

Installation and Technical Manual

Dura Cladding



Dura Cladding

Strong and durable, Dura Cladding looks and feels just like natural wood. Our unique formula provides long lasting composite timber cladding that is environmentally friendly, easy to install and requires minimal maintenance compared with traditional timber.

To ensure you get the best results from your Dura Cladding, we recommend working with a professional contractor with previous cladding installation experience. As well as the detailed installation instructions provided in this Technical Manual, a helpful video is available on the Dura Composites website to offer additional visual guidance.

If you require any further information or support, please visit www.duracomposites.com/cladding or call us on **+44 (0)1255 423601** where one of our knowledgeable staff will be happy to help.

...designed for the future

Industrial Rail Marine Decking Cladding

dura[™]
composites

Domestic Cladding



Internal Trim Page 19



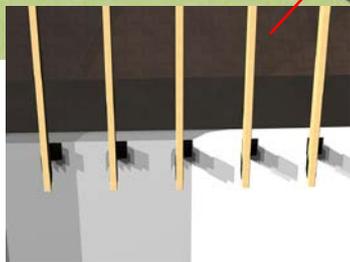
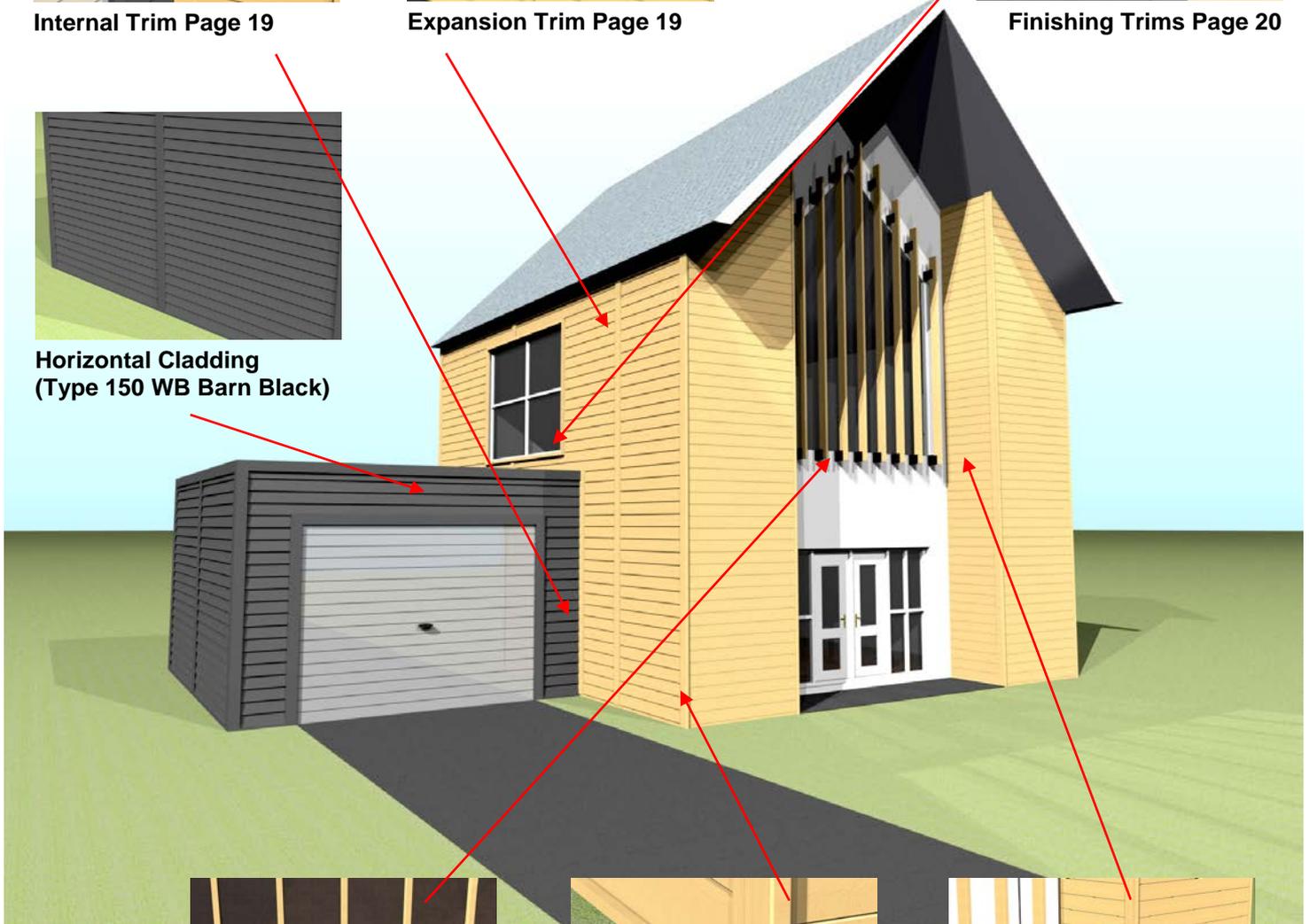
Expansion Trim Page 19



Finishing Trims Page 20



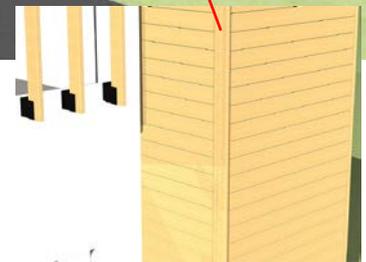
Horizontal Cladding
(Type 150 WB Barn Black)



Louvre Cladding Page 30



Starter Trim Page 17



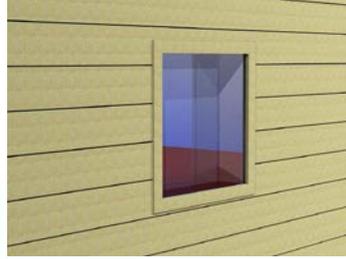
Horizontal Cladding Guide
(Type 150 Cedar)
Pages 17-22



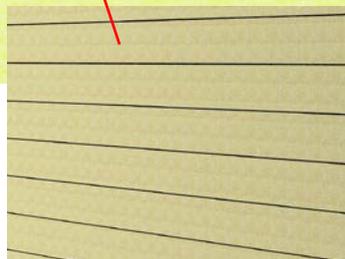
Commercial Cladding



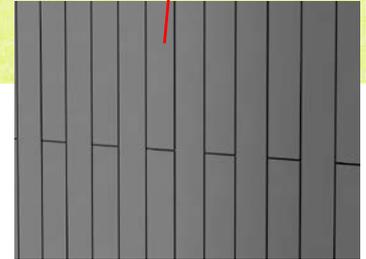
Expansion Trim Page 19



Finishing Trim Page 20



Horizontal Cladding Guide
Pages 17-22



Vertical Cladding Guide
Page 23



Contents

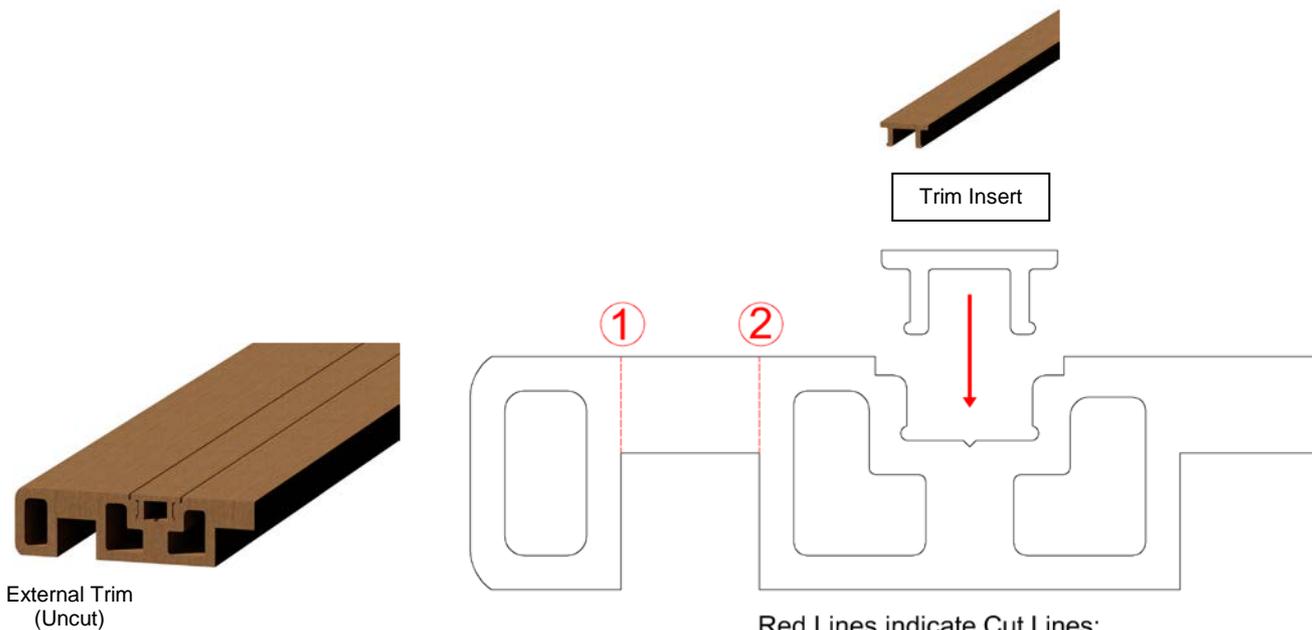
- 1. Quick Reference Guide**
- 2. Preparation**
- 3. Materials**
- 4. Cladding Preparation**
- 5. Horizontal Installation**
- 6. Vertical Installation**
- 7. Troubleshooting & Frequently Asked Questions**
- 8. Dura Louvre Cladding**
- 9. Maintenance and Cleaning**
- 10. Technical Specifications**

1. Quick Reference Guide

Trim Cutting Guide

Dura Composites' Cladding Trim is multi-purpose and as such, needs to be cut at the relevant point, as shown below. Please refer to this guide as and when needed to make sure you cut the trim correctly.

The trim insert is supplied as part of the profile and allows for quick installation and covering of fixings, ensuring a neat finish to your cladding project. Additional inserts are available on request.

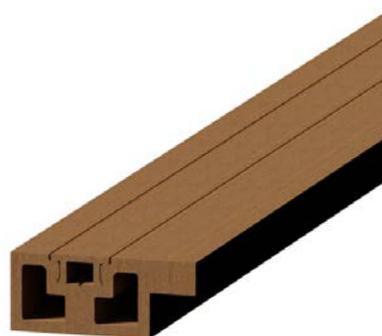


Red Lines indicate Cut Lines:

1. Cut Line 1 to make Expansion Trim
2. Cut Line 2 to make Internal Trim

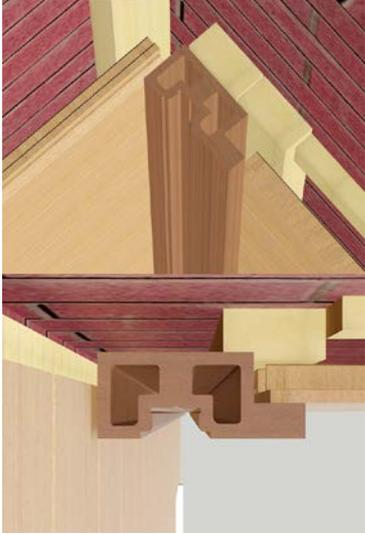
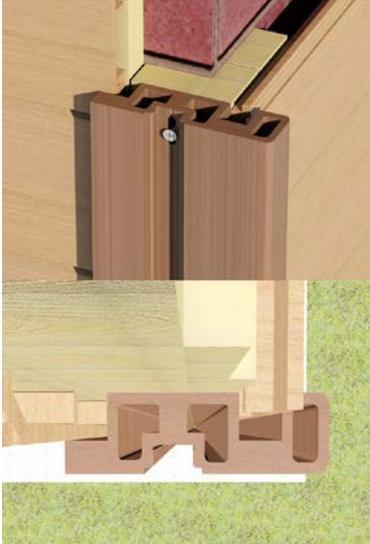


Expansion Trim
(Cut at 1)

