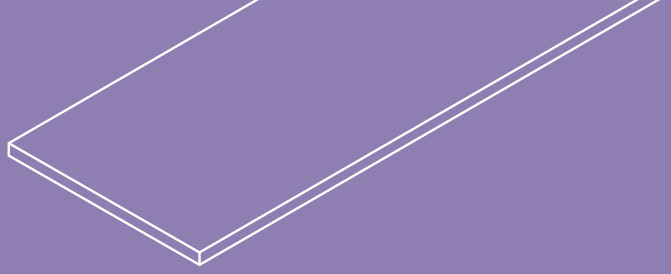
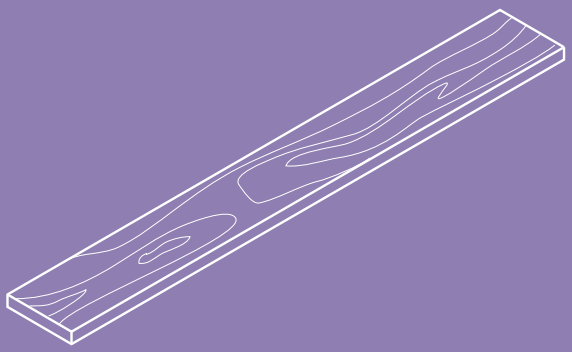
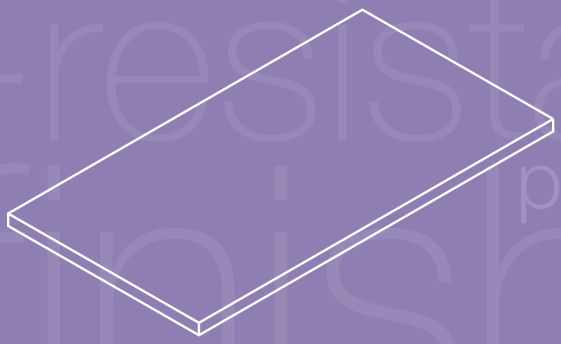




UV-resistance

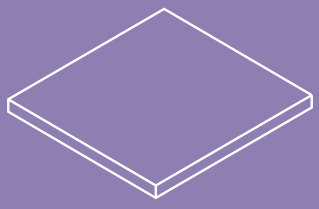
performance

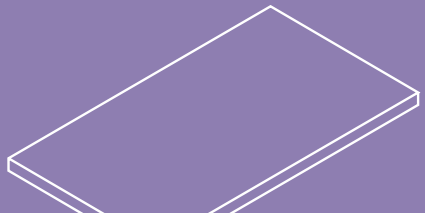
finish



impact resistance

light weight





clean lines

fibre cement

A+ rating

colour

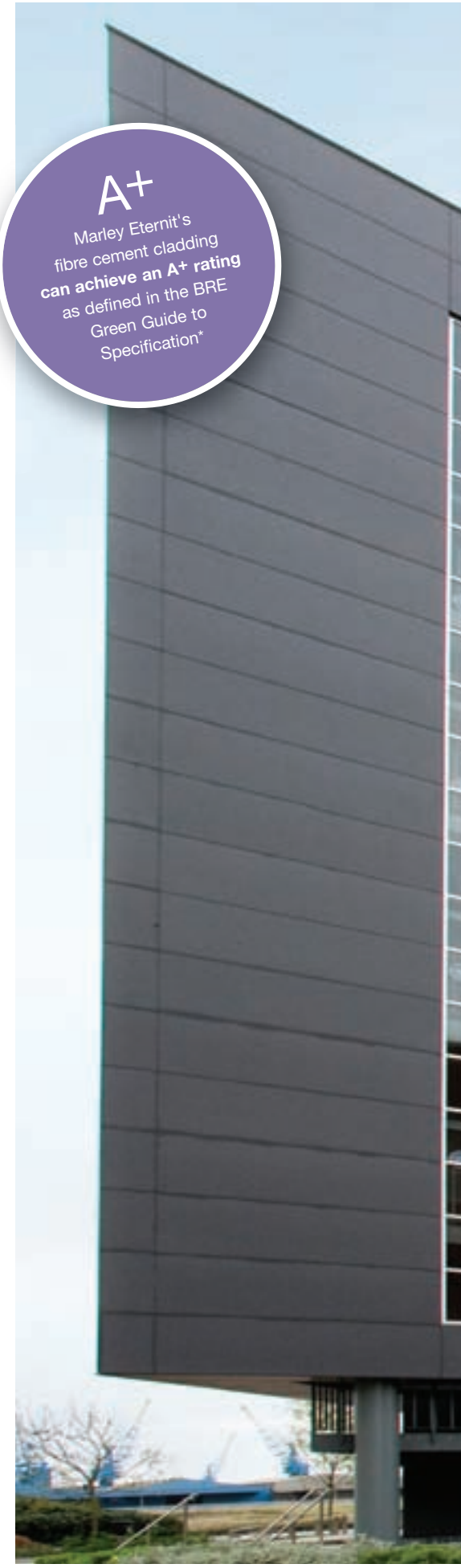
texture

Product range

Natura

The Natura fibre cement rainscreen cladding range offers specifiers a sustainable and low maintenance facade that combines excellent aesthetics with durability and impact resistance: qualities that will enhance any new build project or equally, improve and upgrade an existing building as an overclad solution.

Available in a range of colours and finishes including an anti-graffiti coating, and both mechanical and secret fix options, the Natura range gives specifiers the full creative scope of modern cladding systems with the performance levels contemporary buildings demand.



BBA BRITISH BOARD OF AGRÉMENT
CERTIFICATE No 06/4355

Advantages

- Can achieve an A+ rating as defined in the BRE Green Guide*
- Tactile, smooth surface
- Variegated or natural fibre cement finish
- Choice of subtly pigmented surfaces
- Class 0 fire performance
- Non combustible classified to EN 13501-1
- Economical
- Secret fix system
- Natura panels have an installed life expectancy of at least 50 years
- Easy to fix
- Designed for rainscreen cladding systems
- Excellent weather resistance
- Resistant to insects, mould growth and fungi
- No routine maintenance required
- Suitable for a wide range of high quality facade applications
- BBA Certificate No. 06/4355
- Available with an anti-graffiti coating

* Based on generic rating for autoclaved fibre cement single sheet (Element Ref: 80623042, 806230422, 806230447, 806230450)

3, Assembley Square, Cardiff

Natura
technical data

Hamilton International Technology Park, Strathclyde

Upbury Arts College, Gillingham

Standards

The technical properties of Natura sheets are in accordance with the prescriptions of BS EN 12467:2004, Category A, Class 3.

Manufacture

Natura has been developed for external cladding applications and is a coloured fibre cement board which allows the fibre cement substrate to show through, giving a unique surface appearance.

Please note, traces of manufacture and colour variation are to be expected.

Availability

Some colours are available on short lead times. Please contact the Customer Services team for details.

Dimensions

Panel thickness	8/12mm
Sheet sizes*	
Colours N073, N154, N191 N250, N251, N282, N292, N359, N373, N473, N572, N891, N973	2500 x 1250mm 3100 x 1250mm
Colours 7020, 7030, 7040, 7050, 7060, 7070, 7080, 7090, 8060	2500 x 1220mm 3040 x 1220mm
See pages 48-49 for colour range	
Nominal weight	8mm: 13.6kg/m^2 12mm: 20.4kg/m^2
Tolerance on thickness	±10%

* These are the maximum panel sizes after trimming by a fabricator.

Properties (air dry)

Density	1650kg/m^3
Bending strength: Longitudinal Transverse	 24N/mm^2 17N/mm^2
Modulus of elasticity	15,000N/mm^2
Porosity	20%
Hygroscopic movement	2.5mm/m
Co-efficient of linear expansion	10 x 10^{-6}m/mK
Thermal conductivity	0.6W/mK
Frost resistance	Fully frost resistant
Reaction to fire: Building Regulations EN 13501-1	 Class 0 A2-s1-d0

Fixing overview

Please refer to pages 92-119 for fixing system information.

Batten sizing

At panel joints: min 100 x 38mm.
At intermediate points: min 50 x 38mm.

Batten rail spacing

Maximum batten centres 600mm.
For 1.5kN/m^2 wind load.

Finishes

Natura panels are supplied with unfinished edges and must be cut by a specialist fabricator. Cut edges of Natura must be sealed with Luko solution. Please contact Marley Eternit for more information.

Bonding for secret fixing

If Natura is to be glued, the adhesive must be used in accordance with the application guidelines and guarantee conditions of the adhesive supplier (SikaTack-Panel). Further information is available from Marley Eternit.

Mechanical secret fix

In facade applications where a smooth unbroken surface is required, Marley Eternit offer a concealed mechanical fixing system. Hangers are fixed to the rear face of 12mm thick Natura panels. The hangers hook onto horizontal rails, which, in turn, are fixed to vertical rails.

→ Application instructions

Marley Eternit offer a full range of Application Instructions for their fixing systems, setting out details and installation data.

Due to the different fixing methodology required for the Natura range, please contact the Technical Advisory Service for further information on 01283 722588.

Other fixing systems and design detailing

Natura can be fixed using the systems below.


Timber battens (94-97)


Omega and Zeds (98-103)


Ventisol (104-107)


Ventispan (108-111)


Structural bonding (112-115)


Mechanical secret fix (116-117)


The Rock, Bury

Natura colour range

Natura panels are offered in a range of colour and coating options to accommodate performance and aesthetic needs.

Variegated colours

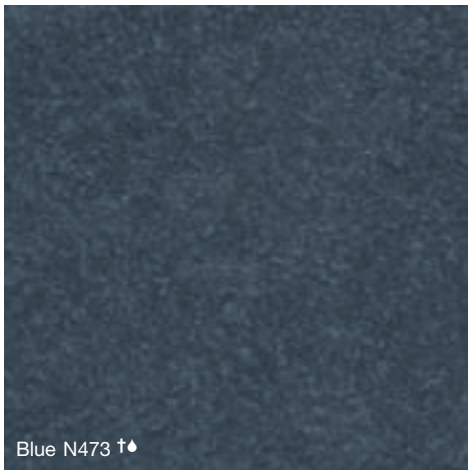
Natura panels have a subtle tinted, semi-translucent applied coating allowing the texture of the fibre cement to show through. This, combined with the extensive colour choice, offers the designer a high degree of visual flexibility.

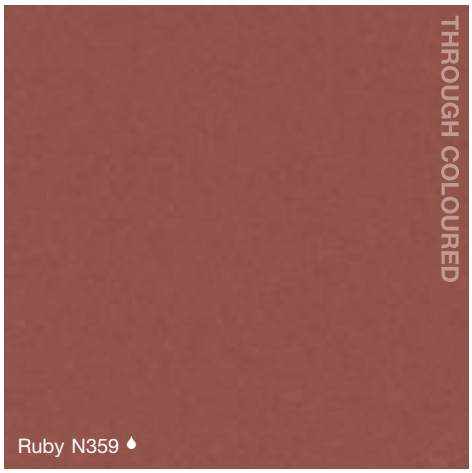
Through colours

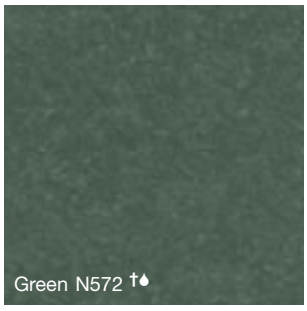
Through coloured options offer a smooth, pure surface with subtly textured colours.

