Allowance For Thermal Movement

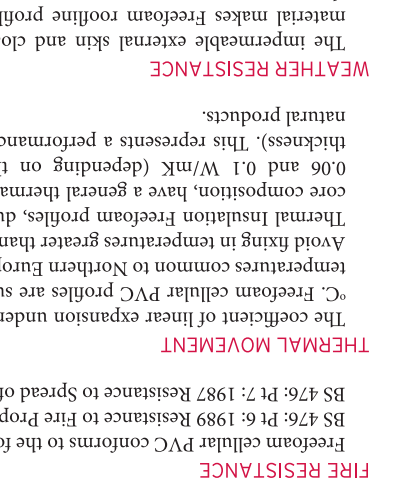
PVC building products expand and contract. Therefore, a gap of approximately 5mm is required between boards to allow for this.
On most houses, the fascia needs no more than two lengths of fascia, so it's important to cut the last one to the right working length.

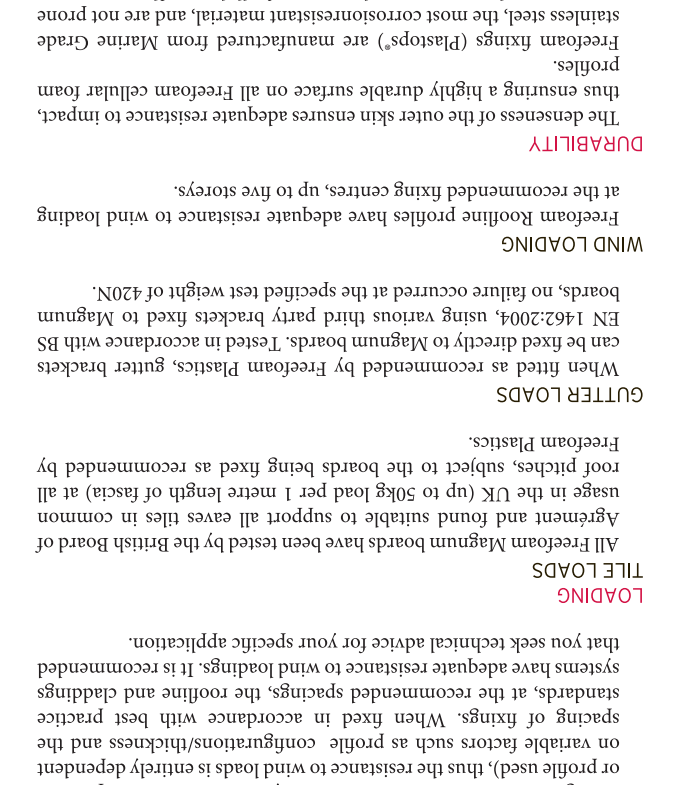
USEFUL TIP

Take care when cutting the last length of fascia.
NEVER cut it too short because it can't be used.
Cut it a bit too long and it can be cut again, if necessary.

Health & Safety

- Always cut boards; never break them.
- Wearing heavy-duty rubber gloves is advisable since sawn or cut edges can be sharp enough to cause injury.
- Face masks and eye protection are advisable when cutting, particularly with power tools.
- Always ensure that you are in compliance with all standard site safety rules and best building practices.





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June 2010

FIXING GUIDE

TECHNICAL INFORMATION

Most of the performance characteristics that apply to Freefoam roofline and cladding products can be measured, which allows the creation of standards by which to judge those measurements. It should be noted that, in the main, most of these standards can only apply to the components, rather than the completed assembly.

Such characteristics include:

- Chemical stability
- Colour fastness
- Density
- Fire resistance
- Flame retardance
- Strength
- Thermal insulation
- Thermal movement
- Weather resistance
- Workability

GENERAL

Freefoam roofline and cladding profiles are made from cellular PVC-UE (unplasticised expanded cellular polyvinyl chloride) foam, co-extruded as a durable PVC-U skin with a rigid closed cell core. They contain no CFCs (chlorofluorocarbons) or lead and are therefore formulated to meet all safety requirements. Freefoam fixings are manufactured from corrosion-resistant stainless steel.

