidden Clips**  
Fixings are exempt from legislation. Always check with building control.



**6 mm Hidden Clips**  
Fixings are exempt from legislation. Always check with building control.



# A-CLASS FREQUENTLY ASKED QUESTIONS

## CARE & MAINTENANCE

- **How should I prevent scratching deck boards?**  
Ensure that all furniture used on A-Class systems have soft felt pads under their legs.
- **How often should I clean my deck boards?**  
At regular intervals but at the very least they should be cleaned twice a year as excess dirt can cause damage.
- **How should aluminium deck boards be cleaned?**  
To clean the structure, a solution of warm soapy water and a lint-free cloth should be used. The structure should then be rinsed thoroughly with water. No form of abrasive should be used at any time. All concentrated cleaners should be diluted as per the manufacturer's instructions. Never use bleach, solvents, abrasive paste or cream cleaners as they could damage the surface of your decking.

To maximise the life of the painted surface, it is highly recommended that no cleanser that contains chlorinated solvents, ketones or esters is used. These will cause the paint to soften.

- **Can a pressure washer or steam cleaner be used?**  
It is not advised to use pressure washers or steam cleaners to clean aluminium deck boards.
- **How can I fix light chips or scratches?**  
Light chips or scratches which leave exposed the base metal should be carefully covered by applying an appropriate zinc rich primer, followed by a topcoat finish in a matching acrylic based spray paint. Ensure all areas are cleaned with PW3 panel wipe to remove any grease prior to re-coating. It is strongly recommended that the surrounded area should be fully protected and masked off while spraying.
- **How can I fix larger areas of damage, coating breakdown or vandalism?**  
The area should be sanded so that the edges are smoothed to allow for feathering in using P320 grade fine sandpaper (to create a smoother transition from the old paint to the new). A zinc rich primer should be brushed or sprayed onto the area and a topcoat should then be applied, in a similar manner.

- **How can I remove graffiti?**  
Graffiti should be removed by a specialist contract cleaner or by using a "T-Cutting" compound. It is not recommended to use any solvents, abrasive cleaners or other chemicals to clean the surface at any time.

## INSTALLATION

- **How do I cut aluminium decking boards and bearers?**  
A saw blade suitable for aluminium materials should be used. Preferably use one with a blade suited to non-ferrous materials and for profiles of a suitable thickness. Blades designed for cutting non-ferrous materials usually have a special grade of carbide for aluminium, a triple chip top grind and a zero or negative hook angle. There are ways to cut aluminium materials with blades designed to cut wood, however this is not recommended.

A circular saw or table saw can be used however the preferred method is using a miter saw. Ensure the aluminium material is sufficiently fixed with a clamp in order to prevent damage to the blade or the user. You will get better results and a longer blade life if you use a lubricant (a wax stick or WD-40 is easy to apply while the blade is spinning).

- **Does cutting aluminium leave burrs?**  
Any small burring which may occur can be removed simply by using sandpaper and a pair of safety gloves.
- **How long will the powder coating last?**  
Warranted for 10 years under normal use and conditions.
- **Does cutting the powder coated ends affect the warranty?**  
This will not affect the warranty.
- **How can noise dampening be improved?**  
A layer of EPDM membrane could be used between the aluminium decking and the bearer. This requires checking with building control.