Pro coating

Those colours marked with a '♦' can be produced with a UV Pro coating, offering good protection against many types of staining; against mechanical damage during construction and against the graffiti produced by common aerosol and other paints which can be eliminated with common graffiti removers







Key

♦ Pro coating (see text above)
‡ Natural grey core
† Anthracite core
* May not be structurally bonded

Sapphire 7060

Amber 7080

Beige N891 ‡♦

Cool Grey N292 ‡♦

Cream White N154 ♦

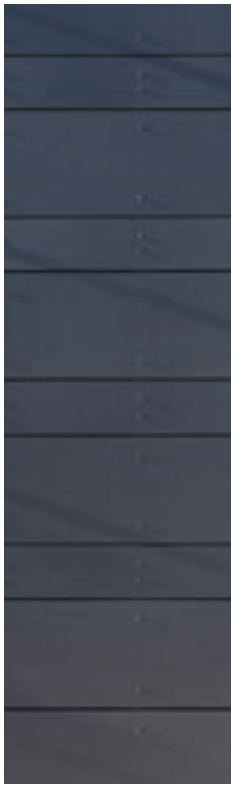
Ivory 7090

Grey N282 †♦

Light Grey 8060*

Natural Grey N250 ♦

White N191 ‡♦



Black N073 †♦

Opal 7020

Anthracite N251 ♦

Textura

Textura combines vivid colour, texture and toughness in one fully compressed fibre cement cladding panel.

With a highly glazed, granular finish available in any factory-approved RAL colour, it is impact resistant yet strong, light in weight and easy to use.

Its performance pedigree is second to none, complying with British and European Standards with regard to fire resistance and spread of flame.

Textura panels can be surface-fixed, or secured with specially designed, concealed fixings.

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CERTIFICATE No 06/4355

Advantages

- Can achieve an A+ rating as defined in the BRE Green Guide*
- Available in any factory-approved RAL colour (subject to minimum order)
- Textura panels have an installed life expectancy of at least 50 years
- Granular finish
- Fully compressed fibre cement panel
- Class 0 fire performance
- Non combustible classified to EN 13501-1
- Resistant to impact damage
- Secret mechanical fixing system
- Frost proof
- Resistant to weather and atmospheric pollutants
- Excellent fire performance
- Will not support mould growth or fungi
- No routine maintenance necessary
- Textura cladding panels are suitable for a wide range of high quality facade applications
- BBA Certificate No. 06/4355

* Based on generic rating for autoclaved fibre cement single sheet (Element Ref: 80623042, 806230422, 806230447, 806230450)

The Levels, Cambridge

Textura technical data

Standards

The technical properties of Textura sheets are in accordance with the prescriptions of BS EN 12467:2004, Category A, Class 3.

Manufacture

Textura has been developed for external cladding applications and is a fully compressed fibre cement board.

Availability

In order to optimise design choice, these products are ordered and manufactured on a specific project-by-project basis.

Colours marked 'standard' are the most popular and are usually available on short lead times.

All other colours are made to order and will be subject to longer lead times.

Factory-approved RAL colours

Our production facility is able to produce a wide range of RAL colours. For specific project requirements check availability with the Technical Advisory Service 01283 722588.

Effect of surface water

The surface contains small glass beads which allows rainwater to 'pearl' across the face of the sheet, reducing the possibility of staining.

Textura

Flat sheet

Dimensions

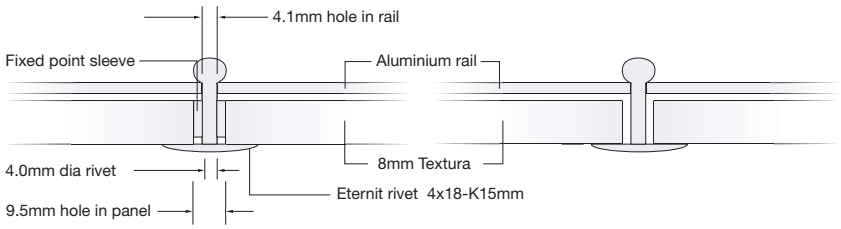
Nominal thickness	8/12 mm
Sheet sizes*	2500 x 1250mm 3100 x 1250mm 3100 x 1500mm
Nominal weight	8 mm: 15.4kg/m^2 12 mm: 22.8kg/m^2
Tolerance on thickness	±10%

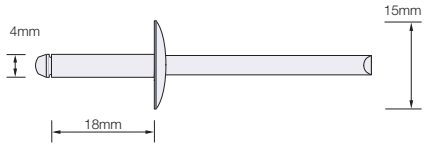
* These are the maximum panel sizes after trimming by a fabricator.

Properties (air dry)

Density	1650kg/m^3
Bending strength: Longitudinal Transverse	 24N/mm^2 17N/mm^2
Modulus of elasticity	15,000N/mm^2
Hygroscopic movement	2.5mm/m
Co-efficient of linear expansion	10 x 10^{-6}m/mK
Thermal conductivity	0.6W/mK
Frost resistance	Fully frost resistant
Reaction to fire: Building Regulations EN 13501-1	 Class 0 A2-s1-d0

Rivet fixing to aluminium rails





Textura colour matched rivet

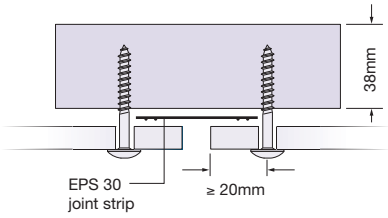
Screw fixing to timber battens

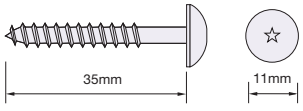
Textura panels are also suitable for surface fixing. Marley Eternit offer colour matched rivets and screws (screws shown below).

Minimum batten sizes:

- 100 x 38mm at panel joints
- 50 x 38mm for intermediate positions

Screws: 5.5 x 35mm





Textura colour matched screw

Other fixing systems and design detailing

Textura can be fixed using the systems below.
Please refer to the appropriate pages for further detail.


Timber battens (94-97)


Omega and Zeds (98-103)


Ventisol (104-107)


Ventispan (108-111)


Structural bonding (112-115)


Mechanical secret fix (116-117)

→ Application instructions

Marley Eternit offer a full range of Application Instructions for their fixing systems, setting out detailed design and installation data.

Please contact the Technical Advisory Service for further information on 01283 722588.

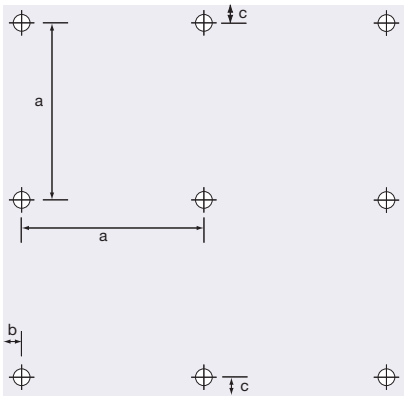
Finishes

Textura panels are supplied with unfinished edges and must be cut by a specialist fabricator. Cut edges of Textura must be sealed with Luko solution. Please contact Marley Eternit for more information.

Joints

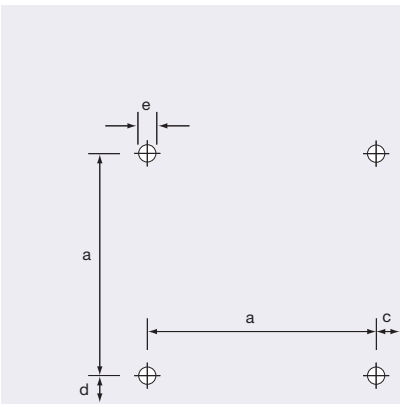
Minimum joints between panels to be 10mm.

Secret fix



Wind load (kN/m³)	Max anchor/rail spacing (mm) (a)	(b)	(c)
0.5	750	50-150	70-200
1.0	620	50-150	70-200
1.5	500	50-150	70-200
2.0	420	50-150	70-200

Surface fix



Wind load (kN/m³)	Max anchor/rail spacing (mm) (a)	(b)	
1.0	700	700	
1.5	600	600	
2.0	500	500	
	(c)	(d)	(e)
Screw fix	25-100	75-100	6
Rivet fix	40	75-100	9.5

Textura colour range

Colour codes

Please note:

TA prefix indicates Dark Grey core.

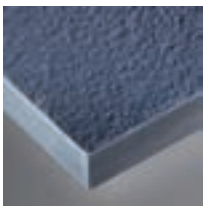
TG prefix indicates Natural Grey core.

Factory-approved RAL colours

Our production facility is able to produce a wide range of RAL colours.

For specific project requirements check availability with the Technical Advisory Service on 01283 722588.

Any factory-approved RAL colour is available subject to minimum quantity.



Blue Grey TG404

Pale Green TG504

Sky Blue TG403

Pale Yellow TG601

Blue TA405

STANDARD

Yellow TG602

Beige TG803

STANDARD

Orange TA701

Bright Red TA305

STANDARD

Deep Red TA304

Pictura

The Pictura coating system incorporates an additional surface treatment for Fibre Cement panels. The main characteristic of this treatment is the hard, smooth, silky matt surface.

The UV cured top layer offers good protection against many types of staining and mechanical damage during construction.

Whilst the Pictura surface is smooth and easily cleanable, it also provides protection against graffiti produced by common aerosol and other paints. Graffiti can be eliminated with common graffiti removers.

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CERTIFICATE No 06/4355

Advantages

- Can achieve an A+ rating as defined in the BRE Green Guide*
- Pictura panels have an installed life expectancy of at least 50 years
- Non-combustible classified to EN 13501-1
- Class 0 fire performance
- Good noise insulation properties
- Excellent weather resistance
- Resistant against living organisms (mould, bacteria, insects, etc.)
- Chemical resistant
- Environmentally friendly, no harmful gas emissions
- Easy to fix
- Strong and rigid panels
- Anti-graffiti protection as standard
- No routine maintenance necessary

Applications

- Rainscreen cladding
- Weather boarding
- Outdoor planking for sandwich elements
- Window cills and recesses
- Cladding for lintels (doors, windows)
- Interior wall lining
- Soffits
- Fascias
- Bargeboards

* Based on generic rating for autoclaved fibre cement single sheet - (Element Ref: 80623042, 806230422, 806230447, 806230450)

Rookwood Centre, Eastleigh

Pictura
technical data

Rookwood Centre, Eastleigh

Eastern House, Romford

Standards

The technical properties of Pictura sheets are in accordance with the prescriptions of BS EN 12467: 2004, Category A, Class 3. The panels are manufactured to ISO 9001 and ISO 14001.

