



Vertigo

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Avant-garde or traditional, the Vertigo range gives free rein to your creativity and brings a new dimension to design with fibre cement slates.

The small, slate-like panel size perfectly adapts to the contours of the building and provides a second, protective skin which enables visual and performance continuity between roof and facade, creating a complete and beautiful building envelope.

Introduction

Marley Eternit fibre cement Vertigo panels are lightweight, weather and temperature resistant and create beautiful, distinctive and elegant vertical cladding solutions for a full range of building types.

Quality and sustainability

Marley Eternit's Vertigo range is manufactured under quality management systems which meet the requirements of ISO 9001 and environmental systems which comply with the internationally recognised ISO 14001 standard.

The range is also certified to a 'very good' rating to BES 6001: Responsible Sourcing.





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- 10 Why choose Vertigo?
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Vertigo

HOW IT WORKS

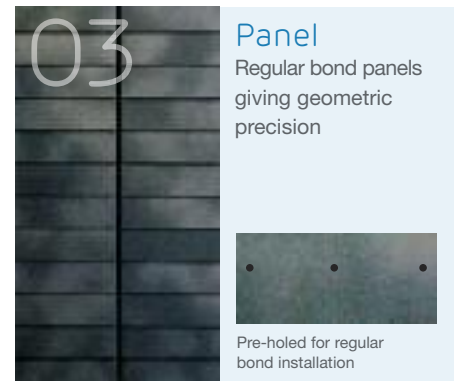
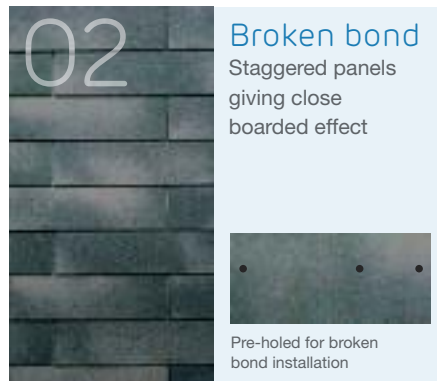
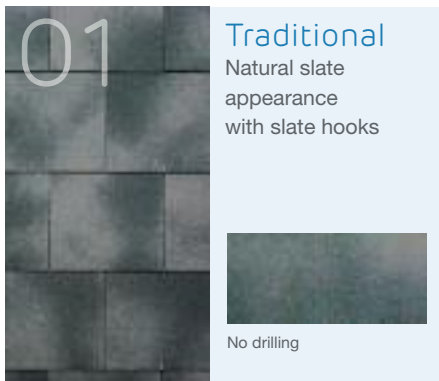
For new build as well as renovation work, the Vertigo range of fibre cement slates offers an excellent aesthetic and protective solution.

Existing buildings with irregularities in walls can be corrected at the same time as being radically embellished and given real added value.

Without impact on the interior surface of buildings or causing disruption to the occupants, Vertigo fibre cement slates allow the regeneration and insulation of facades in an elegant, original and effective way.

The installation systems, using panels or horizontal tiles give linear patterns with very precise and contemporary, crisp lines.

The continuity between roof and facade can give a homogeneous and fluid second skin to the entirety of the building – protecting it and giving a perfect finish.



With their invisible fastenings, the different colours in the Vertigo range combined with the different types of installation allow total freedom of style.