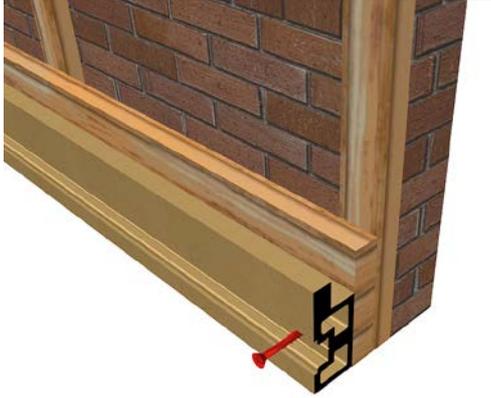
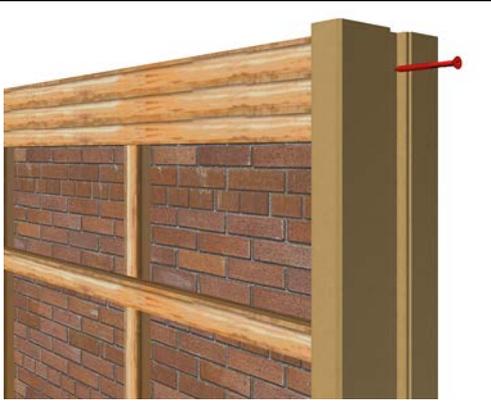
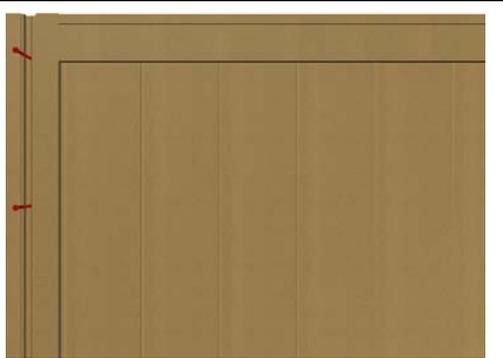
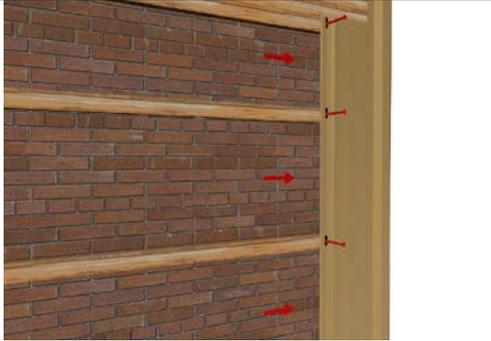
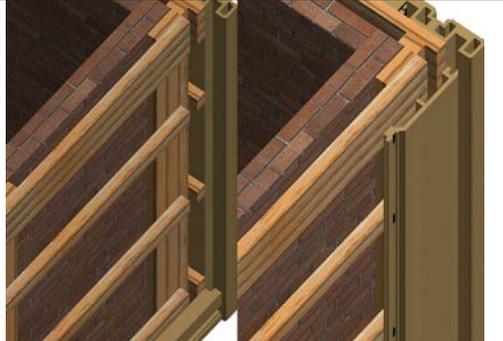


Internal Trim
(Cut at 2)

Horizontal Cladding

<p>1. Fix the Starter Trim to the batten. The screw should be positioned in the centre of the slotted hole. Do not over tighten as this will restrict expansion and contraction.</p>		<p>4. Cut the Internal Trim as per the cutting guide (prev page). Position the Internal Trim and mark on battens to show where planks will finish. Position cladding approx. half way into recess. Fix using an 8G A4 Stainless Steel Pan Head Screw, 50mm in length. Push the trim insert into place.</p>	
<p>2. Place the first plank in the Starter Trim ensuring the hole centres line up with the battens. Again, do not over tighten as this will restrict expansion and contraction. Repeat this process, checking the level before each plank is fixed.</p>		<p>5. Cut the Expansion Trim as per the cutting guide (prev page). Place into position. Fix using an 8G A4 Stainless Steel Pan Head Screw, 50mm in length.</p>	
<p>3. Cut the External (Corner) trim as per the cutting guide (prev page). Place trim in position and mark on the battens to show where planks finish. Position Cladding approx. half way into recess. Fix using an 8G A4 Stainless Steel Pan Head Screw, 50mm in length. Push the trim insert into place.</p>		<p>6. Cut a Finishing Trim to size by marking where cuts are needed. Mitering and butt-joining is acceptable. Mark batten centres and drill oversized holes (12.5mm - 13mm) through top surface. Drill a 6mm hole and carbon burr to elongate hole. Fix the Trim through the second skin using 8G A4 Stainless Steel Pan Head Screw, 25mm in length. Insert plug and clean with chisel and sandpaper (40 grit abrasive). Fascia trims can be cut to required size to suit windows or door frames from our standard solid fascia boards.</p>	

Vertical Cladding

<p>1. Place the Internal Trim (see Trim Cutting Guide) in position at the bottom batten. Screw into the middle of the trim.</p>		<p>4. Repeat process until you reach the end.</p> <p>Use Internal Trim at the top, position on Batten and attach with screws. Push in the Trim Inserts at the Top and Bottom Trims.</p>	
<p>2. Position External Trim so it lines up with the Starter Trim and secure to battening.</p> <p>Screw in centre of grooves.</p>		<p>5. Use External Trim, cut to size and secure with screws.</p> <p>If cladding carries on round corner, make sure External Trim lines up with battening.</p> <p>Push in the Trim Insert.</p>	
<p>3. Place the first Cladding Plank at the end and secure in the middle of the elongated holes.</p>		<p>6. If your cladding carries on around a corner, follow Steps 1 through 5. Make sure the External Trim is in the right position, so as to place the Cladding Plank into the right position.</p>	



2. Preparation

Use Professionals

Dura Cladding has been designed for beauty as well as its ease of installation. However, to ensure long-term performance, we recommend that a professional tradesperson carries out the installation. The installation **MUST** be carried out in accordance with these instructions including the use of all trims and accessories otherwise the warranty for the product will be invalidated.

Dura Composites recommends that all cladding designs be approved by a licensed architect or engineer prior to installation. **Please be ensure that your plans meet any relevant local building codes before you begin the installation.** Dura Cladding must be supported by a code compliant substructure. While Dura Cladding products are ideal for re-cladding (removing old cladding planks and installing Dura Cladding on code-compliant substructure), it **CANNOT** be installed on top of existing cladding.

Note: The Dura Cladding system offers a level of water resistance but is **not** designed to be a fully waterproof system.

Dura cladding should provide adequate weather protection for buildings. However, it must be assumed that not all wind driven rain will be deflected. Therefore, a well ventilated, free draining cavity should always be included in the detailed design. Whether a solid masonry or timber frame structure, we recommend that this cavity shall be a minimum of 38mm deep is required to protect against moisture penetration.

Cladding onto Timber framed properties:

The inner wall structure should be fitted with a breather membrane. This serves to seal the building against damp and weather penetration. As such it should be highly durable and tear resistant in accordance with Type 1 membranes in BSI British Standard BS4016.

Cladding onto Masonry properties:

Where cladding is fitted to an existing building with solid walls then to prevent water penetration the wall should be given a waterproof coating or a waterproof membrane or wax treated insulation board should be fitted.

Dura Cladding is NOT intended for use as columns, support posts, beams or other primary load-bearing members.



Safety First

- Keep unauthorised personnel away from the work area until the job has been completed and tools have been stored safely.
- For power tool safety guides, refer to manufacturer's instructions.
- When handling Dura Cladding, always wear gloves and eye protection and work in a well-ventilated area.
- Do not burn composite timber off-cuts. Dispose of them safely as refuse.
- Always wear goggles when pressure washing or scrubbing.
- Always wear a dust mask when cutting.

Storage and Handling

Store flat on suitable pallets and protect edges and corners. Keep dry and covered prior to installation - otherwise surface mould may form in damp, dark conditions.

When loading and unloading by hand, make sure that both ends are lifted on edge to avoid permanent deformation of the plank and/or damage to the plank.

Dura Composites cannot be responsible for damage caused by improper storage and handling of the product.

Power Tools Required

Chop saw



- Any wood cutting blade can be used but fine teeth are recommended for a professional finish.
- Used for simple straight cuts.
- Ideal for cutting obtuse and acute angles.
- Perfect for cutting mitres.

Jigsaw



- Any Bosch blades can be used.
- Used for simple straight cuts, radius edges and for intricate shapes.
- Useful for notching out sections.
- A proficient Jigsaw operator is capable of absolute precision.

Circular Saw



- Any wood cutting blade can be used but fine teeth are recommended for a professional finish.
- Suitable for cuts exceeding 1m.
- Provides a perfect straight line cut.
- Usually quicker than a jigsaw but limited to cuts in one direction at a time.

Drills



- Used for creating clearance holes using appropriate sized wood drill bits depending on size of fixing.
- Used for screwing fixings through clearance holes to firmly secure objects.
- Can also be used with attachments such as Hex (Allen) key tools or sockets to the correct diameter of the fixing to enable rapid tightening of the fixings.

Other Equipment Required



Sawhorse or Bench



Tape Measure



Spirit Level



Square

3. Materials

Dura Cladding Planks



Please note that colours shown are representative only; actual colours may vary slightly. Whilst Dura Cladding is extremely colour stable, there will likely be some initial colour lightening as the product weathers, which typically occurs in the first 3 months. The rate of weathering will vary according to the amount of UV, elevations on your building and its surroundings. For more information visit the Troubleshooting section of this Manual. Dura Composites' manufacturing process results in a high level of colour consistency although some variation in colour may be apparent across planks from different production batches.

Dura Cladding Accessories



Gap Guide

Please refer to this guide to ensure your planks have adequate space for expansion and contraction and to preserve the service life of your cladding.

Install Temp °C	Region Plank Length	Europe Gaps (mm)				Middle East & Africa Gaps (mm)			
		1m	2m	3m	3.60m	1m	2m	3m	3.60m
-25									
-20									
-15									
-10		3.3	4.6	6.9	8.3				
-5		3.0	4.2	6.3	7.6				
0		2.8	3.8	5.7	6.9				
5		2.5	3.4	5.1	6.2				
10		2.3	3.0	4.5	5.5	3.0	4.6	6.3	7.6
15		2.0	2.6	3.9	4.8	2.8	4.2	5.7	6.9
20		1.8	2.2	3.3	4.1	2.5	3.8	5.1	6.2
25		1.5	1.8	2.7	3.4	2.3	3.4	4.5	5.5
30		1.3	1.4	2.1	2.7	2.0	3.0	3.9	4.8
35		1.0	1.0	1.5	2.0	2.8	2.2	3.3	4.1
40						2.5	1.8	2.7	3.4
45						1.3	1.4	2.1	2.7
50						1.0	1.0	1.5	2.0



4. Cladding Preparation

1. Decide on which direction to install

It is possible to install Dura Cladding in either direction, both vertical and horizontally. Once you have decided where you want your cladding situated, measure the length and width of the total area. Cladding is installed horizontally as standard, but Dura Cladding can also be installed vertically to provide a different final look.

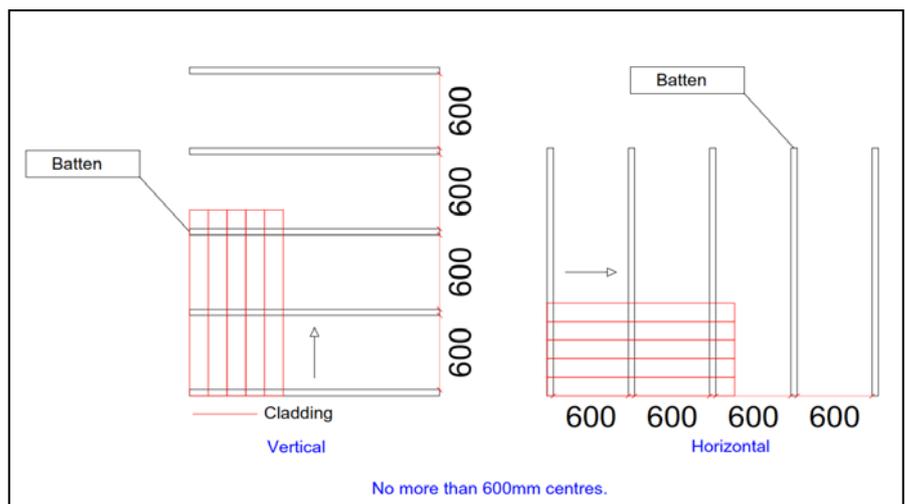
2. Select the area to be clad and produce a bill of quantities

Before you finalise your order, it is best to choose exactly which parts of the building that you wish to clad with Dura Cladding, how large it will be, and which cladding planks and which trims you will require. Normally, it is best to produce a bill of quantities based on a CAD layout taking into account the actual plank lengths available. This is something that we may be able to help with subject to sufficient time and information. Most customers find that it is wise to build in a waste factor of 7-10% to account for the inevitable quantity of material that cannot be used due to cutting—this may be more or less depending on the number of cuts required to fit awkward shapes. By taking these factors into account, it is more likely that all of your planks can be delivered on a single load thus avoiding an expensive additional delivery.