Manufacture

Pictura panels are produced on a Hatschek machine and are pressed and air-dried. The surface is smooth, not glossy, with an acrylic coating and a UV hardened top layer, to produce a strong impact and dirt resistant finish. This finish gives a hard surface, offering scratch resistance and 'anti graffiti' protection from most kinds of paint.

Availability

Colours marked 'standard' (pages 60-61) are the most popular and are usually available on short lead times.

All other colours are made to order and will be subject to longer lead times.

Dimensions

Nominal thickness	8mm/12mm
Sheet sizes*	2500 x 1250mm 3100 x 1250mm
Nominal weight:	8mm: 15.4 kg/m^2 12mm: 22.8 kg/m^2
Tolerance on thickness	±10%

* These are the maximum sheet sizes available after trimming by a fabricator.

Properties (air dry)

Density	1650 kg/m^3
Bending strength: Longitudinal Transverse	 26N/mm^2 17N/mm^2
Modulus of elasticity	15,000N/mm^2
Hygroscopic movement	1.0mm/m
Co-efficient of linear expansion	10 x 10^{-6}m/mK
Thermal conductivity	0.6 W/mK
Frost resistance	Fully frost resistant
Fire resistance Class (EN 13501-1)	 A2-s1-d0 non-combustible
Temperature – durability	rated up to 80 °C
Environmental Product Declaration according to ISO 14025 (EPD)	

Finishes

Pictura panels are supplied with unfinished edges and must be cut by a specialist fabricator. Cut edges of Pictura must be sealed with Luko solution. Please contact Marley Eternit for more information.

Fixing overview

In facade applications, Pictura can be screwed to vertical timber battens or riveted to an aluminium sub-frame. Please refer to pages 92-119 for fixing system information.

Batten sizing

At panel joints: min 100 x 38mm.
At intermediate points: min 50 x 38mm.

Batten rail spacing

Maximum batten centres 600mm.
For 1.5kN/m^2 wind load.

Bonding for secret fixing

If Pictura is to be glued, the adhesive must be used in accordance with the application guidelines and guarantee conditions of the adhesive supplier (SikaTack-Panel). Further information is available from Marley Eternit.

Screwing

Stainless steel screws with mushroom head and torx drive.

Screws can be used in pre-drilled holes only.

- 5.5 x 35mm for 8mm thickness.
- Screws must be used in conjunction with top hat sleeve.

Blind riveting

Aluminium rivets and associated cylindrical spacer sleeve in 9.5 mm holes.

Aluminium rivets:

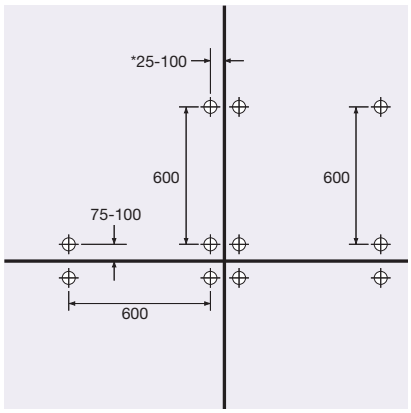
- 4 x 18 – K15mm for 8mm thickness.
- Special rivet-setting tool must be used

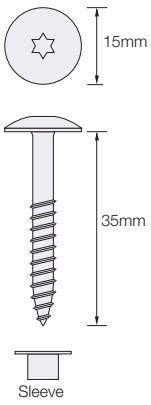
Mechanical secret fix

In facade applications where a smooth unbroken surface is required, Marley Eternit offer a concealed mechanical fixing system. Hangers are fixed to the rear face of 12mm thick Pictura panels. The hangers hook onto horizontal rails, which, in turn, are fixed to vertical rails.

Screw fixing

Maximum screw fixing centres for 8mm Pictura panels





Larger battens are required if panel fixings are located more than 25mm from the vertical edge.

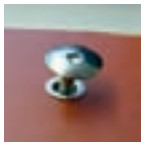
Hole sizes

Pre-drilled holes in the panels should be 7mm.

Notes

1 In all cases it is important to have the corner fixings staggered at unequal spacings from the two edges.

2 A minimum 8-10mm gap should be allowed between all panels.



Other fixing systems and design detailing

Pictura can be fixed using the systems below.


Timber battens (94-97)


Omega and Zeds (98-103)


Ventisol (104-107)


Ventispan (108-111)


Structural bonding (112-115)


Mechanical secret fix (116-117)

Application Instructions

Marley Eternit offer a full range of Application Instructions for their fixing systems, setting out detailed design and installation data.

Please contact the Technical Advisory Service for further information on 01283 722588.

Pictura
colour range

PU 242 **Grey**

PU 241 **Grey** STANDARD

PU 041 **Black**

PU 243 **Grey** STANDARD

PU 941 **Brown**

PU 943 **Brown**

PU 741 **Orange**

PU 341 **Red** STANDARD

PU 842 **Beige**

PU 841 **Beige**

STANDARD

PU 542 **Green**

PU 541 **Green**

PU 141 **White**

STANDARD

PU 441 **Blue**

PU 543 **Green**

Operal

This impact resistant, durable and flat cladding is ideal across a range of applications from a residential soffit to a rainscreen cladding skin for a low rise commercial unit.

Operal is cost effective and easy to fix, and with a range of 22 colours, Operal complements the Cedral Weatherboard range (pages 70-81) in terms of colour and application, to provide practical and aesthetic benefits to the designer requiring cost effective and attractive external cladding solutions.

A+

Marley Eternit's fibre cement cladding **can achieve an A+ rating** as defined in the BRE Green Guide to Specification*

BBA BRITISH BOARD OF AGREMENT
CERTIFICATE No 06/4355

Advantages

- Lightweight and easy to fix
- Easy to work on site
- Class 0 fire performance
- No routine maintenance required
- Can achieve an A+ rating in the BRE's Green Guide to Specification*
- BBA Certificate No. 06/4355

Applications

- Operal is ideal for:

  Soffits and fascias

  Balcony panels

  Infill panels

  Dormer cheeks

  General cladding

* Based on generic rating for autoclaved fibre cement single sheet (Element Ref: 80623042, 806230422, 806230447, 806230450)

Operal, low rise apartments, Hart Road

Operal
technical data

Operal, low rise apartments, Hart Road

Standards

The technical properties of Operal sheets are in accordance with the prescriptions of BS EN 12467:2004, Category A, Class 3.

Manufacture

Operal is an autoclaved fibre cement sheet which is manufactured from a mixture of cement, organic fibres, fillers and water.

Availability

Colours marked 'standard' are the most popular and are usually available on short lead times.

All other colours are made to order and will be subject to longer lead times.

Touch up paint

Touch up paint is available in 0.5 litre quantities.

Dimensions

Sheet sizes	3050 x 1220mm 2500 x 1220mm
Nominal thickness	9mm
Nominal weight	13.0kg/m^2
Tolerance on thickness	±10%

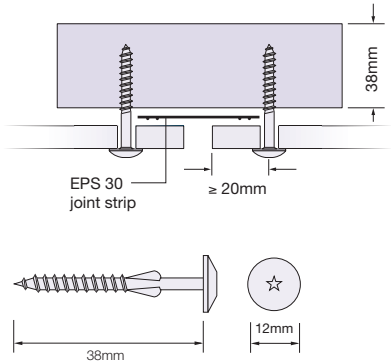
Properties (air dry)

Density	1230kg/m^3
Bending strength:	
Longitudinal	23N/mm^2
Transverse	17N/mm^2
Modulus of elasticity	
Longitudinal	9,500N/mm^2
Transverse	7,500N/mm^2
Hygroscopic movement	2.1mm/m
Co-efficient of linear expansion	15 x 10^{-6}m/mK
Thermal conductivity	0.25W/mK
Frost resistance	Fully frost resistant
Reaction to fire:	
Building Regulations	Class 0
EN 13501-1	A2-s1-d0

Fixing overview

For facade applications, Operal can be nailed or screwed to vertical timber battens using the rainscreen construction principle.

For small applications (e.g. fascias, soffits) the board can be installed with 3mm joints, but where large boards are being used, alignment is easier if an 8mm joint is maintained.



Operal colour matched screw

Cutting

All saws used to cut Operal should have tips of hard metal (tungsten carbide). When using power tools it is advisable to use dust extraction equipment.

Circular saws can be used to cut Operal on site. Good results can be achieved with a tungsten carbide saw blade.

Small pieces can be cut with a jigsaw using a Bosch 141 HM or similar blade. A handsaw with tungsten carbide teeth can also be used. For drilling Operal a hard metal twist drill (HSS) with a point of 60° works best. Round openings can be cut with a circular cutter or holesaw.

Screws

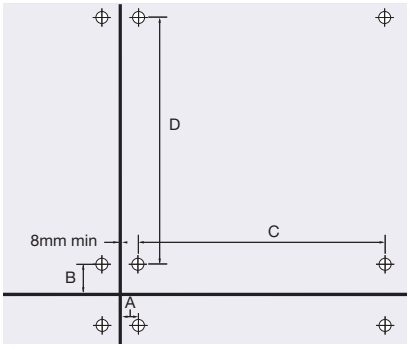
Operal can be screw fixed without pre-drilling holes through the boards by using stainless steel screws (min. 4.8 x 38mm) with either coloured or uncoloured head. If pre-drilled, holes should be 5mm.

Secret fixing

Operal is not suitable for secret fixing.

Fixing centres

Dimensions mm	screw fixing	nail fixing
A	20	20
B	50	50
C	600	600
D	600	400
Maximum distance between battens		600mm
Minimum size of battens:		
at the vertical joint		100 x 38mm
at the central support		50 x 38mm



Maximum centres for 1.5 kN/m² windload.

Other systems and design detailing

For further details on fixing using timber battens, see pages 94-97.

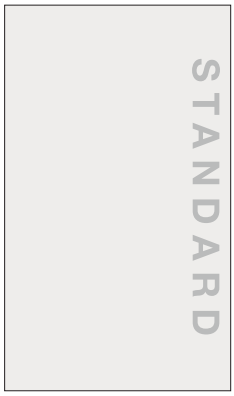
Application Instructions

Marley Eternit offer a full range of Application Instructions for their fixing systems, setting out detailed design and installation data.

Please contact the Technical Advisory Service for further information on 01283 722588.