Insulation

Ventilation

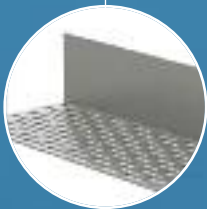
Fixing system

Panel* configuration

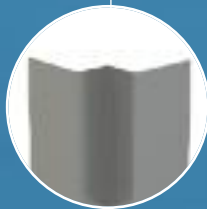
Substrate



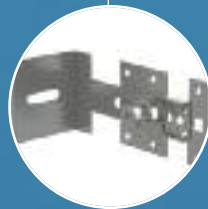
EPDM seals



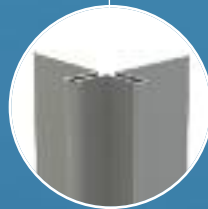
Ventilation grill



Internal corners



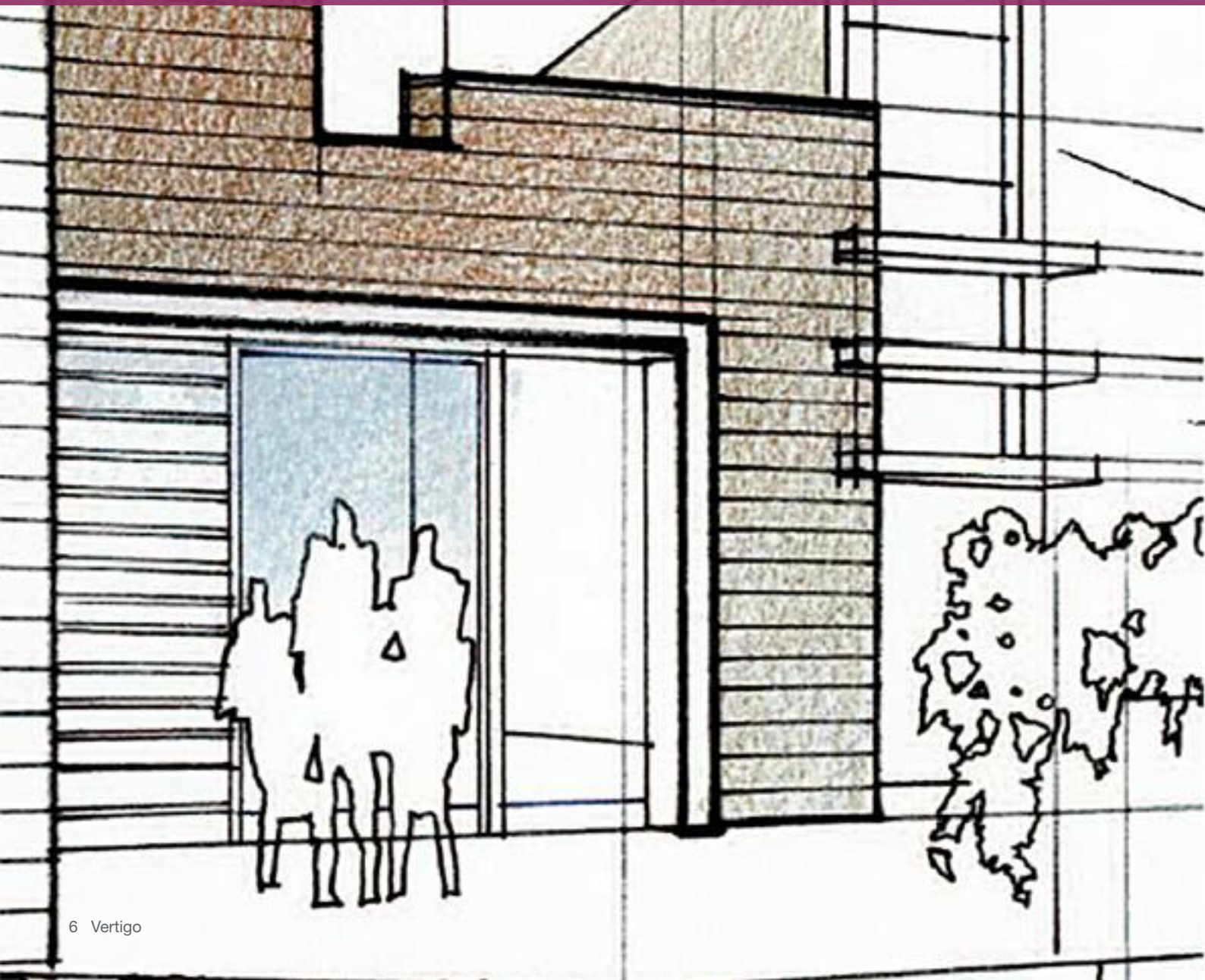
Fixing brackets



External corners

* Panel system does not require counterbattens.

Each building is unique and we have designed the Vertigo range to respond to the huge scope of architectural requirements for both new build and renovation, aesthetically and in terms of performance.



Vertigo

VERSATILITY
AND VISION




Vertigo fibre cement slates integrate simply and elegantly with other building materials and their small panel size can be adapted easily to all types of construction.



The range of colour and various installation options and fixing methods, including invisible fittings, will help provide fresh design perspectives and opportunities.



Anthracite



Flame Grey



Zinc Grey



Flame Brown



Taupe



Terracotta



Sable



White



Vertigo

VERSATILITY
AND VISION



A range of 8 colours, both flat and brindled, including two beautifully riven, textured colours, offers generous design scope. Added to this are a number of configuration and fixing permutations to create the facade you want for your building,

Why choose Vertigo?