3. Preparing the battening

Now that you know the direction of the cladding and the exact area of your cladding, next you must determine the batten layout. It is most common to use timber battens although other approved wall batten materials can be used so long as they are fixed to the building using a suitable fixing system. Each Dura Cladding plank must be supported every 600mm.

Extra care is required in order to provide sufficient battening in and around obstacles such as windows, fascias, soffits, guttering, ventilation points etc.

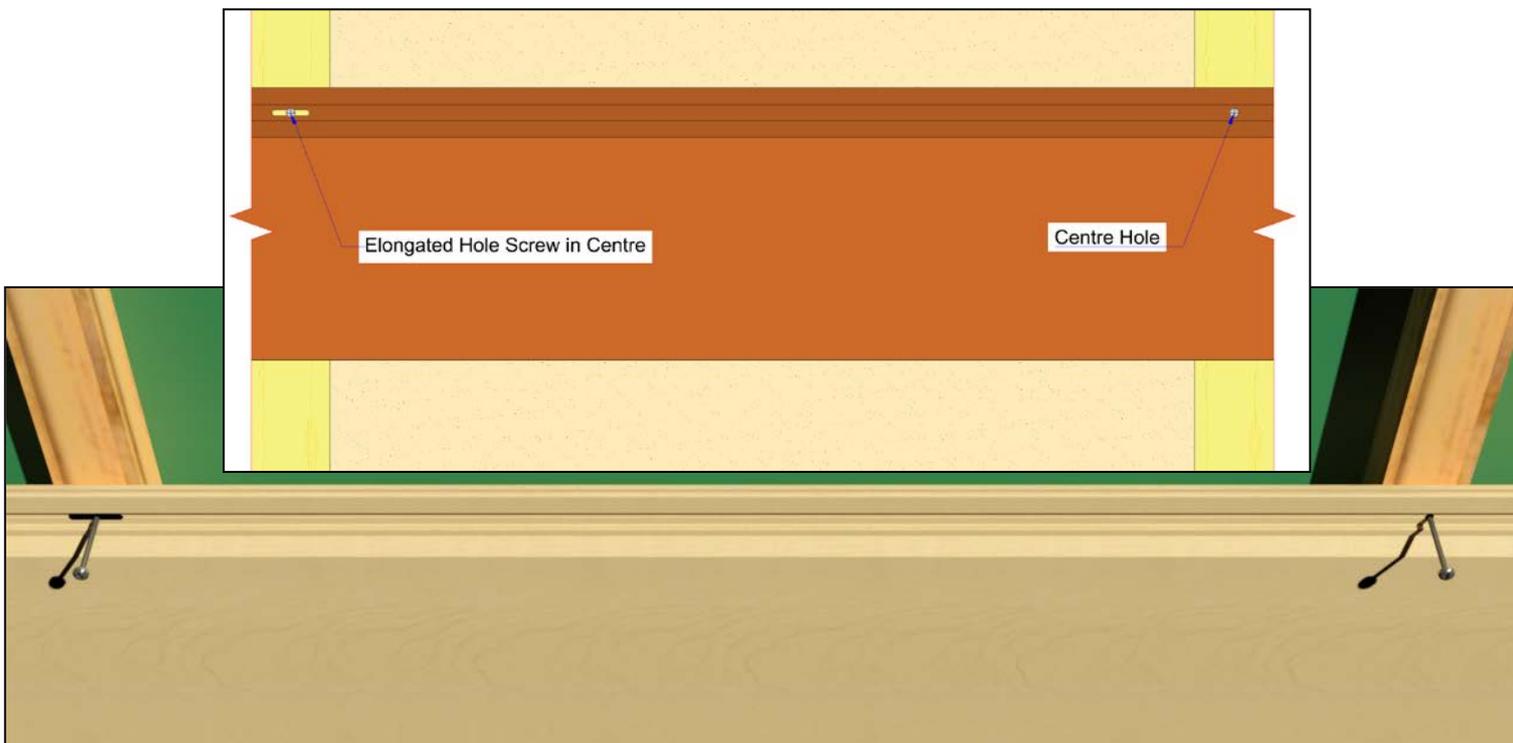


Batten Installation

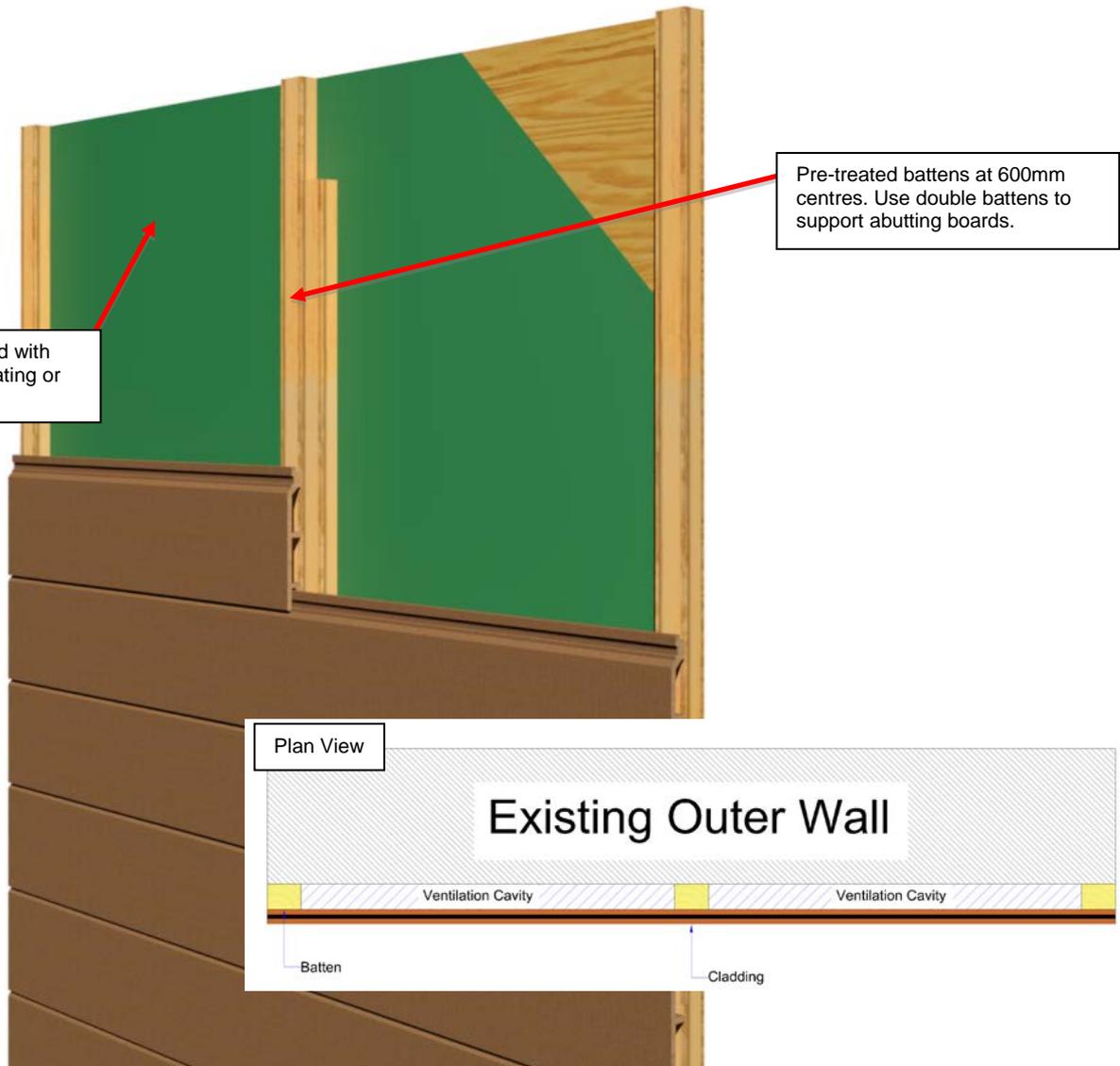
- The first batten should be 100mm from the floor.
- Timber battens should be fixed into position at 600mm centres using a suitable A4 Stainless Steel countersunk wood/masonry screw.
- Ensure all battens are flat to the wall surface, using packers where appropriate.
- Battens should be no less than 38mm x 50mm wide, sawn treated timber to allow a maximum of 38mm air flow behind the cladding.
- Cladding Planks have predrilled slotted holes at 600mm intervals with smaller centres at the end of each plank.
- Fixing the cladding to the batten should be carried out using an A4 Pan Head 8 gauge 38mm screw (minimal length 38mm). The screw should be positioned in the centre of the slotted hole to allow for expansion & contraction. Do not over tighten the screws and adjust torque settings according to your drill manufacturer's instructions.
- If the hole centres miss the battens, appropriate slotted holes must be drilled to allow for expansion and contraction.

Tip: To do this, drill a hole with a 6mm Drill Bit and then use a 6mm Solid Carbon Burr to create a 12mm elongated hole.

- Add appropriate battening for all trims, i.e. around doors and windows.
- For vertical cladding, counter battening is advised to allow sufficient airflow. Also, timber battens with a 15 degree top edge are advised to shed water into the cavity.



Horizontal Cladding Preparation



Specification notes:

Dura Cladding should provide adequate weather protection for buildings. However, it must be assumed that not all wind driven rain will be deflected. Therefore, a well ventilated, free draining cavity should always be included in the detailed design. Whether a solid masonry or timber frame structure, we recommend that this cavity shall be a minimum of 38mm deep is required to protect against moisture penetration and preserve the life of your Dura Cladding. Please note that whilst it offers excellent water-resistant properties, Dura Cladding is **NOT** designed to be a fully waterproof system.

Cladding onto Timber framed properties:

The inner wall structure should be fitted with a breather membrane. This serves to seal the building against damp and weather penetration. As such it should be highly durable and tear resistant in accordance with Type 1 membranes in BSI British Standard BS4016.

Cladding onto Masonry properties:

Where cladding is fitted to an existing building with solid walls then to prevent water penetration the wall should be given a waterproof coating or a waterproof membrane or wax treated insulation board should be fitted.