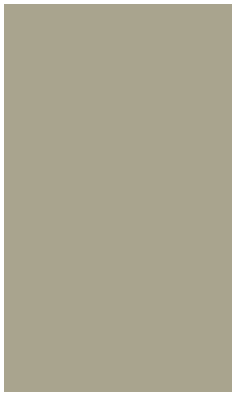
Operal, low rise apartments, Hart Road

Operal
colour range



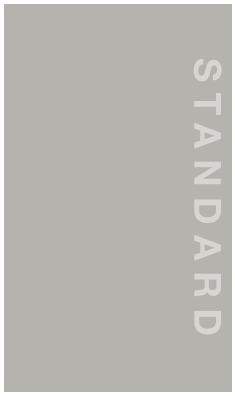
OP01 White
Nearest RAL 9016: Traffic White

OP02 Beige
Nearest RAL 1015: Light Ivory

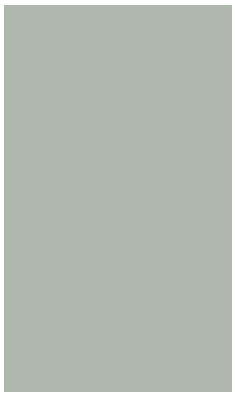


OP03 Grey Brown
Nearest RAL 1019: Grey Beige

OP04 Dark Brown
Nearest RAL 8019: Grey Brown



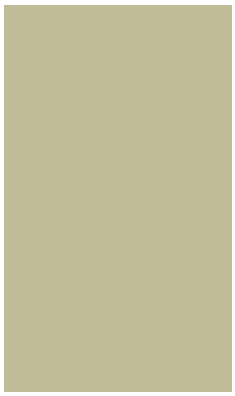
OP05 Grey
Nearest RAL 7047: Telegrey



OP06 Grey Green

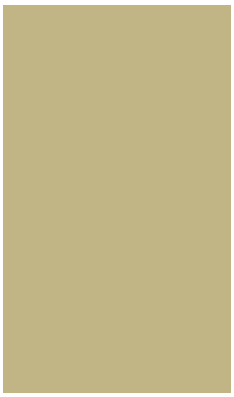
OP07 Cream White
Nearest RAL 9001: Cream

OP08 Sand Yellow
Nearest RAL 1014: Ivory

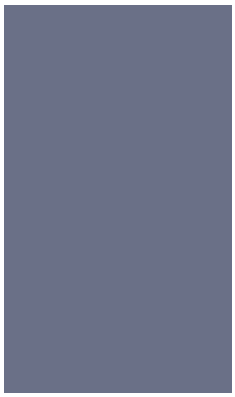


OP09 Ochre
Nearest RAL 1000: Green Beige

OP10 Blue Grey
Nearest RAL 7001: Silver Grey



OP11 Beige Yellow
Nearest RAL 1001: Beige



OP12 Lavender Blue
Nearest RAL 5014: Pigeon Blue

STANDARD

OP13 Lilac Blue

OP14 Atlas Brown

OP15 Dark Grey
Nearest RAL 7046: Telegrey

OP16 Cevennes Green

OP17 Oriental Green

OP30 Brown
Nearest RAL 8024: Beige Brown

OP31 Pine Green
Nearest RAL 6009: Fir Green

OP32 Orange Brown
Nearest RAL 8023: Orange Brown

OP33 Red
Nearest RAL 3009: Oxide Red

OP50 Black
Nearest RAL 9017: Traffic Black

Please note: some colours do not have a near match RAL colour available.

Operal installation

Corners

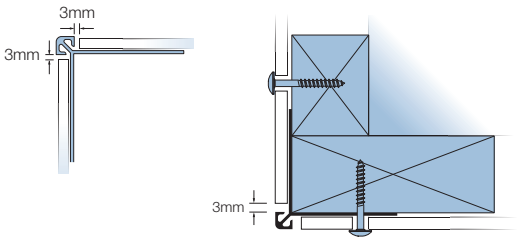
Corners are created using flat sheets and the appropriate jointing strips and corner profiles.

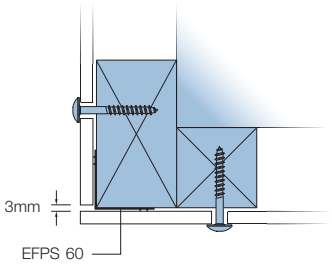
Universal corner profiles

These are supplied black or mill finished as standard. Dimension 10.5mm.

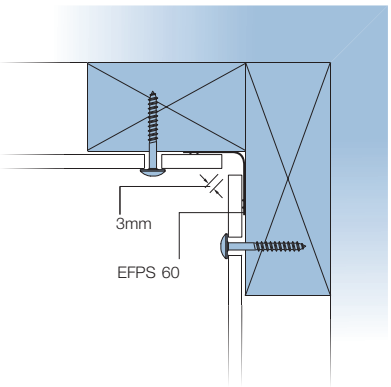
External corner

For good site practice it is necessary to vary the position of screw fixings to ensure that adequate penetration occurs.
The example below illustrates a batten configuration employing 38mm deep battens and the respective screw positions



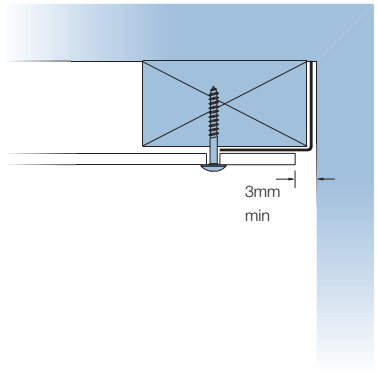


Open joint – external

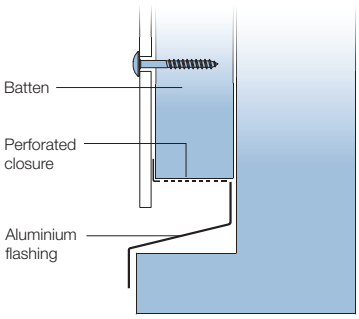


Open joint – internal

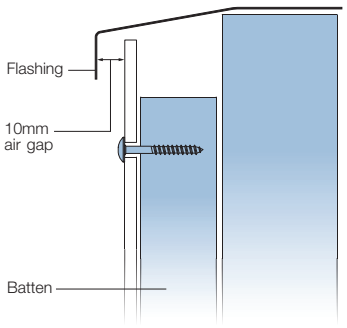
Brickwork abutment



Base of cladding

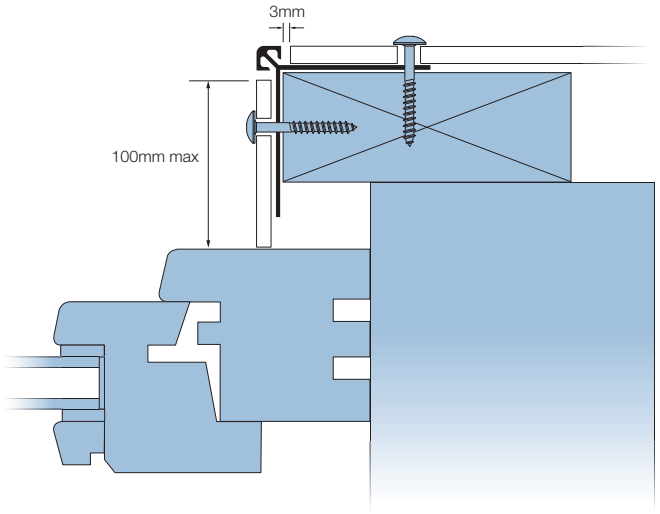


Top of cladding

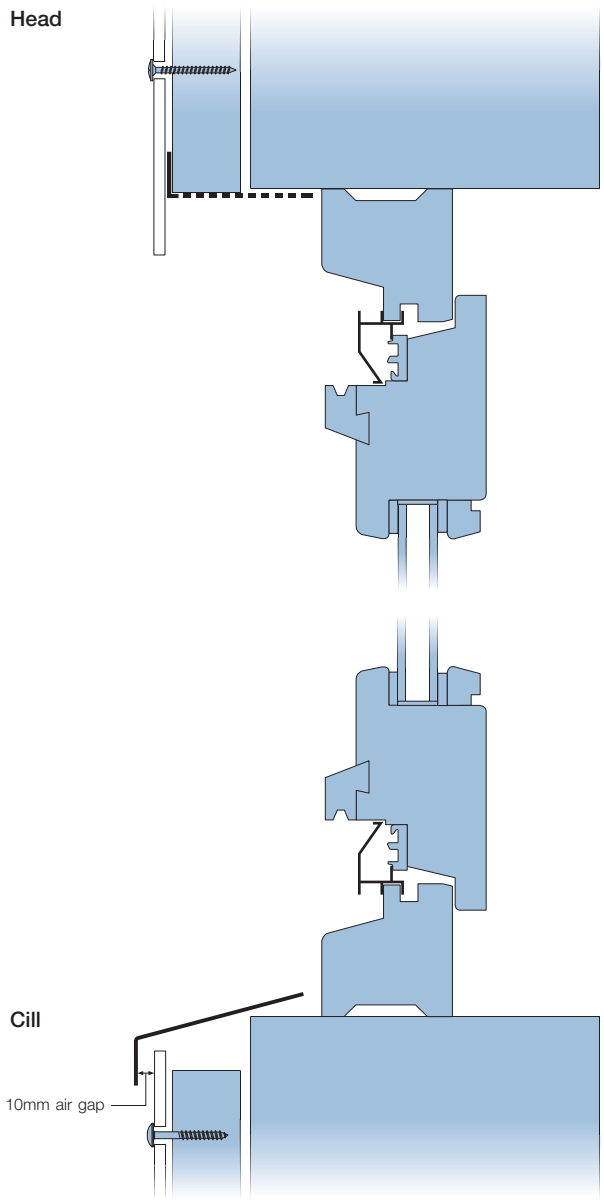


Jamb

For all jambs in excess of 100mm, additional fixings are required.



Typical window detail



Cedral Weatherboard

Fibre cement Cedral Weatherboard is the ideal low maintenance, rot free alternative to traditional timber weatherboarding.

With the visual appeal of natural timber, yet simple to install and resistant to rot, Cedral Weatherboard is an attractive low maintenance alternative to PVCu.

Cedral Weatherboard can be supplied in Natural finish for on site painting, or in one of a range of 22 factory applied solid colours and 4 woodstains.

Our comprehensive colour range provides an aesthetic option to suit many project requirements.

With a colour range that complements Operal (pages 62-69), Cedral Weatherboard offers integrated solutions for external cladding design.

A+

Marley Eternit's fibre cement cladding **can achieve an A+ rating** as defined in the BRE Green Guide to Specification*

BBA BRITISH BOARD OF AGRÉMENT CERTIFICATE No 06/4299

Advantages

- Excellent aesthetics
- Resistant to rot, immune to attack by pests and insects
- Stands up to the harshest weather conditions
- No routine maintenance required
- Easy to install
- Range of complementary aluminium trims available
- Use in the same way as wood
- Class 0 fire performance
- Non combustible classified to EN 13501-1
- Ideal for use where traditional timber boards might be considered especially for facades and window and door surrounds
- Can achieve an A+ rating in the BRE's Green Guide to Specification*
- BBA Certificate No. 06/4299

* Based on generic rating for autoclaved fibre cement (calcium silicate) cladding (Element ref. 806220701, 806220675, 806220676).

East Beach Road, Selsey, West Sussex

Cedral Weatherboard technical data

Mulberry Lodge, Isle of Wight

Standards

The technical properties of Cedral Weatherboard sheets are in accordance with the prescriptions of BS EN 12467:2004, Category A, Class 2.

Manufacture

Cedral Weatherboard is an autoclaved fibre cement plank manufactured from a mixture of cement, organic fillers and water.