- 01 Beautiful vertical cladding solutions
- 02 Enables continuity between roof and facade
- 03 Weather and temperature resistant
- 04 Easy and rapid installation
- 06 Wide range of panel configurations and colours
- 07 'Very good' to BES 6001







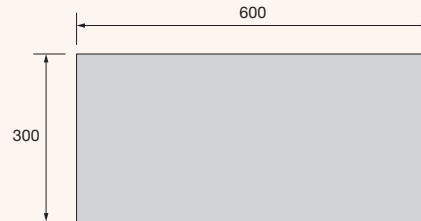
Product data

Product data

Vertigo slates are manufactured from fibre cement slate.

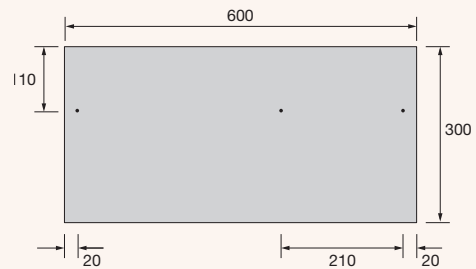


Traditional installation



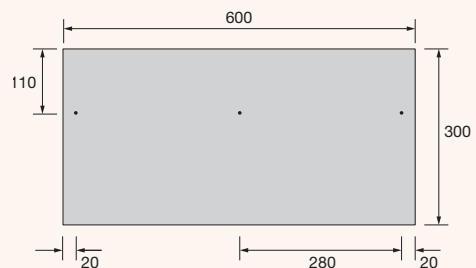
Broken bond installation

Hole positions shown.

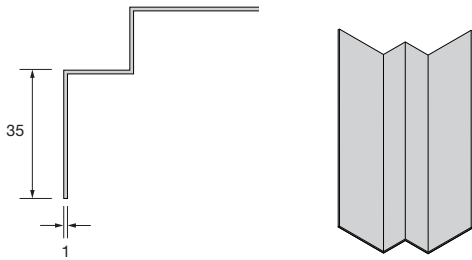


Panel installation

Hole positions shown.

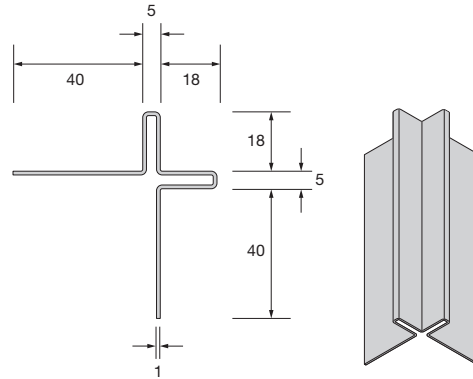


Corner profiles



Internal corner profile

3m long lacquered anthracite coloured aluminium profile.

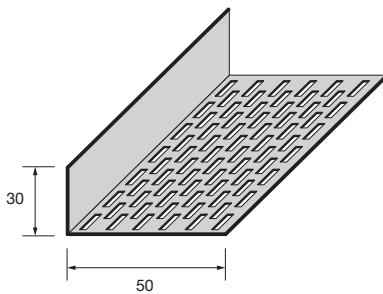


External corner profile

3m long anthracite coloured aluminium profile

Ventilation grill

Mill finish aluminium grill (length 3m), allows air to enter to ventilate the fibre-cement slate cladding while preventing rodents from entering.



Vertigo fixing brackets

When installing cladding with insulation, the vertical joists are fixed using slotted bracket sliders made of galvanised steel which can be adjusted to fit the thickness of the insulation.

The brackets and sliders are made of galvanised steel Z 275.



L100 bracket

Galvanised steel bracket with adjustment of 110 to 170mm.

L150 bracket

Galvanised steel bracket with adjustment of 150 to 210mm.

Double lip EPDM seals



Double lip EPDM strip

Width 90mm. Designed for open joints of a maximum of 20mm between the slates.



Lipped EPDM strip

Width 45mm. Designed for intermediate, vertical timbers.

Properties and performance



Authority

Vertigo Fibre cement slates are manufactured in accordance with a quality management system registered by BSI to BS EN ISO 9001 'Quality Management Systems requirements' for products manufactured to BS EN 492 'Fibre cement slates and fittings – Product specification and test methods'.

Additionally, the manufacturing location operates an environmental management system, registered with the BSI as meeting the requirements of BS EN ISO 14001 'Environmental management systems – Specification with guidance for use' and Health and Safety Standard OHSAS 18001.

Fibre cement slates are also rated 'Very Good' to BES 6001 Framework Standard for Responsible Sourcing of Construction Products.

Recyclability

At 'end of life' crushed fibre cement products can be recycled without need for further processing, as a raw material for use in Portland clinker.