STANDARDS

Freefoam roofline and cladding products are manufactured in accordance with the following standards:

The Foam Profiles

- *British Standard specification BS 7619: 1993*
  Specification for extruded cellular unplasticised PVC profiles
- *British Standard specification BS 1554: 1990*
  Specification for corrosion-resistant stainless steel fasteners.

The Manufacturing Process

- The international standards for Quality Assurance, Environmental Management and Health & Safety:
  ISO 9001:2008
  ISO 14001:2004
  OHSAS 18001:1999

PERFORMANCE AND PROPERTIES

STRENGTH

Strength is a characteristic of an assembly (not the individual product or profile used), thus the resistance to wind loads is entirely dependent on variable factors such as profile configurations/thickness and the spacing of fixings. When fixed in accordance with best practice standards, at the recommended spacings, the roofline and cladding systems have adequate resistance to wind loadings. It is recommended that you seek technical advice for your specific application.

LOADING

TILE LOADS

All Freefoam Magnum boards have been tested by the British Board of Agrément and found suitable to support all eaves tiles in common usage in the UK (up to 50kg load per 1 metre length of fascia) at all roof pitches, subject to the boards being fixed as recommended by Freefoam Plastics.

GUTTER LOADS

When fitted as recommended by Freefoam Plastics, gutter brackets can be fixed directly to Magnum boards. Tested in accordance with BS EN 1462:2004, using various third party brackets fixed to Magnum boards, no failure occurred at the specified test weight of 420N.

WIND LOADING

Freefoam Roofline profiles have adequate resistance to wind loading at the recommended fixing centres, up to five storeys.

DURABILITY

The denseness of the outer skin ensures adequate resistance to impact, thus ensuring a highly durable surface on all Freefoam cellular foam profiles.
Freefoam fixings (Plastops®) are manufactured from Marine Grade stainless steel, the most corrosionresistant material, and are not prone to rusting or the consequential staining of cellular profiles.

COLOURFASTNESS

When tested in accordance with BS1006:A03:1978, the maximum colour change on Freefoam white profiles shall not exceed 3-4 on the grey scale.
Under test conditions, Freefoam white profiles have demonstrated excellent resistance to discolouration.
The discolouration known as 'Pinking' associated with lead based products is guaranteed not to occur with Freefoam's lead free products.
Freefoam coloured profiles and associated products use selected pigments chosen for their superior colourfast properties, and any natural fading will be gradual and uniform over the lifetime of the product.

DENSITY

The thickness of profiles varies due to the differing proportions of outer skin and inner core, so there can be no single value for density. But in general, density of Freefoam profiles is between 400 and 550 kg/m^3.

STABILITY

CHEMICAL

Freefoam cellular PVC is not adversely affected by liquids or any other substances in common use. It is resistant to most acids and alkalis, but may be damaged by a range of chemicals generally known as ketones, esters and solvents.

BIOLOGICAL

Freefoam cellular PVC will not support bacterial or fungal growth, and is resistant to attack by woodworm and termites.

WORKABILITY

Freefoam profiles are easily worked with conventional woodworking tools, thus it can be sawn, shaped, cut, routed, nailed, screwed and glued. Saws should be fine-toothed, and power tools should be set at their highest speed with carbide-tipped blades.

Note: All specifications, dimensions, descriptions and illustrations contained in any Freefoam sales literature, quotation, or pricelist or other advertisement matter are intended merely to present a general idea of the goods that we sell. We reserve the right from time to time to make changes which are required to comply with any applicable safety or statutory requirements or which do not materially affect the quality or fitness for purpose of the goods you purchase from us.