Touch up paint

Cedral Weatherboard touch up paint is available in 0.5 litre quantities

Availability

Colours marked 'standard' are the most popular and are usually available on short lead times.

Cedral Weatherboard is sold in pallet qualities of 144 planks.

Bespoke colours are subject to minimum order quantities of 576 planks and subject to extended lead times.

Aluminium trims

Supplied in colours to match and complement Cedral Weatherboard.

Finishing

Weatherboard can be specified unpainted (Colour code C00 Natural) and finished on site using the appropriate product to achieve the intended look.

Opaque matt finish. Good quality exterior water based acrylic paint (Sadolin Superdec or Dulux Weathershield masonry paint). No primer necessary.

Gloss finish. Seal with an oil based alkaline-resistant primer followed by two coats of good quality external paint (undercoat and gloss).

Translucent finish. Use water based woodstain. (i.e. Sikkens Cetol BL21 Plus).

Normal timber dyes or preservative treatments are not suitable.

Cedral Weatherboard woodstain

Cut edges of Cedral Weatherboard woodstain must be sealed with Luko solution.

Dimensions

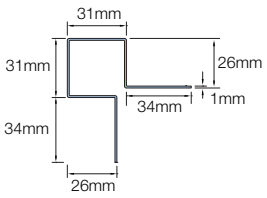
Length	3600mm
Width	190mm
Thickness	10mm
Weight/board	11.2kg

Properties (air dry)

Installed weight	19.3kg/m^2
Density	1300kg/m^3
Bending strength:	
Longitudinal	23N/mm^2
Transverse	11N/mm^2
Modulus of elasticity:	
Longitudinal	7500N/mm^2
Transverse	5500N/mm^2
Expansion from dry air to saturated	1.75mm/m
Thermal conductivity	0.212 W/mK
Reaction to fire:	Building Regulations Class 0
EN 13501-1	A2-s1-d0

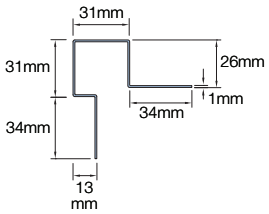
Cedral Weatherboard trims

A range of aluminium corner profiles are available in colours to match and complement Cedral Weatherboard. See pages 74-75 for full range of colours.



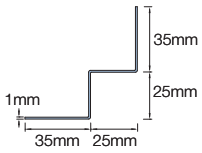
External corner (symmetric)

This symmetric external corner is used to provide protection on external corners and an aesthetically pleasing finish.



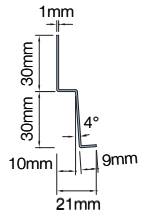
External corner/window reveal (asymmetric)

Can be used as an external corner or where detailing on a window reveal.



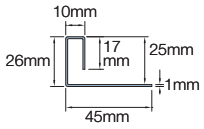
Internal corner

To finish the corner where Cedral Weatherboard meets on an internal corner forming a seal between the trim and the corner.



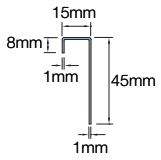
Start profile

Used to start a cladding run with a lip to cover the first batten.



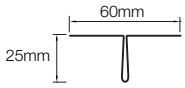
End profile

Hides any sharp corners and protects the Cedral Weatherboard edges from wear and tear giving an aesthetically pleasing finish.



Connection profile

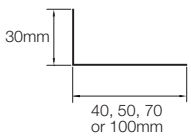
End trim to finish weatherboard when used as a single piece on a window reveal or soffit.



Joint profile vertical

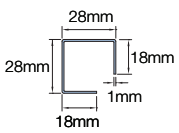
Used as a jointing detail.

Accessories



Perforated closure

Used to protect against pest infestation and debris.



External corner junction

Used as a corner joining piece. Only available in black.

Cedral Weatherboard colour range

C00 Natural

C01 White (Nearest RAL 9016: Traffic White)

C02 Beige (Nearest RAL 1015: Light Ivory)

C03 Grey Brown (Nearest RAL 1019: Grey Beige)

C04 Dark Brown (Nearest RAL 8019: Grey Brown)

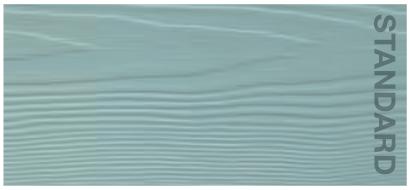
C05 Grey (Nearest RAL 7047: Telegrey)

C06 Grey Green

C07 Cream White (Nearest RAL 9001: Cream)

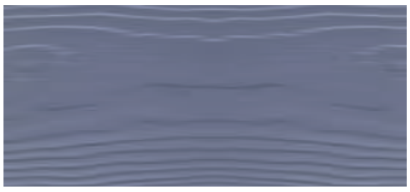
C08 Sand Yellow (Nearest RAL 1014: Ivory)

C09 Ochre (Nearest RAL 1000: Green Beige)



C10 Blue Grey (Nearest RAL 7001: Silver Grey)

C11 Beige Yellow (Nearest RAL 1001: Beige)



C12 Lavender Blue (Nearest RAL 5014: Pigeon Blue)

C13 Lilac Blue

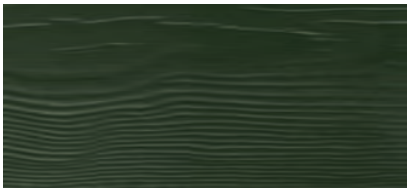
C14 Atlas Brown

C15 Dark Grey (Nearest RAL 7046: Telegrey)

C16 Cevennes Green

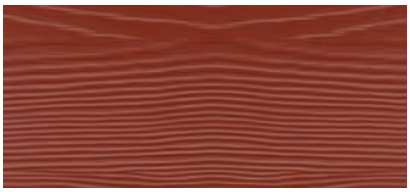
C17 Oriental Green

C30 Brown (Nearest RAL 8024: Beige Brown)



C31 Pine Green (Nearest RAL 6009: Fir Green)

C32 Orange Brown (Nearest RAL 8023: Orange Brown)



C33 Red (Nearest RAL 3009: Oxide Red)

C50 Black (Nearest RAL 9017: Traffic Black)

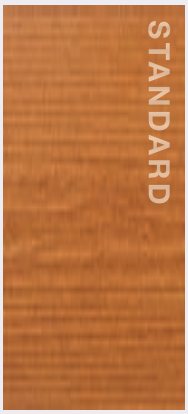
Woodstain colours

Cedral Weatherboard is also available in a range of woodstain shades to simulate the colour and texture of a variety of timber stocks.

* Due to the transparent coating, it is not recommended to install Cedral Weatherboard woodstain colours vertically.

CL102 Pine

CL103 Ebony



CL104 Light Oak

CL105 Dark Oak

Please note: some colours do not have a near match RAL colour available.

Cedral Weatherboard installation

Installing Cedral Weatherboard

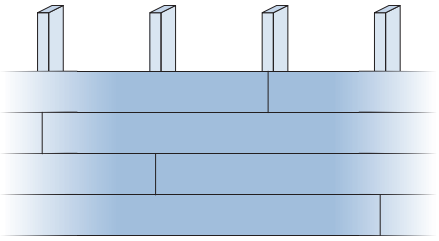
Each plank must be fixed at least once to every support. The end of every plank must also coincide with a support. Where specified, install vapour barrier or breather membrane over the wall or framework behind the timber studs. Installation begins at the bottom of the facade, where a start profile is fixed first. This is overlapped by the first plank, which starts the layering of the planks. Allow at least 150mm between bottom edge of Weatherboard and the ground. Fixing is done through the upper edges. There is no side overlap, the strips being simply loose butted against one another, and the joint must coincide with a timber support.

A strip of black polyethylene soaker should be applied under the vertical joints to protect the batten.

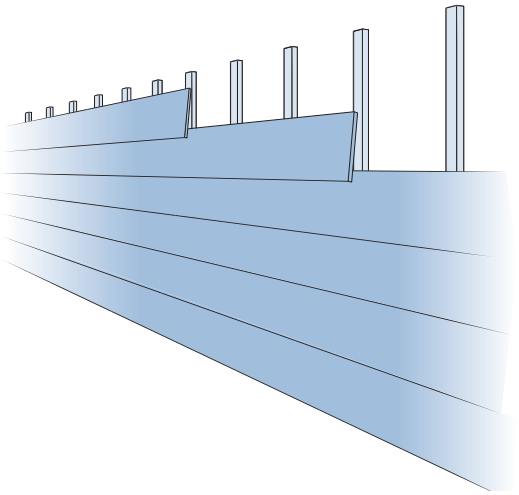
For other applications; vertically, laid flat or ship lapped, please contact Marley Eternit's Technical Advisory Service

Battens for Cedral Weatherboard

Cedral Weatherboard needs to be fixed to vertical timber battens (preservative treated and planed on 2 sides) of at least 50mm wide spaced at a maximum of 600mm across the elevation. The Weatherboard should be fixed to at least three battens; if it is only fixed to two then the batten spacing should be reduced to 400mm.