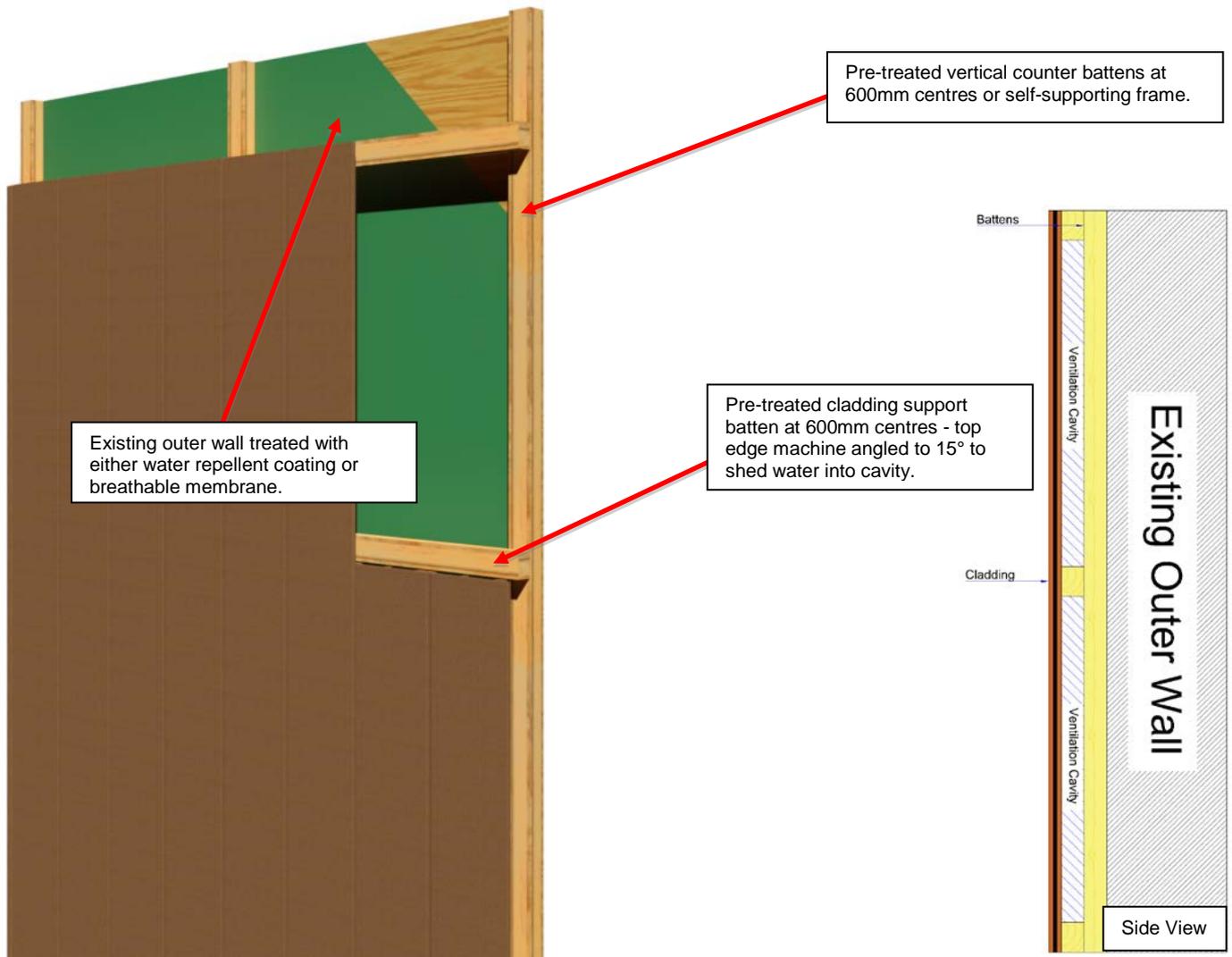
Batten size:

Battens should be 38mm x 50mm wide.

Pre-Treatment Specification:

Softwood battens/studding/support frame shall be pre-treated by an industrial process in accordance with BS8417 for a BSEN335:1 Use Class 3 application - Wood Protection Association Commodity Specification Code: C6. This code is also referred to in NBS as Z12/120). A cavity of at least 38mm shall be incorporated into the design to permit air circulation and unrestricted drainage of rainwater that penetrates the cladding. The more open the cladding joints then the width of the cavity shall be increased. All openings into the cavity should be fitted with insect mesh.

Vertical Cladding Preparation



Specification notes:

Dura Cladding should provide adequate weather protection for buildings. However, it must be assumed that not all wind driven rain will be deflected. Therefore, a well ventilated, free draining cavity should always be included in the detailed design. Whether a solid masonry or timber frame structure, we recommend that this cavity shall be a minimum of 38mm deep is required to protect against moisture penetration and preserve the life of your Dura Cladding. Please note that whilst it offers excellent water-resistant properties, Dura Cladding is **NOT** designed to be a fully waterproof system.

Cladding onto Timber framed properties:

The inner wall structure should be fitted with a breather membrane. This serves to seal the building against damp and weather penetration. As such it should be highly durable and tear resistant in accordance with Type 1 membranes in BSI British Standard BS4016.

Cladding onto Masonry properties:

Where cladding is fitted to an existing building with solid walls then to prevent water penetration the wall should be given a waterproof coating or a waterproof membrane or wax treated insulation board should be fitted.

Batten size:

Battens should be 38mm x 50mm wide.

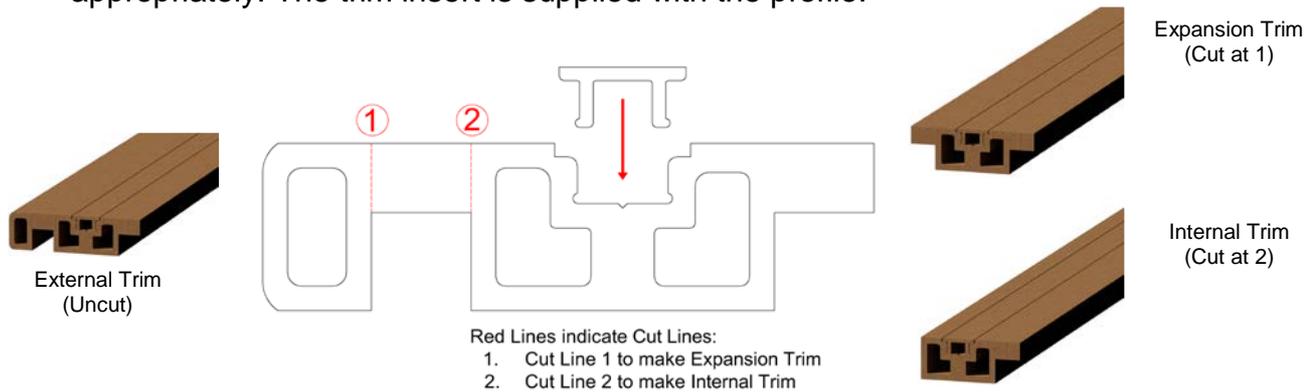
Pre-Treatment Specification:

Softwood battens/studding/support frame shall be pre-treated by an industrial process in accordance with BS8417 for a BSEN335:1 Use Class 3 application - Wood Protection Association Commodity Specification Code: C6. This code is also referred to in NBS as Z12/120)

5. Horizontal Installation

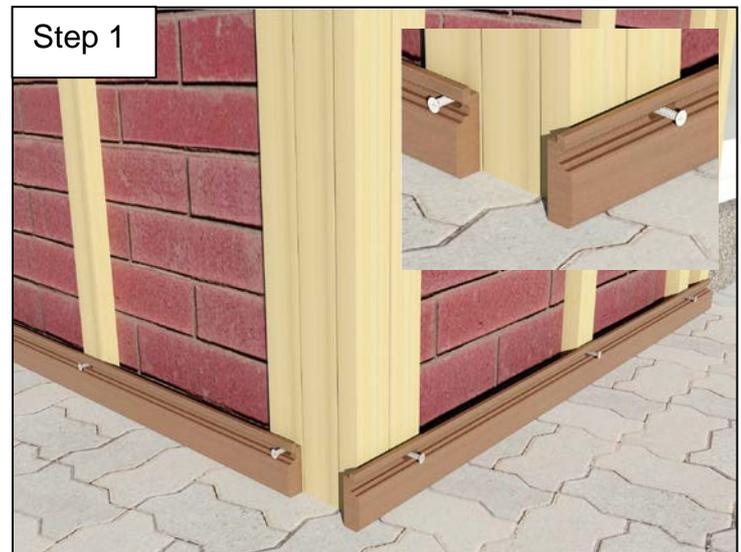
Trim Cutting Guide

- Dura Composites' Cladding Trim is multi-purpose and as such, should be cut at the relevant point, as shown below.
- Please refer back to this guide as and when needed to make sure you cut the trim appropriately. The trim insert is supplied with the profile.



Step 1: Starter Trim

- Mark level lines on the battens.
- Place the Starter Trim in position.
- Fixing the Starter trim to the batten should be carried out using an A4 Pan Head 8 gauge 38mm screw. The screw should be positioned in the centre of the slotted hole to allow for expansion & contraction.
- Use the appropriate torque setting to ensure you don't over-tighten the screw as this will restrict expansion and contraction.
- Torque settings are present on most combi drills. Please note that all drill driver settings are slightly different so if you are using more than one on site, please ensure to check them all.
- Ensure that the Starter Trim is firmly in position, lying flat across batten faces.
- For vertical cladding, internal or external trims can be used.
- Refer to Gap Guide.



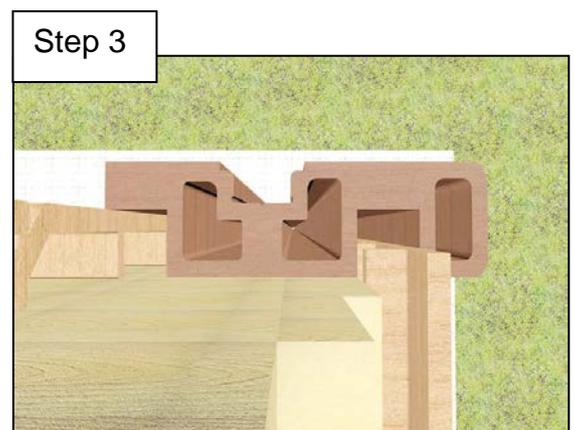
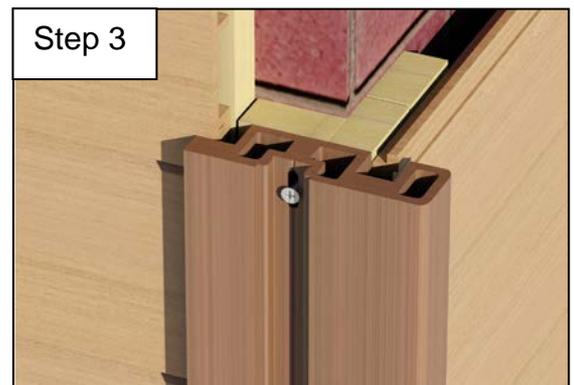
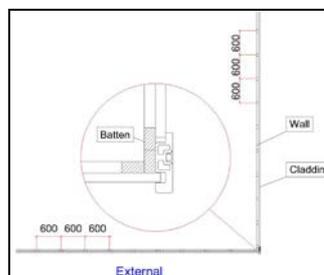
Step 2: First Plank

- Place the Plank in the correct position on the Starter Trim ensuring the hole centres line up with the battens. (Drill appropriate holes if required).
- Using the same method as the Starter Trim, fix the cladding plank using 38mm A4 Pan Head screws starting from the centre and then working outwards towards the ends on both sides. Do not over-tighten the screws.
- Ensure that the Cladding Plank is secure and repeat this process, checking the level before each Plank is fixed.
- Slight adjustments maybe required.



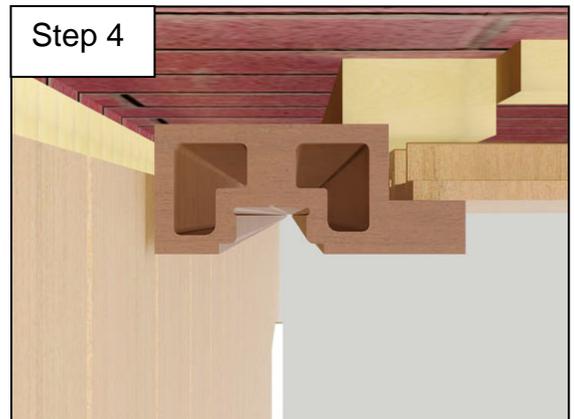
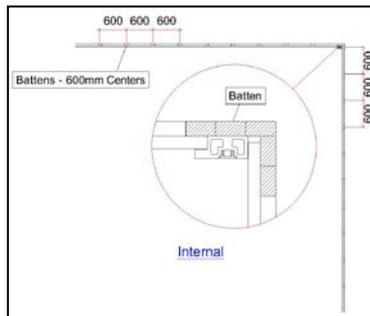
Step 3: External (Corner) Trim

- Cut Internal/External/Expansion trim as appropriate using Trim Cutting Guide (at start of this section).
- Place the External Trim in position & mark on battens to show where the Cladding Planks will finish.
- Cladding should be positioned approximately half way into the recess to ensure that a suitable gap is allowed for expansion and contraction.
- It is possible to install External Trims after all the cladding has been installed as long as sufficient space has been left to accept the trims.
- Remove the push fit trim Insert, place the External Trim into position ensuring that it is plum. Fix into position with an 8G A4 Stainless Steel Pan Head Screw, 50mm in length.
- Push the push trim insert into place to conceal the screw heads.
- Make sure the trim insert is secured safely (see page 29).