Composition and manufacture

Fibre cement slates are manufactured from cement, water, selected cellulose and man-made fibres and fillers which are all bonded together using the Hatschek rotational cylinder process. Slates are cut from formed base sheets, pressed and cured.

Density and thickness

The slates also have a minimum apparent density of 1700kg/m³ when tested to BS EN 492 and a nominal thickness of 4mm.

Performance

The slates are tested for resistance to wind driven rain and meet the requirements of BS 5534 'Code of practice for slating and tiling (including shingles)' with respect to windloading, when fixed in accordance with our recommendations.

Strength and durability

Fibre cement slates meet the strength requirements of BS EN 492, achieving an average bending moment greater than 50Nm/m (Class B).

Fire resistance

Fibre cement slates are non-combustible and considered 'deemed to satisfy without the need for further testing' in relation to the requirements for external fire performance when tested for fire protection and spread of flame to BS EN 1187 'Test methods for external fire exposure to roofs' (BS 476-3).

There are no restrictions on their use under the Building Regulations and they achieve a Class 1 surface spread of flame when tested to BS 476-7 and are classified Class O. A roof incorporating the slates is designated AA as referred to in Table A5 of Notional designations of roof coverings.

Fibre cement composition



Cement



Wood cellulose



Synthetic fibres



Water

Environmental effects

Thermal

The thermal resistance (R) of fibre cement slates when dry is 0.011m²K/W.

For the purpose of thermal transmittance calculations, the 'R' values above should be substituted by a figure of 0.12m²K/W which includes the roof covering and airspace behind the tiles or slates. An 'R' value of 0.002m²K/W should be added for the roof underlay.

Heat

After an initial period of stabilisation, slates are normally unaffected by the range of climatic temperatures (-20°C to +70°C). Slates should be laid with a gap of 5mm to accommodate any movement induced by changes in temperature and to facilitate the fitting of the tail rivet.

Frost

Unaffected by frost and meets the requirements of BS EN 492.

Sunlight

The acrylic coating used on the slate surface has good colour stability proven over long periods of exposure to UV and sunlight. Some lightening may occur over a period of exposure to sunlight and normal weathering, which may affect the surface coating. This gradual lightening is similar to that experienced with natural slate.

Atmospheric pollution

Suitable for most rural, marine and normal industrial environments. Avoid discharge of gases or liquids from chemical processes onto the surface of the slates.

Resistant to all but the most highly polluted atmospheres where sulphur dioxide levels exceed 70 microgrammes/m³ of air.

For advice on the suitability of application, please contact the Technical Advisory Service.

Electricity

Fibre cement slates are electronically insulating. Reference should be made to BS 6651 for recommendations on the protection of buildings against lightning strikes.

Biological effects

Birds and rodents

Not affected or degraded by birds, rodents or insects.

Mosses and lichens

Water absorption of the slates is around 18%. The growth of mosses and lichens may occur over time, but does not adversely affect their performance.

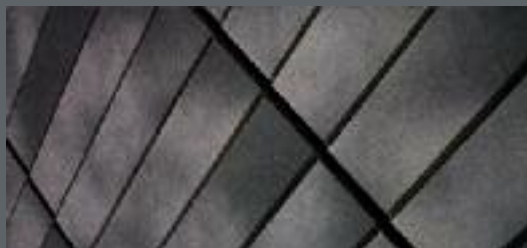
Health and safety Guidance Sheets

Fibre cement slates can be simply scored and snapped with no dust creation, or cut with standard hand tools without requiring compliance with Health and Safety Guidance Sheet S (August 2012). If cutting slates with machine tools, measures to reduce the effect of dust should be taken in accordance with the HSE Guidance Note EH 40 'Occupational Exposure Limits' and EH 44 'Dust in the workplace: general principles of protection'.

Fixing specification

Slates should be fixed in accordance with the recommendations of BS 5534.

Consideration should be given to sealing any cut edges to prevent potential efflorescence on the cut edge showing. Please contact the Technical Advisory Service for more details.



Fibre cement





Installation requirements

Installation requirements



Primary structures

Vertigo slates are suitable for the following structures:

- > masonry panels and walls made of brick or block work
- > pre-cast concrete walls
- > wooden framed constructions

Where fibre cement slates are used on a walling application, the backing structure must be the water/wind proof construction.

The Vertigo range, when used in a wall application is suitable for use with up to a maximum 2.0 kN/m² windload. Loadings in excess of this are not recommended.

Fixings

Vertigo slates are fixed with either one or two hooks, or with three nails. The minimum headlap is 60mm for all installation methods.