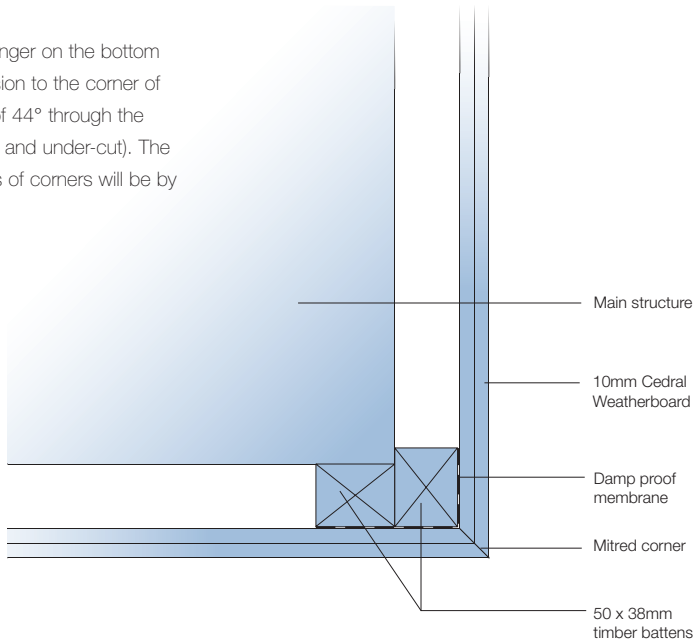


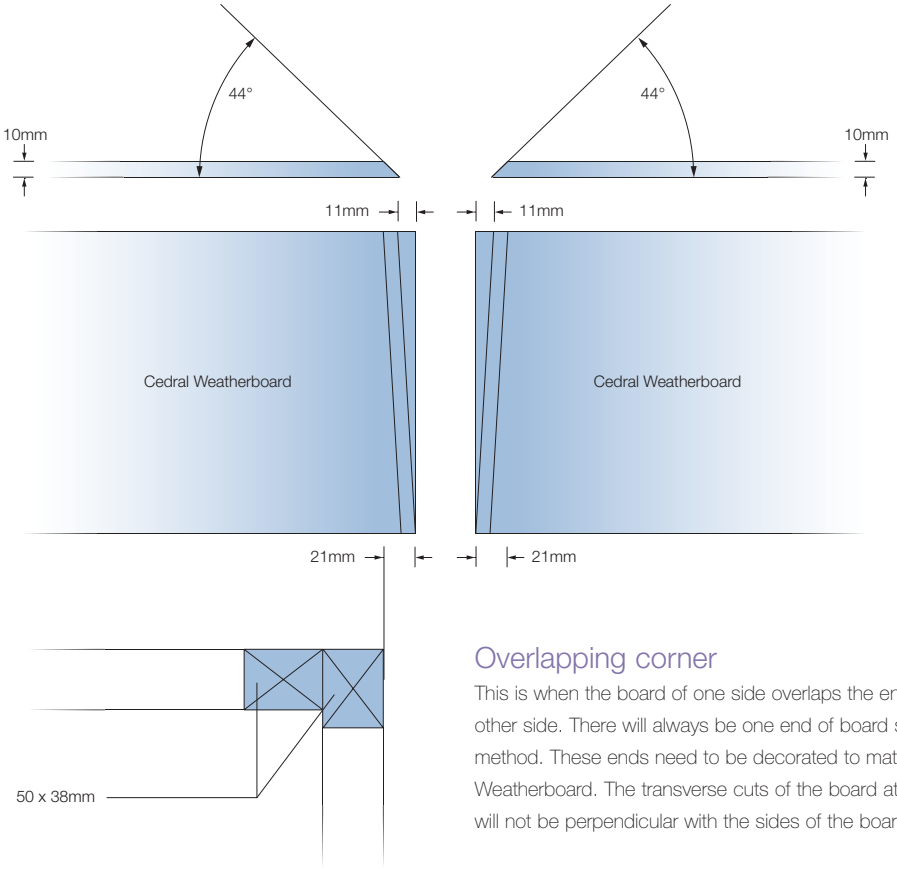
Joint detail



Mitred corner

To form the mitre the boards have to be cut 23mm longer on the bottom edge, 13mm longer on the top edge than the dimension to the corner of the support battens. This cut is also cut at an angle of 44° through the thickness of the board (suggest to mark board at 45° and under-cut). The above only works on a true 90° corner, other degrees of corners will be by trial and error.

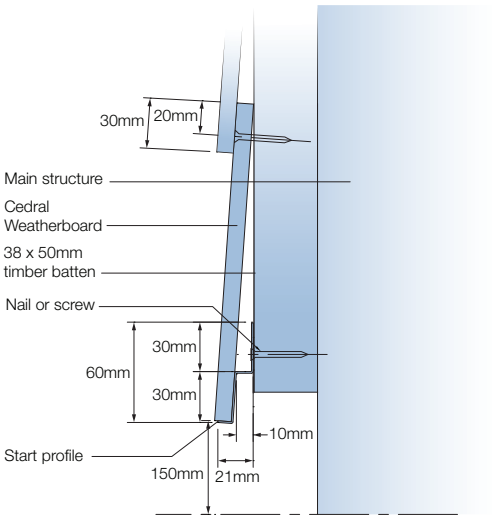




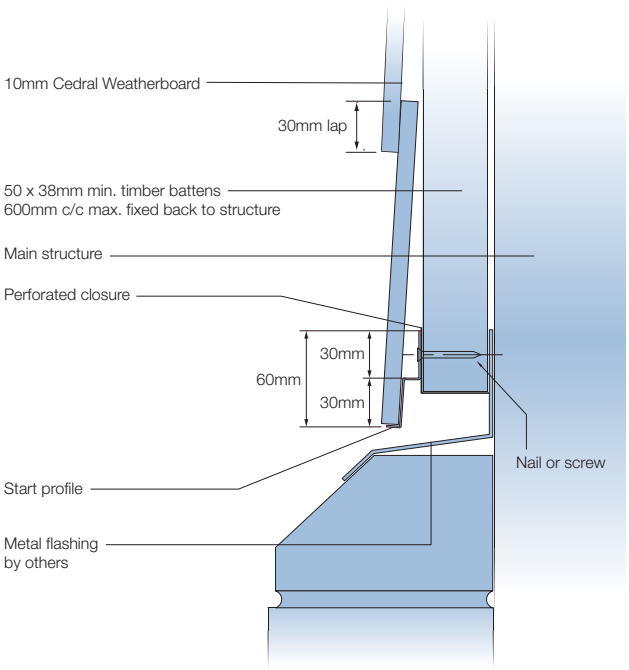
Overlapping corner

This is when the board of one side overlaps the end of the board on the other side. There will always be one end of board showing with this method. These ends need to be decorated to match the finish on Cedral Weatherboard. The transverse cuts of the board at the corner positions will not be perpendicular with the sides of the boards.

Base of cladding

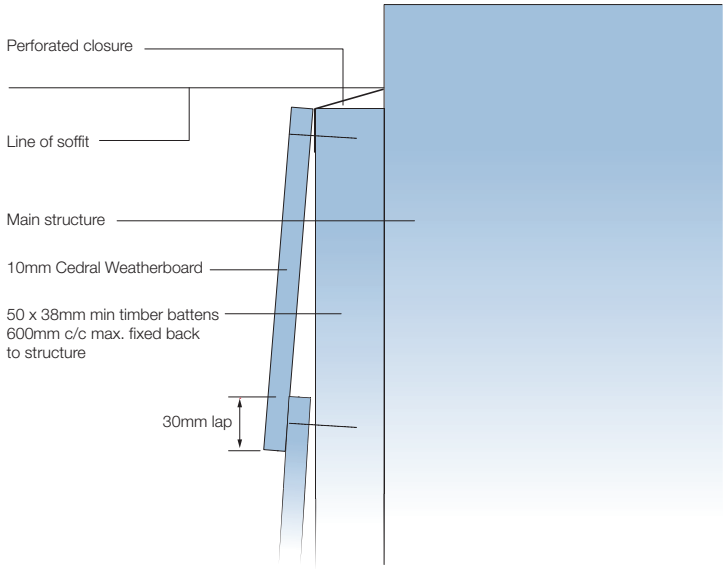


Plinth detail

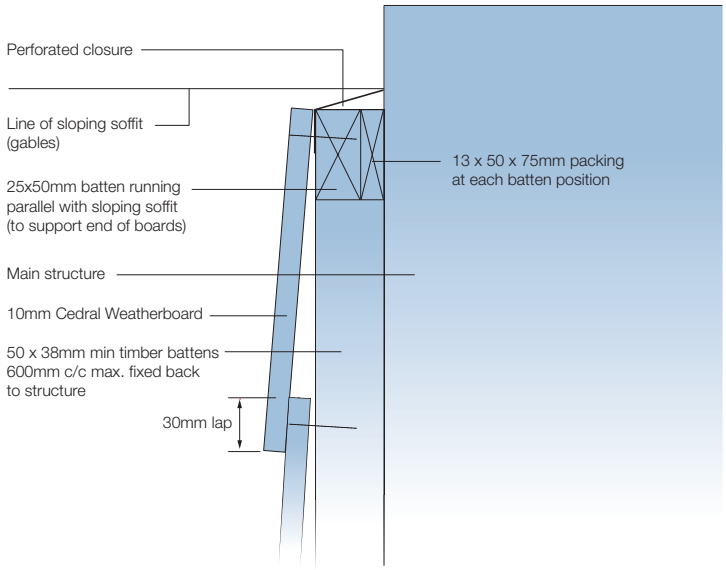


Cedral Weatherboard installation

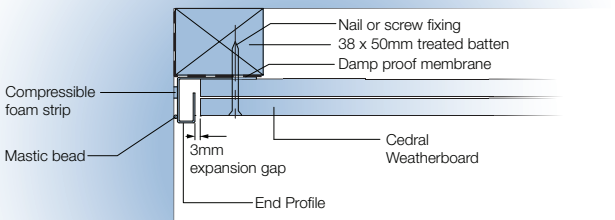
Soffit detail



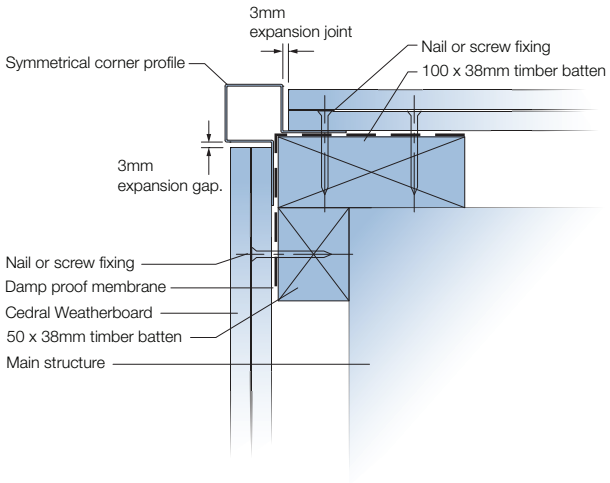
Sloping soffit detail



Corner/abutment with end profile

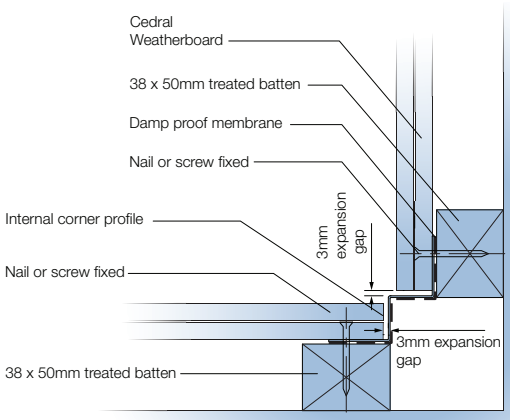


External corner detail



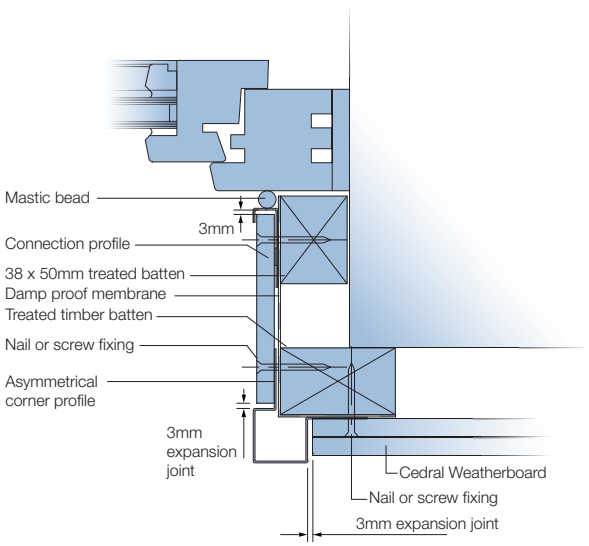
Symmetrical corner detail

Internal corner detail



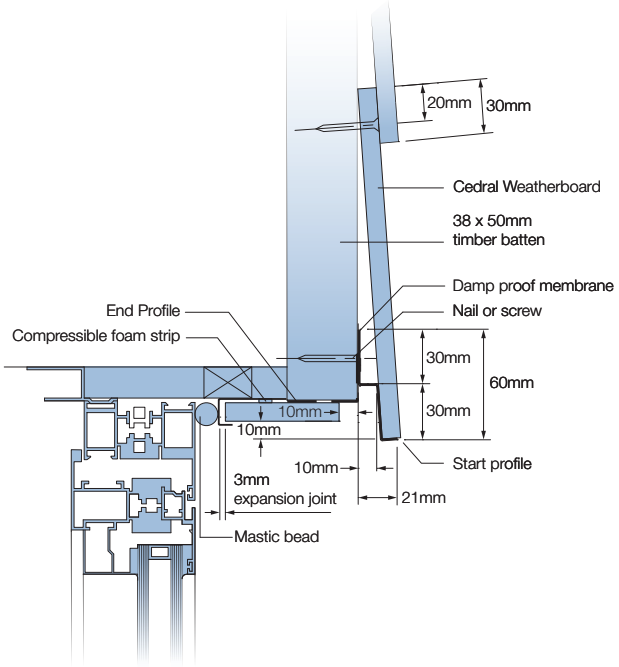
Cedral Weatherboard installation

Window reveal



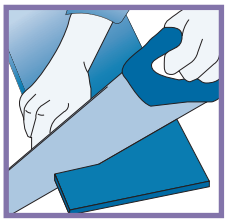
Asymmetric corner detail

Window head details



Cedral Weatherboard general fixing information

Cutting



The method of cutting is dependent on the amount there is to be done. It is possible to cut the board with a handsaw, an electric jigsaw or a circular saw.