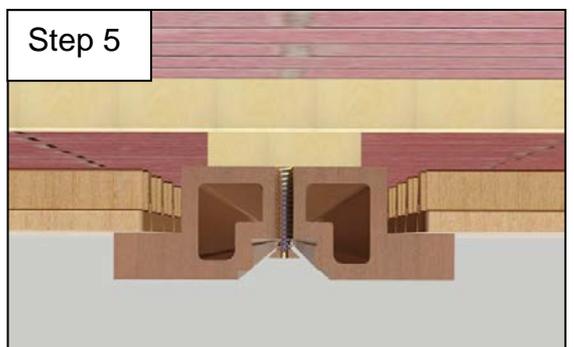
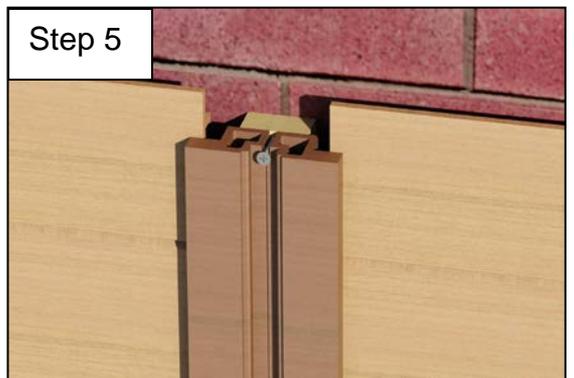
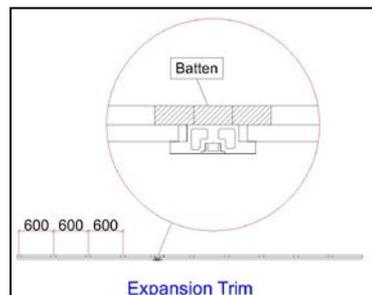
Step 4: Internal (Corner) Trim

- Cut Internal/External/Expansion trim as appropriate using Trim Cutting Guide
- Position the Internal Trim and mark on the battens to show where the Cladding Planks will finish.
- Cladding should be positioned approximately half way into the recess to ensure that a suitable gap (refer to Gap Guide) is allowed for expansion and contraction.
- It is possible to install the Internal Trims after all the cladding has been installed so long as sufficient gaps have been left to accept the trims.
- Remove the push fit trim Insert, place the Internal Trim into position ensuring that it is plum. Fix into position with an 8G A4 Stainless Steel Pan Head Screw, 50mm in length.
- Push the push fit insert into place to conceal the screw heads.



Step 5: Expansion Trim

- It is possible to install the Expansion Trims after all the cladding has been installed so long as sufficient gaps have been left to accept the trims.
- Remove the push fit trim Insert, place the Expansion Trim into position ensuring that it is plum. Fix into position with an 8G A4 Stainless Steel Pan Head Screw, 50mm in length.
- Push the push fit insert into place to conceal the screw heads.



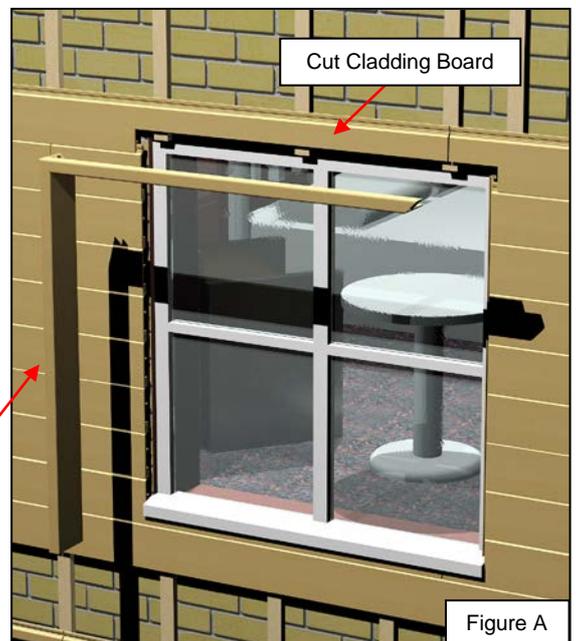
Step 6: Finishing Trim

- Additional battening is required around doors and windows.
- Finishing Trim Battens should be no less than 38mm x 50mm sawn treated timber to allow a minimum of 38mm air flow behind the cladding.
- Fascia trims can be cut down to size to suit windows or door frames. These can be cut from our standard solid fascia board 230x9mm.
- Position the Trim. Mark and cut where appropriate. Mitering or butt joining is acceptable.
- Mark batten centres and drill oversized holes (12.5 - 13 mm) through the top surface (these will be plugged once fixed into position).
- Drill a 6mm hole & use the Carbon burr to elongate the hole.
- Fix the Trim through the second skin using an 8G A4 Stainless Steel Pan Head Screw, 25mm in length, concealing the screw head in the box section.
- Insert the Plug & clean off with a sharp chisel and sand using 40 grit abrasive paper if necessary.



Tip:

- If the board doesn't finish flush with the window, a cut will need to be made into the Cladding Board, so a Trim can be used. Cut the Top and Side Trims from a Fascia Board. Fix to battens with screws and use plugs for a clean finish. See Figure A.
- All openings should be secured with an Insect Mesh.



Top and Side Trims Cut from Fascia

Finishing the Last Plank – Horizontal Cladding

It is unlikely that cladding installed horizontally on the wall will terminate on a full width plank, and if this is the case it may be necessary to cut the last plank down in width. There are a range of options available, subject to individual site conditions. We have provided guidance below for the most common last plank scenarios. If you require any further information or support, please visit our website at www.duracomposites.com or call us on +44 (0)1255 423601 where one of our knowledgeable staff will be happy to help.

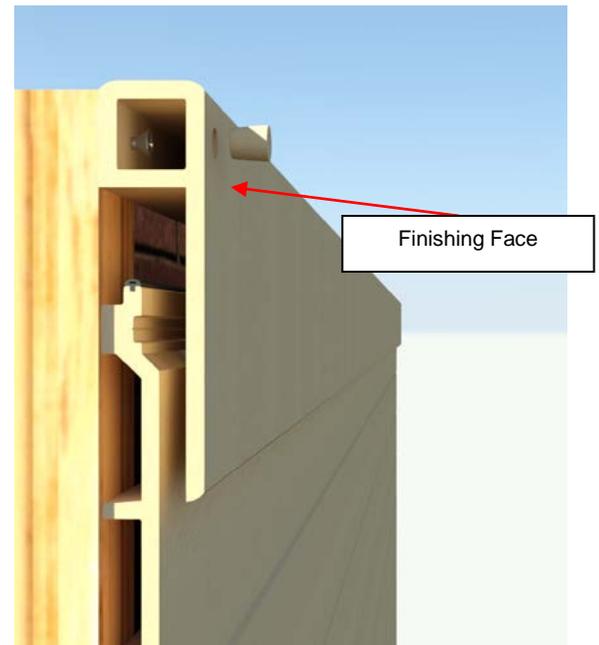
Scenario 1:

If your cladding terminates on a full width plank, you can use the Finishing Trim to provide a neat finish to your cladding.

Simply position the trim and mark and cut where appropriate. Mark batten centres and drill oversized holes (12.5mm -13mm) through the finishing face only (these will be plugged once fixed into position).

Drill a 6mm hole & use the Carbon burr to elongate the hole. Fix the Trim through the second skin using an 8G A4 Stainless Steel Pan Head Screw, 25mm in length, concealing the screw head in the box section.

Insert the Plug & clean off with a sharp chisel and sand using 40 grit abrasive paper if necessary.



Scenario 2:

You can opt to use a fascia board to cover the exposed end of the last plank.

Fascia trims can be cut down to size to suit from our standard solid fascia board.

To affix fascia, simply drill adequate pilot clearance holes prior to screwing through the fascia into the batten using an 8G A4 Stainless Steel Pan Head Screw, 25mm in length.

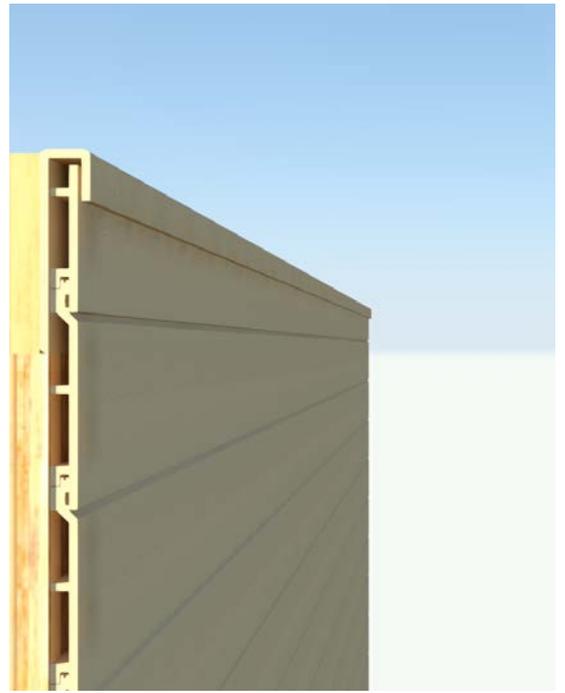


Scenario 3:

Notch out top batten to accommodate Finishing Trim.

Cut through finishing trim as shown opposite and screw to batten using an 8G A4 Stainless Steel Pan Head Screw, 25mm in length.

Cut final plank to size and slide into place. The top plank will be held into place by the finishing trim.



Scenario 4:

Cut down the Dura Cladding multi-purpose trim as shown on page 4 to produce the Internal Trim.

Cut last plank to required size, allowing space for the Internal Trim to be added.

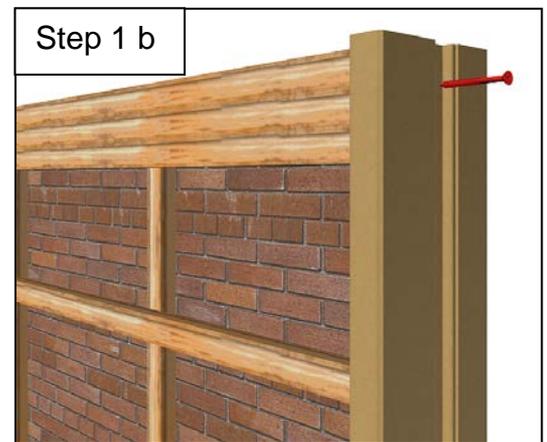
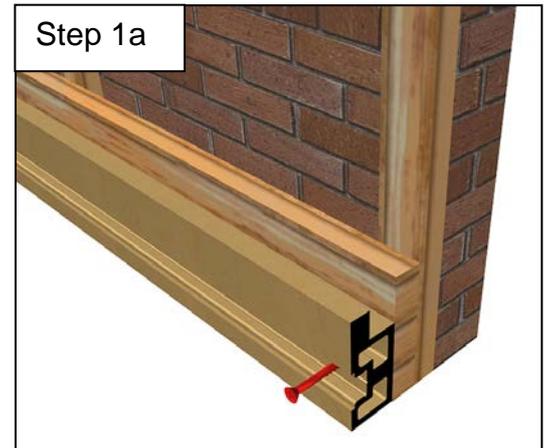
Affix trim using 25mm 8G A4 Stainless Steel Pan Head Screws, and then push in the trim insert strip to provide a neat finish to your horizontal cladding.