FIRE RESISTANCE

Freefoam cellular PVC conforms to the following requirements:
BS 476: Pt 6: 1989 Resistance to Fire Propagation – Class1
BS 476: Pt 7: 1987 Resistance to Spread of Flames – Class 1Y

THERMAL MOVEMENT

The coefficient of linear expansion under test conditions is 5 x 10^{-5} per °C. Freefoam cellular PVC profiles are suitable for use in climates and temperatures common to Northern European countries.
Avoid fixing in temperatures greater than 30°C or less than 0°C.
Thermal Insulation Freefoam profiles, due to their cellular foam inner core composition, have a general thermal conductivity rate of between 0.06 and 0.1 W/mK (depending on the configuration and profile thickness). This represents a performance superior to timber or other natural products.

WEATHER RESISTANCE

The impermeable external skin and closed cell structure of the core material makes Freefoam roofline profiles resistant to water and the elements.

Fixing Guideline overleaf

Choosing Your Products

The potential range of products available includes:

- **Fascia:** Available in a range of thicknesses and profile depending on taste. 18-25mm fascia boards are recommended for full replacement. Use the 10mm or less fascia boards for an installation with backing board or if capped over sound existing timber fascia.

- **Soffit:** Available in a range of PVC-UE cellular flat boards, PVC-UE cellular cladding profiles or in PVC-U hollow board. For the most robust installations the first two options (product codes GPB or FV/FC) are preferable.

- **Fixings & Accessories:** Choose appropriate accessories to match chosen fascia and soffit products.

Order of fixing

The potential range of products available includes:

1. Trims
2. Soffit
3. Fascia
4. Box End
5. Bargeboard
6. Joints and Corners

Preparation Before Fixing

1. Remove bottom 1-2 rows of tiles
2. Remove old fascias, soffits and bargeboards to prevent any moisture that remains from rotting the supporting timber. If you chose to leave these items in place, please ensure that any rotted timber is cut out and replaced with treated timber
3. Inspect the rafter felt and replace where necessary with felt or with eaves protector
4. Provide adequate support at the wall for the soffit

   a. Extend a noggin from the wall, *fig 1.1, or*
   b. Fix a batten to the wall, *fig 1.2, or*
   c. Use the rafters as support, *fig 1.3*


fig 1.1


fig 1.2


fig 1.3

1. Fixing Soffit

1. GPB board can be fixed directly to the noggin or batten with plaspins, fig. 2.1
2. For a super neat finish use J-trim in single or two-part form to hold and give a neat finish to the inside edge of the soffit at the wall
3. If cladding profile or hollow soffit is used, they can alternatively be used in short lengths from the wall to the fascia
4. At the gable end there are two main choices:
   a. The soffit continues all the way until it reaches the gable box end, *fig. 2.2, or*

   b. The soffit terminates at an angle of 45 degrees to the corner of the wall and a H-trim is used to integrate with the soffit forming the base of the gable box, *fig. 2.3*


fig 2.1


fig 2.2


fig 2.3

Ventilation

Ventilation is provided at the eaves by means of purpose-made slotted soffit boards or by our overfascia ventilation

Fig. 2.1 above shows the typical pre-vented general purpose board
Fig. 3 shows the typical ventilation (F104V or F109) for the hollow soffit


fig 3

2. Fixing Fascia

1. The depth of the fascia used should be chosen so that the top edge of the fascia does not bear the weight of the tiles if 10mm or less thick.

2. Nail the first length of fascia into position, starting exactly in line with the centreline of the corner rafter, then at not more than 600 mm centres (reduce to 300mm if fixing black boards, and 400mm for other coloured or woodgrain boards) into the ends of the rafters. Remember that, when the fascia is in position, the rainwater gutter has to follow, so position your nails so as to be clear. of the subsequent screw fixings. This will ensure that:

   a) the screws go in without problems and

   b) the brackets won't rock from side to side because there is a projecting head of a nail behind them. Remember at the gable end cut back the fascia leg at a 45-degree angle, *fig. 4*

3. Cut the fascia to length, to ensure that its other end coincides with the centreline of a rafter. Ideally, the end should be just short of the rafter's centreline. Twice nail the fascia into the tail of every rafter, at not more than 600 mm centres (reduce to 300mm if fixing black boards, and 400mm for other coloured or woodgrain boards).
   At the joint between each length of fascia board, a joiner is needed. Pre-drill and twice pin it into either the right or left hand fascia board (not both). In this procedure you should ensure that a minimum of 5mm spacing is left between board ends to allow for expansion.