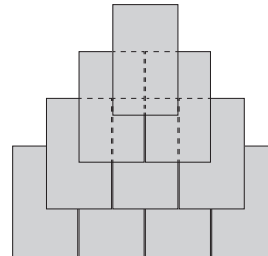
Nails

Slate nails, with large heads, should be jagged copper nails.

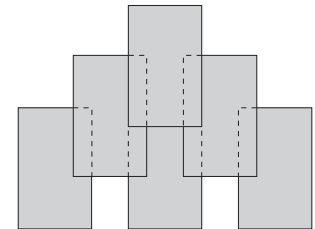


Hook fixing

Hooks are used for the following fixing methods:



Interlocking



Basketweave

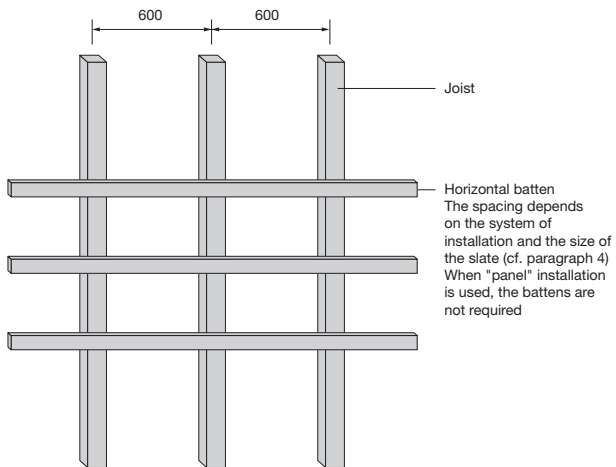
Timber support frames

These recommendations are given on the assumption that all health and safety regulations have been observed. Only timber battens complying with BS 5628: Part 2* and protected against decay and insect attack to BS 5628: Part 5 should be used.

Supporting timbers

Timber joists are fixed mechanically to the supporting wall at 600mm maximum centres, either in continuous contact using screws and plugs or using galvanised steel brackets.

The choice of fastening of the plug or brackets (screw-plug unit) must be suitable for the structure.

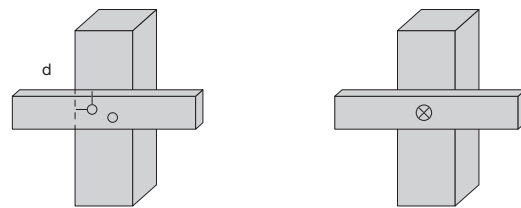


Fixing battens to support frames

The horizontal fixing battens are fixed to the battens at each intersection. Fixing is by nails or screws (4mm min, wood screws).

For nailing use two nails which arranged diagonally on the overlay rectangle, observing the minimum distances shown on the figure below.

Screw fixing is carried out using wood screws, usually placed in the centre of the rail overlay rectangle on the bracket.



Type of attachment	Distance d
Screw	3 x Ø
Nail	5 x Ø

Ø of screw or nail.

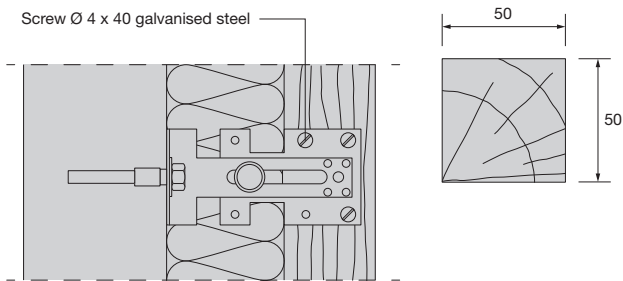
* Information concerning Timber Sections and their fixing requirements is contained within BS 5628: Part 2 - Structural use of Timber

Installation

System with horizontal tiles and traditional cladding

50 x 50mm minimum for installation with brackets spaced at a maximum of 1350mm apart, arranged in a staggered fashion along the joists.

The joists are fixed using 3 wood screws with a minimum dimension of 0.4 x 40mm with two fixed diagonally in the 4 holes of the slider.



Ventilation and air space

In addition to the thickness required for insulation, the positioning of the vertical joists should allow for a continuous air gap of a minimum width of 20mm along the whole height of the vertical wall.

This width should be measured from the external face of the insulation to the back of the slates.