6. Vertical Installation

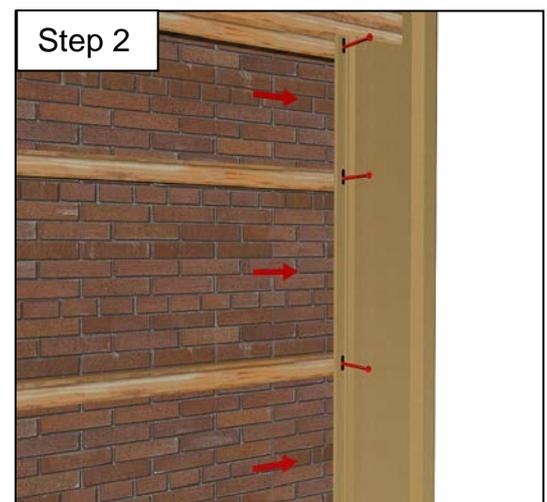
Step 1 Starter Trims:

- Mark level lines on the batten
- Place the Internal Trim in position
- Fixing the Internal Trim to the bottom battening should be carried out using an A4 Pan Head 8 Gauge 50mm Length Screw. The screw should be positioned in the centre of the slotted hole to allow for expansion and contraction.
- Use the appropriate torque setting to ensure you don't over-tighten the screw as this will restrict expansion and contraction.
- Torque settings are present on most combi drills.
- Please note that all drill driver settings are slightly different so if you are using more than one on site, please ensure to check them all.
- Ensure that the Internal Trim is firmly in position, lying flat across batten faces.
- Position External Trim so it lines up with the Internal Trim.
- Fixing the Trims should be carried out using an A4 Pan Head 8 Gauge 50mm Length Screw. The screw should be positioned in the centre of the slotted hole to allow for expansion and contraction.



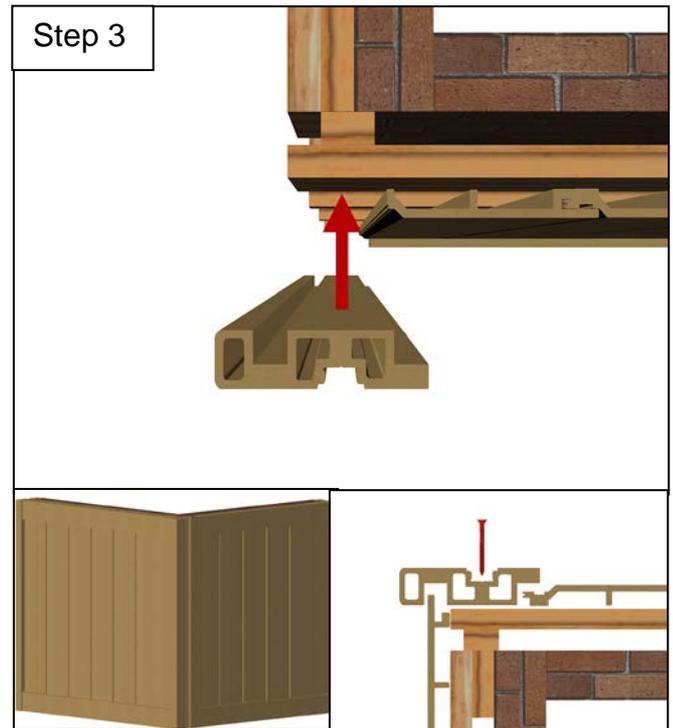
Step 2 First Plank:

- Place the Plank in the correct position on the Internal Trim (bottom) and External Trim (end) ensuring the hole centres line up with the battens. (Drill appropriate holes if required).
- Using the same method as the Internal Trim, fix the cladding plank using 38mm A4 Pan Head screws starting from the centre hole and then work outwards towards the ends on both sides.
- Once again, do not over-tighten the screws.
- Ensure that the Cladding Plank is secure.
- Repeat this process, checking the level before each Plank is fixed. Slight adjustments maybe required.



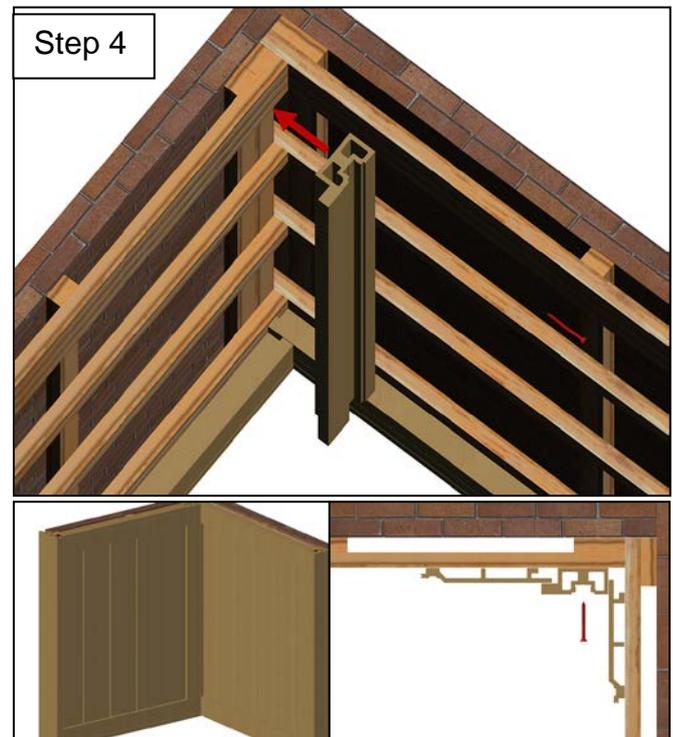
Step 3 External Trim:

- Cut Internal Trim as per Trim Cutting Guide (p18).
- Place the External Trim in position and mark on battens to show where the Cladding Planks will finish.
- Cladding should be positioned approximately half way into the recess to ensure that a suitable gap is allowed for expansion and contraction.
- It is possible to install External Trims after all the cladding has been installed as long as sufficient space has been left to accept the trims.
- Remove the Trim Insert, place the External Trim into position ensuring that it is plum. Fix into position with 8G A4 Stainless Steel Pan Head Screws, 50mm in length.
- Push the Trim Insert into place to conceal the screw heads.



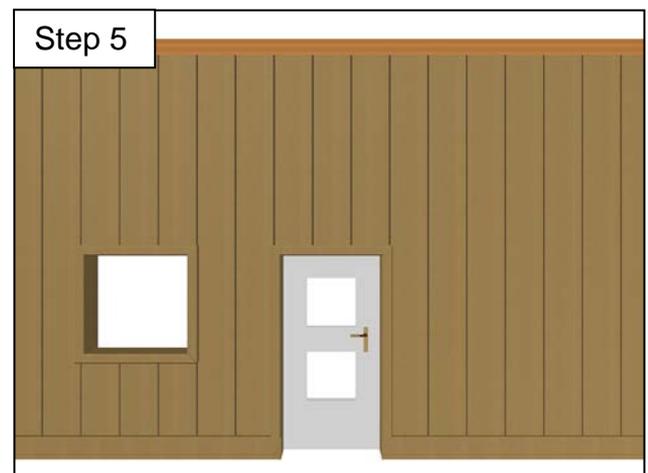
Step 4 Internal Trim:

- Cut Internal Trim as appropriate using Trim Cutting Guide (p18)
- Position the Internal Trim and mark on the battens to show where the Cladding Planks will finish.
- Cladding should be positioned approximately half way into the recess to ensure that a suitable gap (refer to Gap Guide) is allowed for expansion and contraction.
- It is possible to install the Internal Trims after all the cladding has been installed so long as sufficient gaps have been left to accept the trims.
- Remove the push fit trim Insert, place the Internal Trim into position ensuring that it is plum. Fix into position with an 8G A4 Stainless Steel Pan Head Screw, 50mm in length.
- Push the push fit insert into place to conceal the screw heads.



Step 5 Finishing Trim:

- Additional battening is required around doors and windows.
- Finishing Trim Battens should be no less than 38mm x 50mm sawn treated timber to allow a minimum of 38mm air flow behind the cladding.
- Fascia trims can be cut down to size to suit windows or door frames. These can be cut from our standard solid fascia board.
- Position the Trim. Mark and cut where appropriate. Mitering or butt joining is acceptable.
- Mark batten centres and drill oversized holes (12.5 -13 mm) through the top surface (these will be plugged once fixed into position).
- Drill a 6mm hole & use the Carbon burr to elongate the hole.
- Fix the Trim through the second skin using an 8G A4 Stainless Steel Pan Head Screw, 25mm in length, concealing the screw head in the box section.
- Insert the Plug & clean off with a sharp chisel and sand using 40 grit abrasive paper if necessary.



Finishing Options – Vertical Cladding

There are a range of finishing options available when installing cladding vertically, subject to individual site conditions. We have provided guidance below for the most common last plank scenarios. If you require any further information or support, please visit our website at www.duracomposites.com or call us on **+44 (0)1255 423601** where one of our knowledgeable staff will be happy to help.

Scenario 1:

You can choose to use our Dura Cladding Finishing Trim to provide a neat finish to your vertical cladding.

Simply Position the trim and mark and cut where appropriate. Mark batten centres and drill oversized holes (12mm) through the Finishing Face only (these will be plugged once fixed into position).

Drill a 6mm hole & use the Carbon burr to elongate the hole. Fix the Trim through the second skin using an 8G A4 Stainless Steel Pan Head Screw, 25mm in length, concealing the screw head in the box section.

Insert the Plug & clean off with a sharp chisel and sand using 40 grit abrasive paper if necessary.



Scenario 2:

You may prefer to use the Internal Trim and complementary trim insert to complete your vertical cladding installation. To do this you should cut down the Dura Cladding multi-purpose trim as shown on page 4 to produce the Internal Trim.

Affix trim using 25mm 8G A4 Stainless Steel Pan Head Screws, and then push in the trim insert strip to provide a neat finish to your cladding.



Finishing Gable Ends

There are 2 methods for finishing cladding at gable ends or dormer windows.

1. Ending with the Finishing Trim– this method is largely adopted if the application is a refurbishment or reinstallation of cladding.
2. Alternatively, a PVC or similar barge board & soffit from another manufacturer can be used to conceal the top of the cladding– this system is generally used on a new build project or if the barge board & soffit is being replaced.



Dispose of Off Cuts

- Safely dispose of Dura Cladding as per local legislation.
- Do not burn.
- Treat as construction waste.
- If unsure, consult your local governing body/ council.

Installations without Dura Cladding Trims & Accessories

Certain applications may require a specific finish that can only be achieved using trim parts from 3rd party suppliers using materials such as aluminium, natural wood, plastic etc. The use of 3rd party products is not recommended and **may invalidate your Dura Composites warranty if not pre-approved by Dura Composites at the design stage**, however if you choose to do this, we have produced Butt Joint Gapping guidelines that allow the installer to install alternative trims. These guidelines take into account the natural expansion and contraction that occurs as the product goes up and down the temperature range.



Please therefore use the appropriate expansion gaps between plank lengths in accordance with your region and the temperature at the time of the installation to accommodate for this movement. Always allow 5mm minimum gap where planks meet an adjoining fixed structure/post regardless of plank length. This chart should also be used if for whatever reason your project does not require trims at all as per the photo pictured above.

7. Troubleshooting & Frequently Asked Questions

Q: How is the UV Stability of the product affected by overhangs or the elevations on my building?

A: Dura Cladding has been extensively UV Weather Tested to ISO 4892-2 Xenon Arc (5000hrs) to ensure it will not splinter, warp or rot and doesn't require any staining or painting. As with any cladding (including natural timber), large overhangs on your building may lead to uneven 'weathering' and can sometimes create areas of differential colour beneath shaded areas. The rate of weathering will also vary according to the amount of UV, the elevations on your building and its surroundings. South facing elevations for example will initially fade at a more rapid rate than north facing elevations, but in time all elevations will stabilise to a similar level once the satisfactory UV exposure has been attained.



If your building has overhangs, this will prevent rain water naturally washing the surface clean of dirt particles. Cladded surfaces beneath overhangs should be regularly pressure washed to ensure that they are clean from surface dirt or debris. If your planned design includes overhangs, it's a good idea to save a few planks which have been acclimatised to direct sunlight during your install process for use in these areas.

Q: Following installation I have noticed discoloration to the edges of some of the boards. How do I correct this?

A: Whereas traditional wood planks require regular painting or staining to preserve their natural beauty and protect them, UV inhibitors can be added to a WPC or composite timber cladding such as Dura Cladding at the point of manufacture to protect against the elements. If you are noticing discoloration to the edges of your Dura Cladding boards then there may be an issue with your underlying breather membrane. The correct membrane installed as part of your substructure will provide excellent resistance to both wind and rain and protection against humidity and wind, increasing the lifetime and the effectiveness of both the insulation and of your cladding.