4. Start at the left-hand corner:

   a. Without Bargeboards – It couldn't be much simpler: fix the fascia boards along the front, with joints at rafter tails as necessary. The projecting eaves normally have a small box end, which is cut from a single piece of fascia board. If a separate fillet covering the tilting fillet is required, this additional triangle can easily be incorporated into the new box end. With fascia and box ends in place, fix end caps or corner trims to both ends with nails/pins; superglue and activator; or silicone in accordance with local custom. *Where superglue or silicone are being used, special care should be taken to ensure that surfaces are clean and dry before fixing begins.*

   b. With Bargeboards – Where bargeboards are involved, the procedure is slightly different, because the box ends have to be formed. Before cutting the corner trim, remember its height is not governed by the depth of the eaves fascia - it's the depth of the bargeboard that matters. A 225 mm deep bargeboard, when cut vertically at its end, has to be deeper because you're not cutting at right angles. If the pitch is 45 degrees, 225 becomes 318 mm and, at 22.5 degrees, it's 242 mm. A tilting fillet can add another 50 mm or so.

5. Note: The leg of the fascia will support the outside edge of the soffit.


fig 4

3. Finishing the Gable End

1. *Fig 2.1, 2.2,* and *2.3* illustrate a typical box end support framework

2. *Fig 5.1* illustrates components required to dress, build or complete the box

3. *Fig 5.2* shows the completed box end


fig 5.1


fig 5.2

Final Fixings

Fix joiners and corner joiners to cover straight joints and corner joints; Use finials at the gable peak joint. Use plastops pins and/or nails to ensure colour compatibility and freedom from corrosion, *fig. 6*


fig 6

Ventilation

Remove protective film from the fascia.

4. Fixing Cellular Cladding Systems

1. Fix battens vertically with a breathable moisture barrier behind them, *fig.7*


fig 7
Showing moisture barrier and battens before the cladding begins

2. Fix starter trim at the bottom of the area to be clad, ensuring that the back lip of the cladding board is engaged in the lug of the starter trim, *fig.8*


fig 8
Showing starter trim and showing the use of the universal corner trim for external angles

3. Fix perimeter trims i.e. part 1 of 2-part corner trims and U-trims in place:
   a. Fix 'under part' to relevant corners, *fig 9.1*

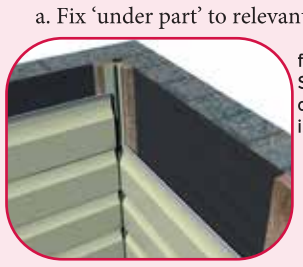
fig 9.1
Showing female component of 2-part corner trim being applied once cladding is finished

   b. Fix part 2 of 2-part corner trim once the wall is fully clad, *fig 9.2*


fig 9.2
Showing the male component of 2-part corner trim being applied once cladding is finished

   c. Fix U-trim at the edge of the wall on the final batten, *fig 9.3*


fig 9.3
Showing how the cladding is capped by the U-trim

4. Continue to fit other boards as above using:
   a. A butt joint (FC209/FV209) to break the joint, *fig.10*


fig 10
Joint detail showing use of FC209 butt joint moulding

   or
   b. A straight H-trim joiner for a continuous seam, *fig.11 (below)*

5. When fitting the top cladding board, use packing behind the board where necessary to ensure that the face of the cladding is aligned. Once the wall has been fully clad, fix part 2 of the universal U-trim along the top of the boards to give a neat finish, *fig.11*


fig 11
Top edge detail showing packing piece and 2-part Universal trim.


fig 12
Fully clad wall

Freefoam Building Products