Ventilation of the air gap is provided for by apertures at the foot and top of the facade. These apertures at least:

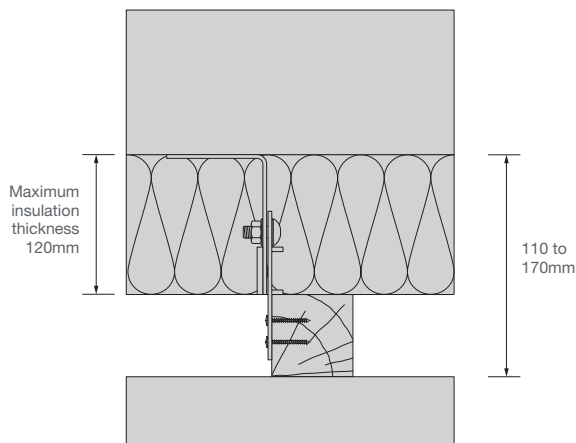
- > 5,000mm²/m for height of the work ≤ to 3m
- > 6,500mm²/m for height of the work ≤ from 3m to 6m
- > 8,000mm²/m for height of the work ≤ from 6m to 10m
- > 10,000mm²/m for height of the work ≤ from 10m to 18m
- > 15,000mm²/m for height of the work ≤ from 18m to 24m

At the bottom of the cladding, the aperture is protected by a perforated profile that forms an anti-vermin barrier.

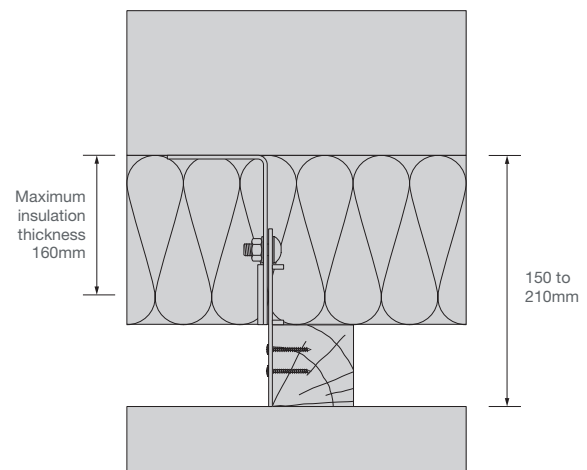
At the top, the aperture is closed and made weather-proof by a projection (for example, capping piece) forming a drip edge.

Insulation with traditional and broken bond installation

Maximum insulation thickness 120mm



Maximum insulation thickness 160mm



Panel installation

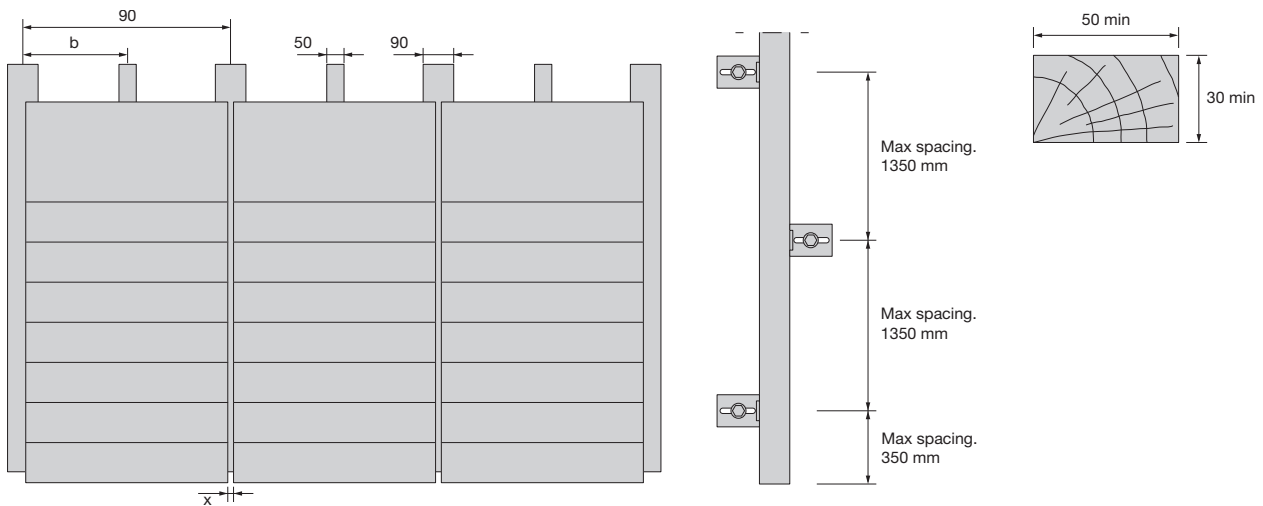
When 'panel' installation is used, the timber support dimensions at the joint between each row of Vertigo slates should be 90 x 50mm min. and the intermediate supports 50 x 50mm min.