Q: Some of my cladding boards are showing signs of cupping. What should I do?

A: Dura Cladding is extremely dimensionally stable, is highly resistant to the absorption of moisture, unlike traditional wood cladding. Although water resistant, Dura Cladding is NOT designed to be a fully waterproof system. Therefore, a well ventilated, free draining cavity should always be included in your detailed design. If the space behind your cladding is not adequately ventilated and drained, then there is a small risk of the boards 'cupping'. Cupping is where the board curves across its width, caused by one side absorbing more moisture than the other, and swelling at a different rate. Allow adequate ventilation space behind the cladding as specified within this Technical Manual to allow your cladding boards to dry as rapidly as possible after wetting and avoid any risk of cupping.

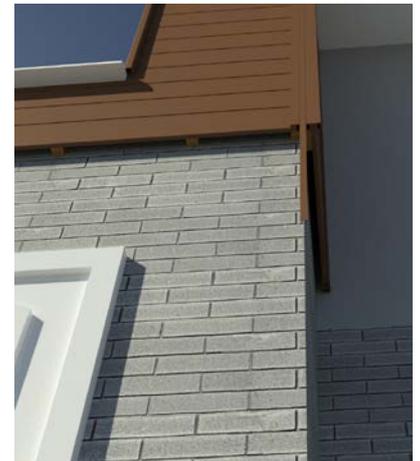
Q: I'm having an issue with my Trim Insert? What should I do?

A: Dura Cladding's Internal, External and Expansion Trim is versatile and simple to install. If you run into any issues with the Trim insert, there are several steps you can take to help resolve the issue.

1. My Trim Insert has split

If your trim insert can be easily removed, then remove the damaged insert and ensure that the channel is clean and free of debris. Then simply push in a replacement insert working from the bottom upwards.

If the Trim cannot be removed easily due to the confines of a flat roof (or if it is located too close to the ground) you may need to pull it out rather than slide it, and use a block plane to trim the edges to allow you to push fit a replacement trim insert into place. To stop the insert from falling out you will need a silicon-based adhesive that can move with expansion and contraction over a wide range of temperatures.



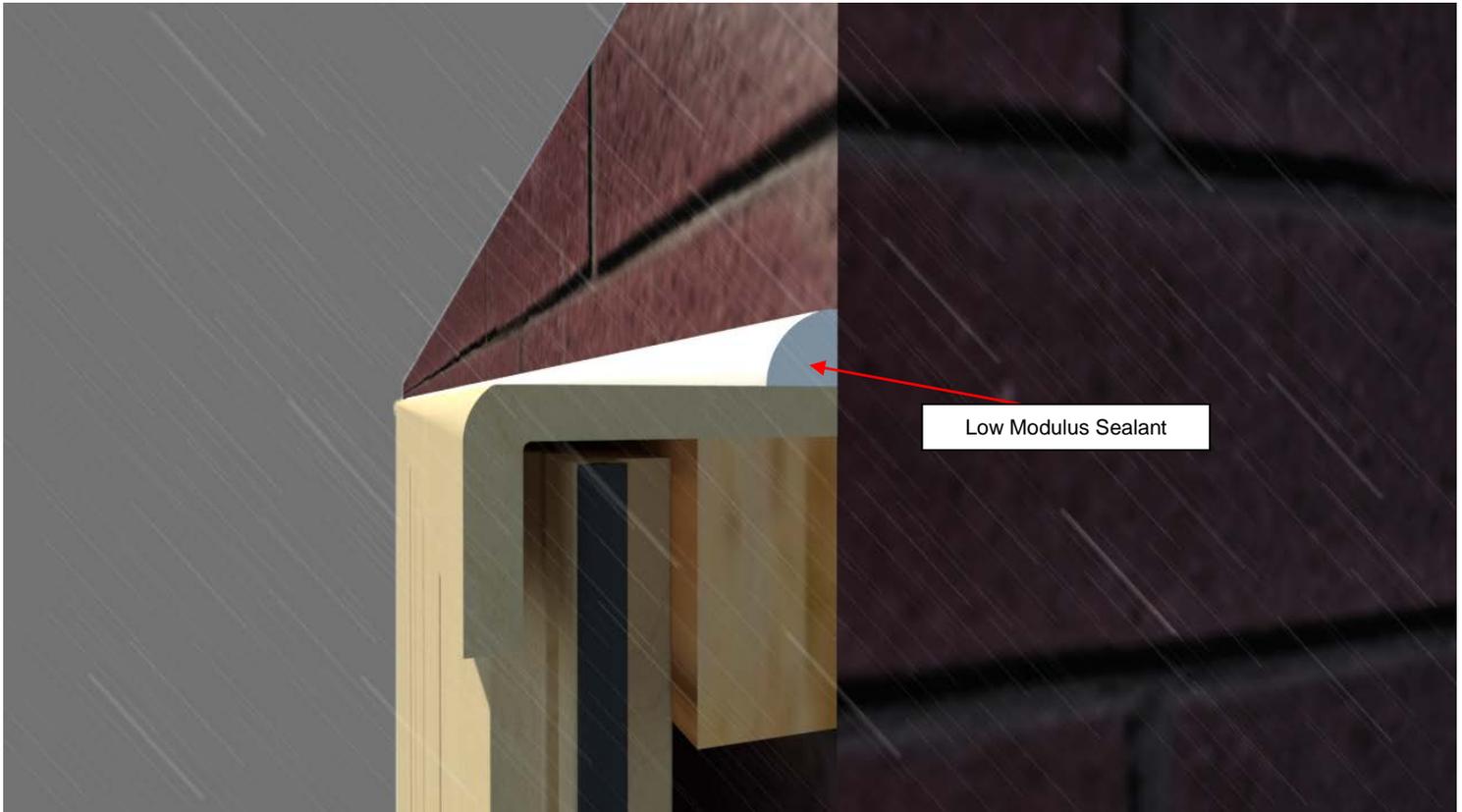
2. My Trim Insert has slipped downwards

If your Trim Insert has slipped downwards then you should remove the bottom end cap from the Internal, External and Expansion Trim and clean inside the joint with warm soapy water. Once the joint and trim are fully dry you should add a silicon-based adhesive to the End Cap and push back into the base of the Internal, External and Expansion Trim, pushing the Trim Insert back in at the same time. Once the End Cap is in place, use some masking tape to secure firmly and hold in place whilst the adhesive cures, according to manufacturer's instructions. Once fully dry you can remove the tape.



Q: How do I prevent rainwater ingress to my cladding trims when installing?

A: The best way to prevent rainwater ingress in this scenario is to use a suitable low modulus sealant to bead along the upper transition joint between your trim and your cladding. For more information please contact your Dura Composites representative. Please note that the Dura Cladding system offers a level of water resistance but is not designed to be a fully waterproof system.



8. Dura Louvre Cladding

Dura Louvre provides an aesthetic design solution to protecting a building against extreme solar influence, or to covering unsightly areas whilst still maintaining desirable daylight. Made of composite timber, Dura Louvre solar shading cladding can help reduce the thermal heat in south-facing buildings as well as reducing energy costs by minimising air conditioning requirements. It can also be used effectively to screen pipework, utilities and other areas from view.

Dura Louvre Cladding is available in Cedar and Charcoal colours in 140/40mm profiles as standard. Other colours and profiles are available on request.

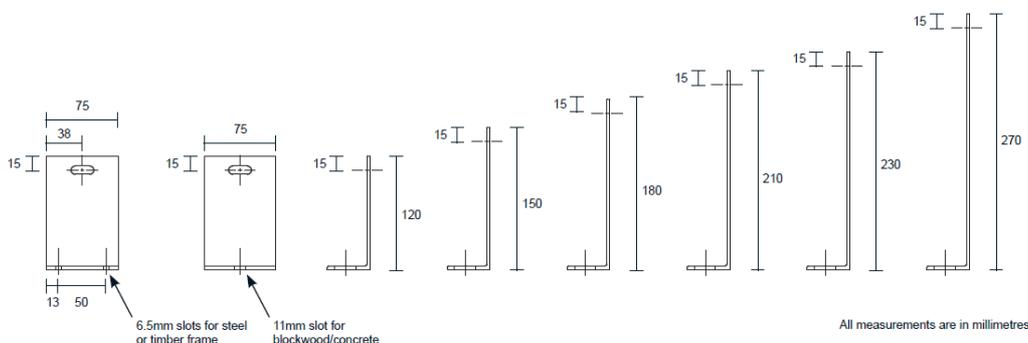
Dura Louvre solar shading cladding can be integrated into new builds or added to existing properties and will transform the exterior of any building. Please note that careful selection of the most appropriate solar shading system and orientation is necessary in order to achieve the necessary functional performance and to meet the aesthetic requirements of the building. Please consult your Dura representative for more information.



Dura Louvre Bracket Options

To fix Dura Louvre, a simple bracket sleeve is used to fasten the cladding to the substructure. The brackets are fixed to the substrate at set vertical or horizontal separations, and the Dura Louvre profiles are then fixed into the brackets. Various bracket sizes are available in both Cedar and Charcoal. If you plan to use brackets from a third party not supplied by Dura Composites please ensure you contact your Dura Composites representative prior to installation as the use of third party accessories is not recommended and may invalidate your product warranty.

Available dimensions and configurations of Dura Composites supplied brackets are shown below:



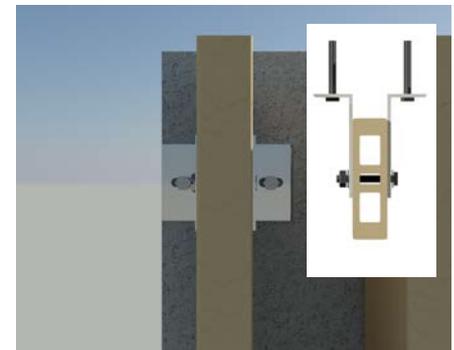
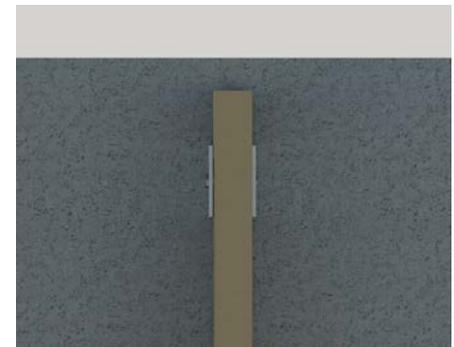
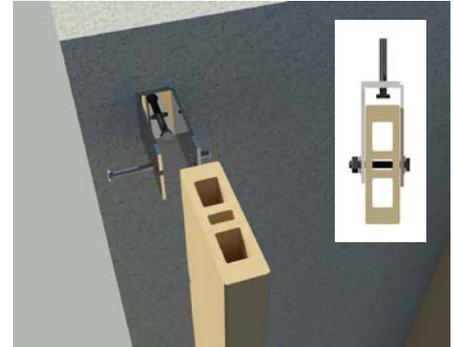
Dura Louvre – Vertical Installation using brackets

The information below outlines the key steps for installing Dura Louvre Cladding. If you require any further information or support, please visit our website at www.duracomposites.com or call us on **+44 (0)1255 423601** where one of our knowledgeable staff will be happy to help.

Option 1: Inward Facing Bracket

It is recommended to install Dura Louvre Cladding at 100mm spacing, but our versatile brackets can be positioned either inward or outward facing to enable you to reduce or vary the distance if required. Once you have selected the appropriate bracket sleeve and configuration for your Dura Louvre Cladding project from the selection shown on the previous page of this document, you should mark the location of each bracket on your substructure.

If choosing to face the brackets inwards, the brackets should be fixed to the substrate using the supplied Anchor Bolt. Once your bracket has been fixed to your substructure as described above, you should insert your Dura Louvre profile and use the supplied Pan/Dome Head screw and rivet nut to affix the profile to the bracket. The maximum vertical span between brackets should be set anywhere between 1m and 1.8m maximum, depending on site details.



Option 2: Outward Facing Bracket

If choosing to face the brackets outwards, the brackets should be fixed to the substrate at your required intervals using the supplied Anchor Bolt.

Once your bracket has been fixed to your substructure as described above, you should insert your Dura Louvre profile and use the supplied Pan/Dome Head screw and rivet nut to affix the profile to the bracket. The maximum vertical span between brackets should be set anywhere between 1m and 1.8m maximum, depending on site details.