Note: Cutting and drilling must take place in a dry environment

Handsaw

This method requires a hardened point saw and is recommended for small amounts of cutting.

Guillotine

Cedral Weatherboard can be cut with a specially manufactured guillotine.

Hand held circular saw

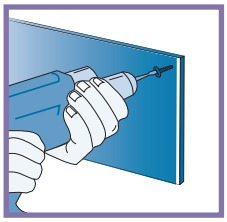
Used with a tungsten tipped blade of 36 teeth on a 180mm-diameter blade is recommended for moderate amounts of cutting. Also with this method, cutting from the back of the board is advisable as the saw guide leaves marks across the board surface. A trial cut is suggested.

A diamond-dusted blade

Used in hand held circular saw gives the best results and is the recommended method of cutting large quantities. The grade of dust is 36-44 grit; these blades are available from local suppliers.

Screwing

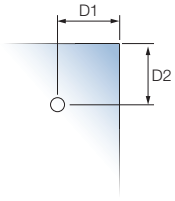
Screw fixing to the support structure can be achieved without pre-drilling where fixings are at least 50mm from the end of the board (screw gun required). Where screws are to be within 50mm of the end of the board then a pre-drilled hole and countersink is required to suit the screw size. Screws preferably stainless steel min. size 4.0 x 50mm.



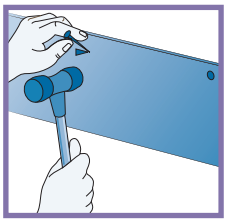
The following minimum distances from the edge to the screw and nail must be respected.

Edge distance

D1	20mm
D2	20mm



Nailing



By hand

The board can be hand nailed without pre-drilling when the nails are at least 50mm from the end of the board. For nails closer than 50mm to the end, nail positions need pre-drilling with a 3mm drill. Normal HSS drill bits can be used but they will need regular sharpening. Nails should be stainless steel ring shank, minimum size 2.8 x 45mm with 7-10mm head.

Pneumatic nailing

Weatherboard can be pneumatically nailed. There is a large selection of guns on the market. Stainless steel fixing is preferable, as they last as long as the board. The nail length should be 50mm and be 2.8mm dia. A ring shank nail is preferred and has a full round head of 7mm dia. The type of gun nail which has a narrow head (The nail looks more like a "T" section) is not acceptable. Nails with a "C" shaped head are acceptable but should be minimum 7mm-dia head.

Trial nailing should be conducted to set the depth of the fixing, and how close to the edge of the board nails can be placed.

Any pneumatic gun, which is being considered, must be adjustable otherwise the nails could either be fired right through the board or left proud of the face of the board (check with manufacturer).

Scoring and breaking

Cedral Weatherboard can also be scored on both sides with a Stanley knife and then broken over a hard edge. This process is only used for edges which are butting up to corner profiles or brickwork. Not recommended for mitre corners as the break is not as clean as a saw cut.

Health and safety aspects

Dust can be released while the sheets are being processed which can irritate airways and eyes. It is recommended that a dust mask and safety goggles be worn. Appropriate dust extraction or proper ventilation is to be provided depending on the room in which the work is being carried out or the equipment being used. Long-term exposure to dust can be harmful to health.

→ More

For detailed fixing instructions, please refer to the Cedral Weatherboard application document, available from Marley Eternit's Technical Advisory Service. Please telephone 01283 722588.

Bluclad

Bluclad is the ideal backer for render to use in weather-exposed locations.

A flat, vapour-permeable Class 0 building board with outstanding dimensional stability, Bluclad is moisture, frost, mould and impact resistant. It can be used as a substrate for a variety of surface coatings, particularly thin coat polymeric renders and textured finishes – and also to provide a seamless finish.

Available in a standard 10mm thickness, Bluclad is off-white in colour with a smooth surface on the front for painting and is textured on the reverse for thin coat polymeric renders.

Mailbox Apartments, Birmingham

Advantages

- Easy to cut, work and decorate
- High dimensional stability
- Moisture resistant
- Lightweight and easy to cut and fix
- Class 0 fire performance
- Non combustible classified to EN 13501-1
- Frost proof
- Resistant to weather and atmospheric pollutants
- Will not support mould growth or fungi
- Low maintenance
- High contribution to sound insulating systems
- Very low hygroscopic movement
- BRE Global certificate no. 057/99

Bluclad
technical data

Mailbox Apartments, Birmingham

Dundee University, Scotland

Standards

The technical properties of Bluclad boards are in accordance with the prescriptions of BS EN 12467: 2004, Category B, Class 3. The panels are manufactured to ISO 9001 and ISO 14001.

Manufacture

Bluclad boards are produced on a Hatschek machine and are autoclaved.
Bluclad board consists of fibre reinforced calcium silicate and is supplied with a water repelling treatment on both faces. The boards are off-white in colour with a smooth surface on the front and textured on the reverse. The textured face is ideal for thin coat polymeric renders.

Dimensions

Nominal thickness	10mm
Sheet sizes	2400 x 1200mm
Nominal weight:	12.0 kg/m^2
Tolerance on thickness	±5%

Properties (air dry)

Density	1180 kg/m^3
Bending strength: Longitudinal Transverse	 24N/mm^2 18N/mm^2
Modulus of elasticity	10,000N/mm^2
Hygroscopic movement	1.2mm/m
Thermal conductivity	0.19 W/mK
Fire resistance Class (EN 13501-1)	 A2-s1-d0 non-combustible
Thermal expansion coefficient	6.5 x 10^{-6} m/mK

Fixing overview

In facade applications, Bluclad can be nailed or screwed to vertical timber battens or, using self-drilling screws to an aluminium or steel sub-frame.

Batten sizing

At panel joints: min 75 x 38mm.
At intermediate points: min 50 x 38mm.

The alignment of the battens shall be true in both planes, variation not to exceed 1 in 300, i.e. 2mm over 600mm (non accumulative).

Batten rail spacing

Maximum batten centres 600mm. For fiixing centres, see below.

Fixings of battens to substructure

The choice and spacings of the appropriate anchors should be decided in consultation with a reputable fixings manufacturer and will be dependent on the structure to be fixed to and the loadings required. The fixing manufacturer's recommendations must be observed.

For fixing centres, see below.

Panel installation

Bluclad boards are normally installed horizontally in a stretcher bond pattern. A 3mm gap must be left between each board to board joint.

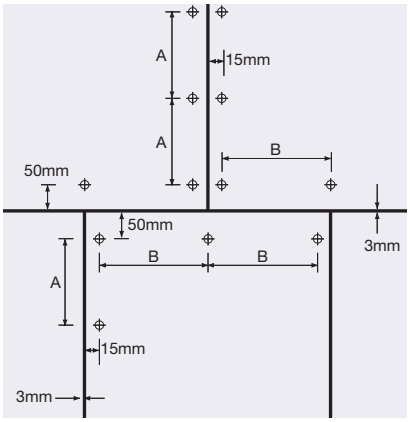
Renders

Bluclad boards are suited to the application of most types of thin coat polymeric render, such as those manufactured by Weber or Strikolith UK Ltd.

Fixing details

Fixing (stainless steel)	Support material	Fixing centres mm (A)	Support centres mm (B)	Wind load KN/m²
Screws	timber	400	600	0 - 1.5
45mm x No 8 Csk	timber	300	600	1.5 - 2.0
Nails - min. head 5.5mm	timber	150	600	0 - 1.5
Self-drilling screws No. 8 equivalent	aluminium/ steel	300	600	0 - 2.0

The maximum fixing centres are shown in the table above. Also shown are the maximum wind loads for which the standard recommendations are suitable. For greater loadings, the Technical Department should be consulted. Where exceptional impact loadings are anticipated, such as at low level where there is public access, or in school and leisure facilities, additional battens can be incorporated between the fixing battens to improve the impact resistance of the panel.



Profiled sheeting

Profiled sheeting can be used in a wide range of vertical details for commercial, industrial, residential and agricultural applications.

Profile 6, Erskine Garden Centre

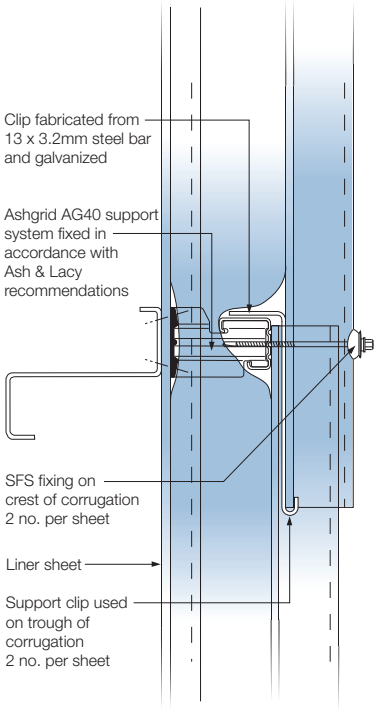
Top fix systems

When fixing Profile 6 using top-fix fasteners on a vertical application, some provision must be made to support the weight of the sheets, otherwise the sheets will sag down from their intended position and both the fasteners and the fibre cement will be overstressed.