The spacing of the main joists (a) and the intermediate battens (b) depends on the width of the joint between Vertigo slates as shown below.

Support spacing	x=10mm	x=20mm
a	610mm	620mm
b	305mm	310mm

For direct installation to the supports, where the spacing between the fixtures is a maximum of 1000mm, the supports should be 50 x 30mm min.

Before positioning the supports directly to the substrate, it should be established that any faults in the supporting structure (uneven surfaces, irregularities, knots and other faults) should be no greater than 5mm per 200mm, and 10mm per 2000mm.

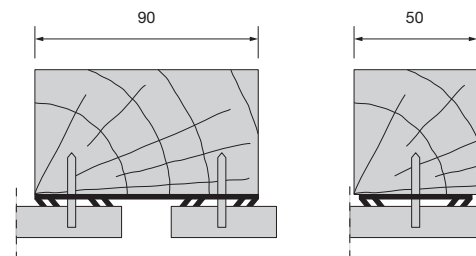


EPDM strip (panel installation)

If using the 'panel' method of installation, a 'double lip' waterproof strip 90mm wide should be applied to the supporting framework at the joints between each row of slates (see page 15)

This strip should only be installed using stainless steel staples or nails, as it will be held in position by the final fixings through the horizontal battens.

The intermediate supports in the framework also need a 'double lip' strip 45mm wide. This provides waterproofing as well as a more even installation over multiple supports.