Dura Louvre – Horizontal Installation using brackets



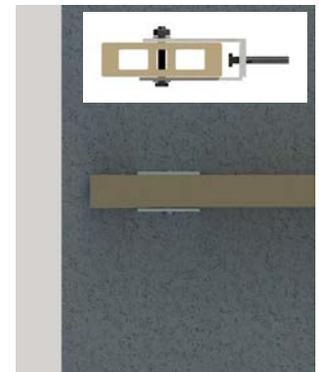
Solar Shading Cladding is also sometimes known as Brise Soleil and can be used just as successfully for its aesthetic properties as for its ability to provide a reduction in the effects of sun glare.

As well as being installed vertically as shown on the previous pages, Dura Louvre can also be installed horizontally to help provide a contemporary building façade. Dura Louvre combines the natural beauty and character of wood with a durable and low maintenance composite timber solar shading and architectural louvre solution.

Option 1: Inward Facing Bracket

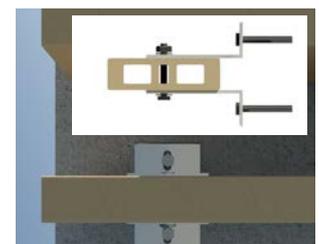
It is recommended to install Dura Louvre Cladding at 100mm spacing, but our versatile brackets can be positioned either inward or outward facing to enable you to reduce or vary the distance if required. Once you have selected the appropriate bracket sleeve and configuration for your Dura Louvre Cladding project from the selection shown on the page 30 of this document, you should mark the location of each bracket on your substructure.

If choosing to face the brackets inwards, the brackets should be fixed to the substrate using the supplied Anchor Bolt. Once your bracket has been fixed to your substructure as described above, you should insert your Dura Louvre profile and use the supplied Pan/Dome Head screw and rivet nut to affix the profile to the bracket. The maximum horizontal span between brackets should be set at 1m – 1.5m, depending on site details.



Option 2: Outward Facing Bracket

If choosing to face the brackets outwards, the brackets should be fixed to the substrate at your required intervals using the supplied Anchor Bolt. Once your bracket has been fixed to your substructure as described above, you should insert your Dura Louvre profile and use the supplied Pan/Dome Head screw and rivet nut to affix the profile to the bracket. The maximum horizontal span between brackets should be set at 1m – 1.5m, depending on site details.



9. Maintenance and Cleaning

Basic Cleaning

Spray with a hose to remove surface debris. Use warm soapy water and a soft-bristled brush to clear dirt and/or debris from grooves or contours.

Pressure Washing

Pressure washers up to 1500psi may be used to maintain cleanliness of timber composites. To prevent any damage, always keep the pressure washer nozzle at least 15cm (6 inches) from the surface, and avoid concentrated spraying on one area for more than 3 seconds. The use of a pressure washer in this manner will not shorten the life of the material.

Sanding

Sanding should only be used when basic cleaning or pressure washing fail to remove stubborn stains, scuffs and/or marks. Always use coarse grade Emery paper (22-60 grit). Sanding should be carried out lightly and progressively harder if necessary to a maximum of 0.5mm surface depth. Most marks blend naturally after 12 weeks of weathering.

Marking

Always use a non-permanent marker such as a dust-off marking chalk to mark cutting and plumb lines.

General dirt and debris

Spray with a hose to remove surface debris. Use warm soapy water and a soft-bristled brush to clear dirt and/or debris from grooves or contours. Pressure wash to remove more stubborn stains.

Oil, grease, food and drink

Remove and wipe as soon as possible. Spray with a hose and use warm soapy water and a soft-bristled brush. Pressure wash to remove more stubborn stains. Any surface stain that has been absorbed can be easily removed with a light, progressive sanding.

Colour fade

Dura Cladding contains natural wood, meaning that depending on the colour selected there will be a small amount of initial colour fading to be expected during the life of the product. Our extensive lab testing and experience from real-life installations shows that any minor colour fading occurs in the first 3 months following installation and then subsides, making Dura Cladding a great choice for projects which require a striking and long-lasting finish. Our manufacturing process results in a high level of colour consistency although some variation in colour may be apparent across planks from different production batches.



Rust stains and engrained dirt

Cleaning products containing Oxalic or Phosphoric Acid can be used but DO NOT use bleach as this will lighten the cladding. With any cleaning product, test it on a small, inconspicuous area first, following the cleaning manufacturer's instructions.

Mould and mildew

Remove and mop as soon as possible– spray with a hose and use warm soapy water and a soft-bristled brush. Pressure wash more stubborn stains.

Scuffs, surface indents and marks

Sanding should only be used for very stubborn stains and to a maximum depth of 0.5mm. Most marks blend naturally after 12 weeks weathering.

Please note: All timber based products will release tannins but these will naturally stabilise after approximately 12 weeks, depending on the temperature, UV and exposure to rain.

10. Technical Specifications

1. Definition

Range of products produced from **Wood Polymer Composite (WPC)** which is manufactured by an Extrusion process using a mix of recycled plastics and hardwood wastes with various bespoke additives.

1.1 Applications

WPC is an immensely versatile material which combines the traditional appearance of natural timber with the durability and resilience of an engineered composite. Given it is available in a wide range of colours and huge range of profile sections, the engineer can create a product or component to meet the most demanding construction, industrial or leisure applications.

1.2 Benefits

Natural appearance, long life, lightweight, low maintenance, no warping, no rotting, no trip hazards, corrosion/electrical resistance, low tooling/installation cost, long service life, no splintering, UV stable. WPC products compete very favourably on a life cycle cost basis versus traditional materials due to their limited maintenance needs and long life span.



2. Raw Materials

WPC is manufactured using a composition comprising high density polyethylene, hardwood waste plus a number of specialist additives such as coupling agents, inhibitors and stabilisers. The exact composition used for this company's products is confidential. It is this highly developed, precise composition that enables the composite to deliver such strength and durability.

3. Product

Dura Cladding comprises a range of low maintenance composite timber cladding products that provide a natural wood appearance for commercial or residential building facades. The Cladding is designed for a 25-year service life, features a unique concealed fixing system and does not require painting or any other form of protection, only basic cleaning. The materials will not warp, rot or splinter like natural wood and due to the pre-cut slotted holes, screw fixing is very rapid making for quick and efficient installations.

The Dura Cladding system offers a level of water resistance but is **not** designed to be a fully waterproof system.

Dura Cladding should provide adequate weather protection for buildings. However, it must be assumed that not all wind driven rain will be deflected. Therefore, a well ventilated, free draining cavity should always be included in the detailed design. Whether a solid masonry or timber frame structure, we recommend that this cavity shall be a minimum of 38mm deep is required to protect against moisture penetration.

3.1 Product Range

Cladding Profile	Plank Thickness	Plank Length	Actual Plank Width	Maximum Fixing Span	Weight l/m
Type 150 Flush	21mm	3600mm	150mm	600mm	2.04kg
Type 150 Weatherboard	21mm	3600mm	150mm	600mm	2.34kg
Type 200 Flush	21mm	3600mm	200mm	600mm	3.14kg
Type 250 Flush	21mm	3600mm	250mm	600mm	3.75kg
Starter Trim	21mm	3600mm	60mm	600mm	1.21kg
Finishing Trim	38mm	3600mm	154mm	600mm	2.7kg
External/Internal/Expansion Trim	38mm	3600mm	139mm	600mm	4.11kg
Trim Insert	14mm	3600mm	28mm	600mm	0.24kg
Fascia Trim	9mm	3660mm	230mm	-	2.88kg
Fascia Trim (Grey Cladding Only)	10mm	3660mm	140mm	-	1.94kg

Manufacturing Tolerances

Width +1mm - 1mm
 Thickness +1mm - 1mm
 Length +3mm - 3mm

Material Specifications

Characteristics	Unit	Test Reference
Tensile Strength	15mpa	BS 6399
Impact Strength	8kj	ASTM D1037 - 93
Flexural Strength	3.15gpa	ASTM D1037 - 93
Flexural Strength****	3.13gpa	ASTM D1037 - 93
UV Aging Test	Pass	ISO 4892 - 2
Density	1.4g/cm3	Ceram, Stoke on Trent
24 Hour Water Absorption	1.07%	ASTM D684
Fire/Flammability Resistance of Composition	Euro Class Dfl-S1	BS EN 13501-1
Expansion Rate	3.882 E-US(K-I)	Ceram, Stoke on Trent
Weatherability	No Damage at 100 cycles	MOAT 22
Thermal Conductivity	0.154 W/m K	Indicative result
Maximum Thermal Expansion Rate*	0.038mm/min/°change	ESG Report M5703R1 Rev1
Maximum Thermal Contraction Rate**	0.036mm/min/°change	ESG Report M5703R1 Rev1
Frost Resistance	No Damage	DD CEN/TS 772-22 :2006
Structural Wind Load-Negative	<654.86kg***	ESG Report M5703R1 Rev1
Structural Wind Load-Positive	<2308.6kg	ESG Report M5703R1 Rev1
Sustainability	FSC® certification	FSC® 100% Certification
Recycled Content	Minimum 83% recycled	Ceram, Carbon footprint report

*From 60 to 80°C **From 70 to 30°C ***Dura Cladding exceeded the test rig capacity ****After UV aging (1000 hours & rain)

3.3 Colours

A range of standard colours and widths are available to suit every project need. The surface finish is fine sanded and lightly brushed. It is possible to produce Dura Cladding in various bespoke colours subject to minimum volumes of 1500 sqm. Please ask for details.



CEDAR
Available for Type
150 a

CHARCOAL
Available for
Type 150 Flush

TEAK
Available for Type
150 and 200 Flush

GREY
Available for Type
150 and 250 Flush

BARN BLACK
Available for Type
150 Weatherboard

4. Safety Data Sheet

This section provides data for protection against substances hazardous to health.

4.1 Material Identification and Use

Chemical Name: Wood Polymer Composite

Common Name: WPC, Composite Timber

Product Identification: **Dura Cladding**

Uses: Building envelope on new builds & renovations (domestic or commercial)

4.2 Composition

High Density polyethylene, hardwood waste materials from industry, coupling agents, UV stabilisers, mould inhibitors. Components are extruded through die, heated and cured.

4.3 Hazard Identification

None by contact. Dust produced by cutting or grinding can penetrate pores and skin causing itching. Avoid breathing dust, skin contact or dust inhalation when cutting. People with a condition that could be aggravated by dust should avoid cutting or grinding.

First Aid procedure: Skin – shower with water and soap. Eyes – flush with sterile eye wash solution.

4.4 Product Appearance

Hollow or solid profile sections cut to specified lengths. Some sharp edges, top surface sanded. Wood Odour. Not soluble in water. Standard colours are Cedar, Teak, Charcoal, Grey and Barn Black (weatherboard only). Others colours available on request subject to lead-time and minimum volumes.

4.5 Fire Fighting Measures

Standard extinguishing equipment, water, foam, A, B or C fire extinguishers. Produces black smoke while burning, carbon particles. Use air respirator.

4.6 Waste Disposal

Product is not considered a hazardous waste. Abide by local laws and procedures.

4.7 Handling/Cutting

Wear masks and goggles when cutting or grinding. Cover exposed parts of the body. Wear gloves when moving or lifting. Use standard wood working equipment & tools for cutting. Avoid direct fire source.

5. Product Warranty

10-year limited warranty. Please register your product with us to activate your warranty. Dura Composites warranty gives you peace of mind and expert back up should you ever need it, so you can rest assured you're buying the best in design excellence, quality and durability.

Please note that your warranty must be registered and activated within 30 days of your invoice date to be eligible. See www.duracomposites.com/warranty



Head Office

Dura Composites Ltd
Dura House, Telford Road, Clacton-on-Sea
Essex CO15 4LP
United Kingdom
Tel: +44 (0)1255 423601
Fax: +44 (0)1255 435426
www.duracomposites.com/cladding
info@duracomposites.com

For further information, please do not hesitate to call us.

Please note that every effort has been made to ensure that the information in this publication is correct at the time of publishing. Dura Composites Ltd assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within this publication and reserves the right to change without notice.