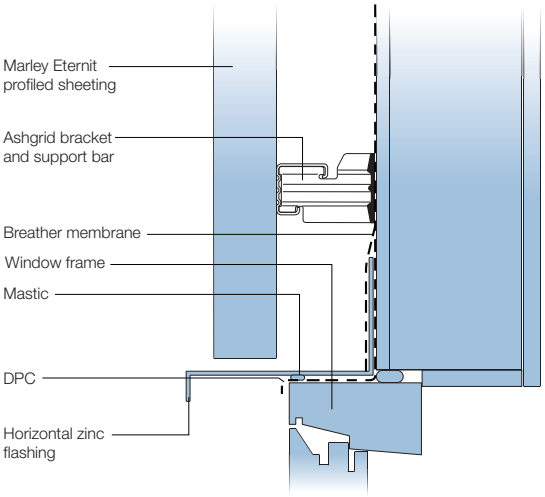
The base of each sheet should be supported on two support clips which hook over the sheeting rail. The support clips should be positioned in the valley corrugations adjacent to the fixing position.

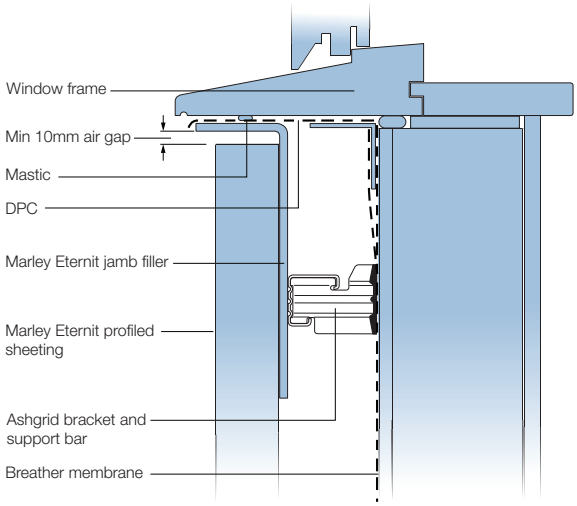
Valley fasteners

An alternative solution, which doesn't require the support clips, is to fix the sheets in the valley corrugations. The sheets should be pre-drilled with a 2mm oversize hole.



Typical double skin vertical cladding





Window detail

Profile 3, Ensworth Coastal House, Hampshire

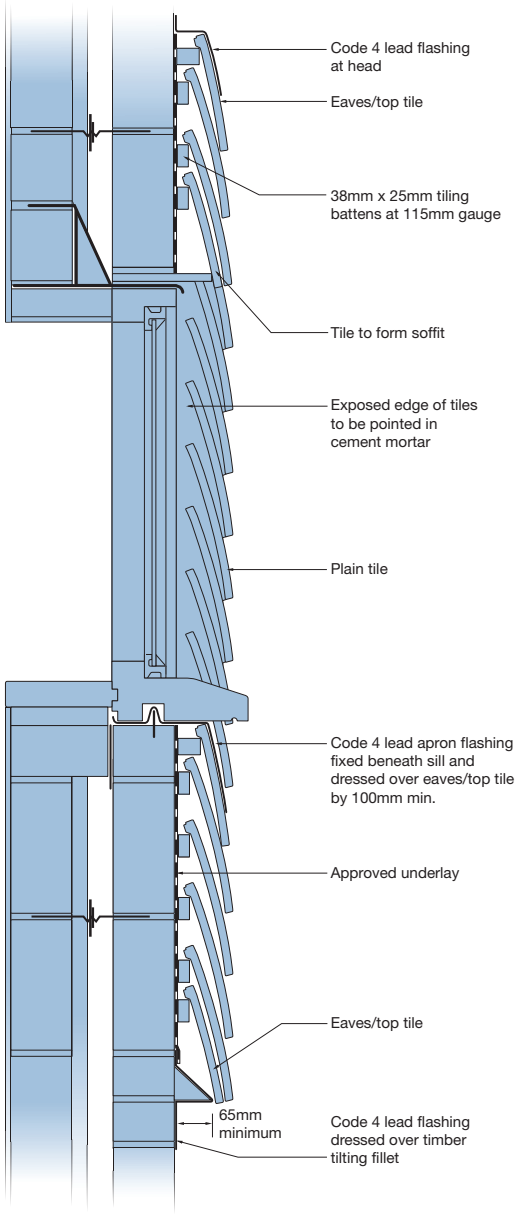
Profile 3, Ensworth Coastal House, Hampshire

Vertical tile hanging

Plain tiling and slates are an excellent, weatherproof and attractive cladding to the vertical walls of any building.

Vertical tiling with plain tiles

Feature and ornamental tiles may also be used with normal plain tiles to create decorative patterns. Fibre cement slates can also be used for vertical cladding.



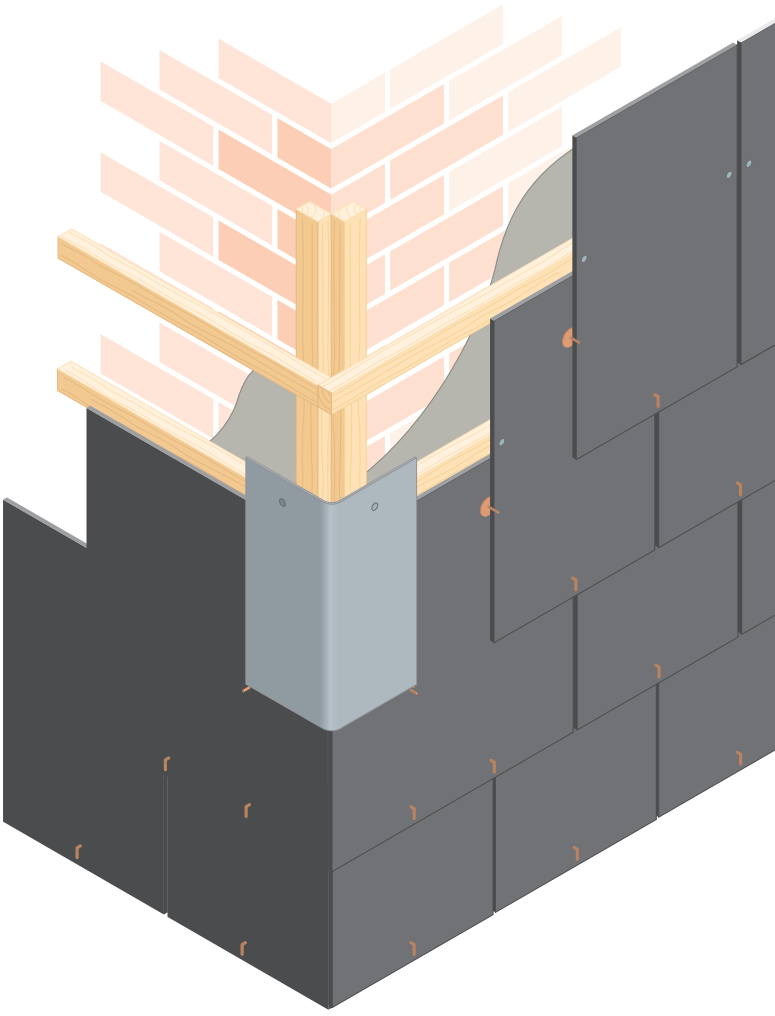
Ashdowne Aylesham, Collegiate School

Acme Double Camber, Deans Lawn Housing

Fibre cement slates, Woodland Tea House, Putten, The Netherlands

Vertical slating with fibre cement slates

Fibre cement slates can be fixed to vertical surfaces and provide an attractive and weatherproof cladding on both timber frame and masonry constructions.



References

Relevant documents

- BS 1202-1, *Specification for nails – Part 1: Steel nails.*
- BS 5250, *Code of practice for control of condensation in buildings.*
- BS 5268-2, *Structural use of timber – Part 2: Code of practice for permissible stress design, materials and workmanship.*
- BS 5268-5, *Structural use of timber – Part 5: Code of practice for the preservative treatment of structural timber.*
- BS 5925, *Code of practice for ventilation principles and designing for natural ventilation.*
- BS 6399 -1,-2,-3, *Loading for buildings.*
- BS 6651, *Code of practice for protection of structures against lightning.*
- BS 8000-6, *Workmanship on building sites – Code of practice for slating and tiling of roofs and claddings.*
- BS 8104:1992, *Code of practice for assessing exposure of walls to wind-driven rain.*
- BS EN 300, *Oriented strand boards (OSB) – Definitions, classification and specifications.*
- BS EN 312-5, *Particleboards – Specifications – Part 5: Requirements for load-bearing boards for use in humid conditions.*
- BS EN 312-7, *Particleboards – Specifications – Part 7: Requirements for heavy-duty load-bearing boards for use in humid conditions.*
- BS EN 313 (all parts), *Plywood – Classification and terminology.*
- BS EN 622-3, *Fibreboards – Specifications – Part 3: Requirements for medium boards.*
- BS EN 634-2, *Cement-bonded particle boards – Specification – Part 2: Requirements for OPC bonded particleboards for use in dry, humid and exterior conditions.*
- BS EN 635 (all parts), *Plywood – Classification by surface appearance.*
- BS EN 12811-1, *Temporary works equipment. Scaffolds. Performance requirements and general design.*
- BS EN 13501-2, *Fire classification of construction products and building elements, Part 2- Classification using data from fire resistance tests (excluding products for use in ventilation systems).*
- BS EN 14437, *Determination of the uplift resistance of installed cladding.*
- EN 1187, *Test methods for external fire exposure to walls.*
- BS EN 12467: 2004 *Fibre cement flat sheets - Product Specification and test methods.*
- BS EN 438:6:2005, *Decorative high pressure laminates based on thermosetting review. Classification and Specification for exterior grade compact laminate of thickness 2mm and greater.*
- BS5588: *Fire precaution in the design, construction and use of buildings.*
- BS EN 13501-1:2002, *Fire classification of construction products and building elements, Classification using test data from reaction to fire tests.*
- BS 6093:2006, *Code of practice for the design of joints and jointing in building construction.*
- BS 5427-1:1996: *Code of practice for use of profiled sheet for roof and wall cladding on buildings.*
- BS 476-6:1989: *Fire tests, on building materials and structures Method of Test for fire propagation for products.*
- BS 476-7:1997, *Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products.*
- CWCT, *Standard for systemised building envelopes.*
- NHBC, *Standards 2006:Chapter 6.9 curtain walling and cladding.*

Other publications

Construction (Design and Management) Regulations 2007. London: The Stationery Office.

Construction Products (Amendment) Regulations 1994. London: The Stationery Office.

Control of Substances Hazardous to Health Regulations 2002. London: The Stationery Office.

Building Regulations 2000, as amended by the Building (Amendment) Regulations 2001, the Building (Amendment) Regulations 2002 and the Building (Amendment) (No 2) Regulations 2002. London: The Stationery Office.

Thermal insulation: avoiding risks. BR 262. London: CRC Ltd, 2002.

The Building (Scotland) Regulations 2004. The Scottish Building Standards Agency.

Building Regulations (Northern Ireland) 2000. London: The Stationery Office.

Limiting thermal bridging and air leakage robust construction details for dwellings and similar buildings. London: The Stationery Office, 2001.

Rainscreen cladding: A guide to Design Principles and practice.
Anderson J.M & Gill JR (1998)

The Green Guide to Housing Specification
BRE, Jayne Anderson and Nigel Howard