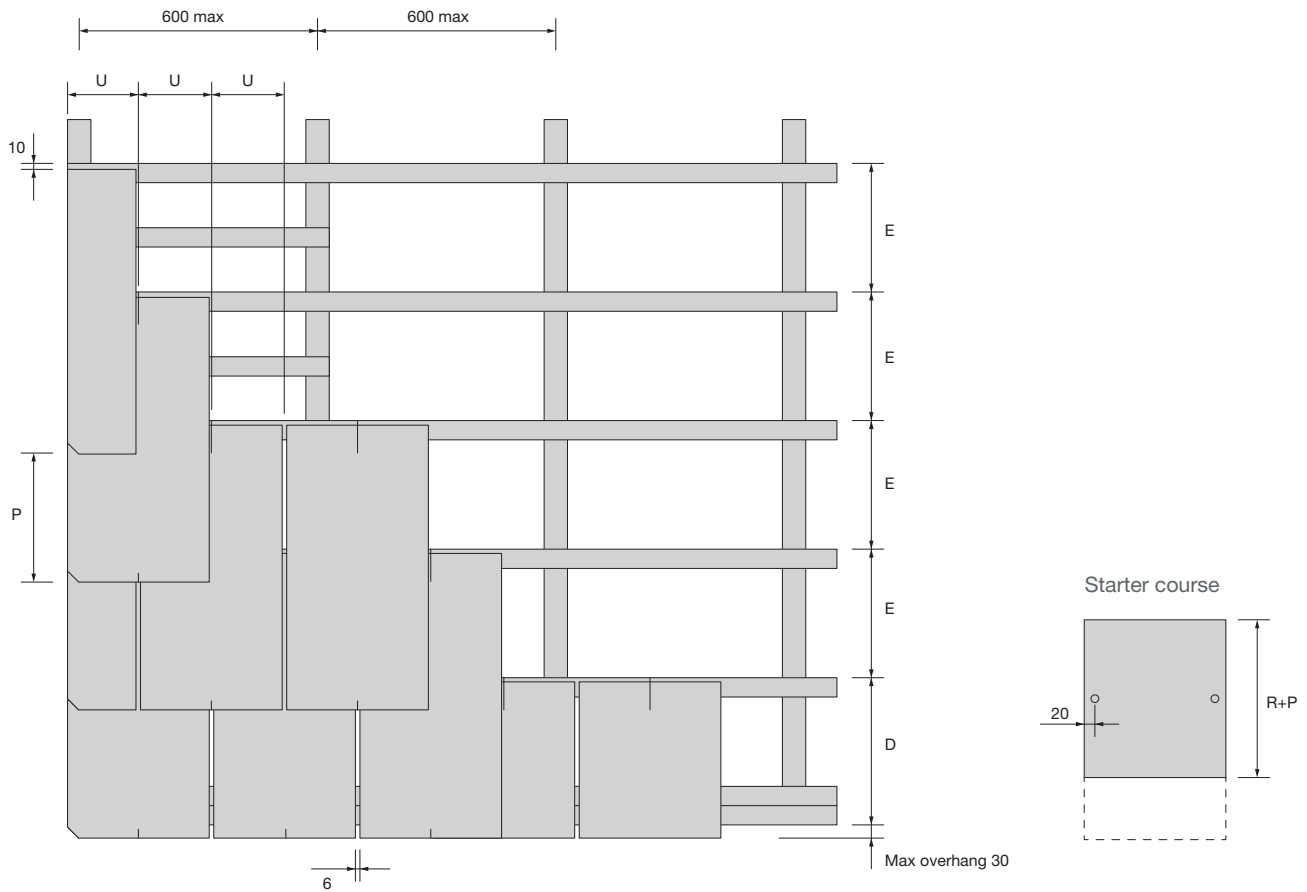
Design detailing

Traditional installation

Interlocking slate configuration

Interlocking fitting: fixing: 1 hook per slate. Length of the hook to be 70mm (R +10mm)

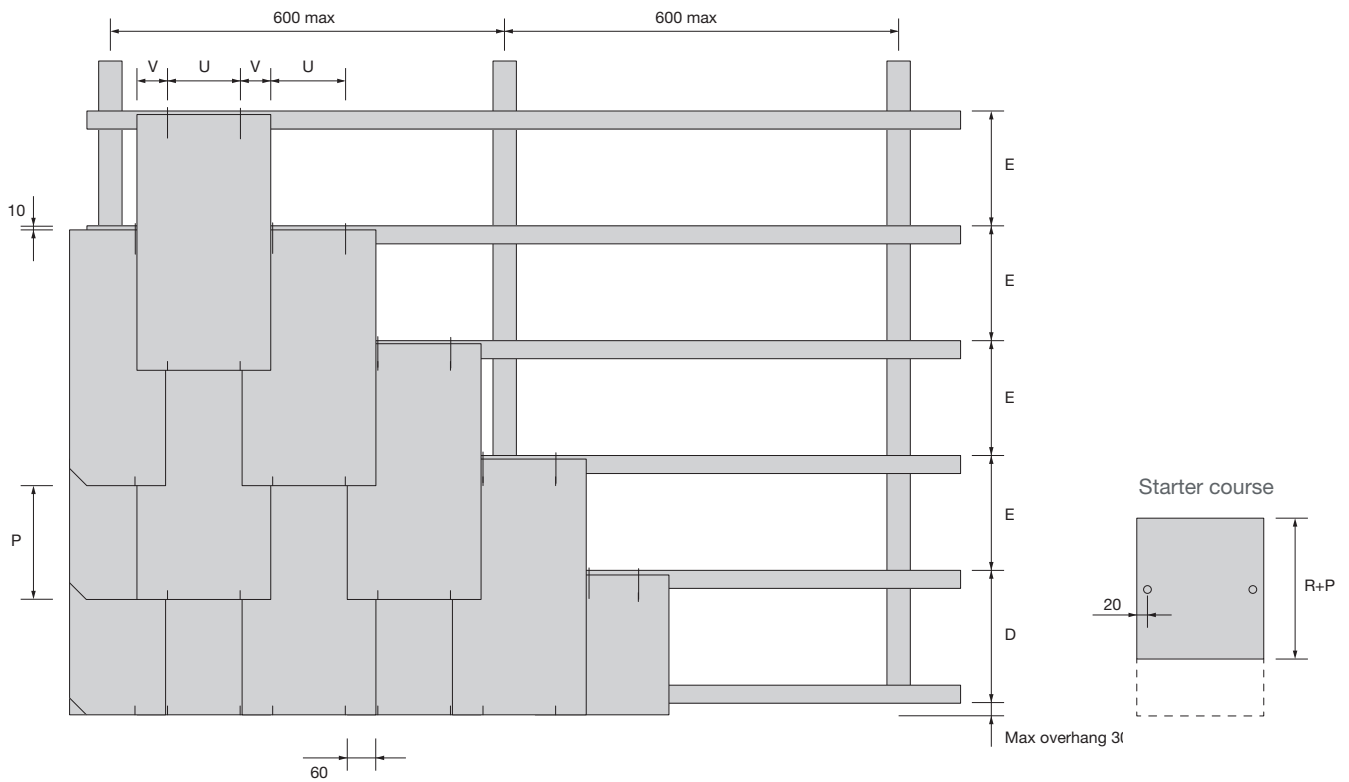
Size of slate (mm)	R in mm	U in mm	No. of slates and hooks	E=P in mm	D in mm	Length (ml) of battens per m ²
600x300	60	153	12.10	270	310	3.10



Open slate configuration

Interlocking fitting: fixing: 2 hooks per slate. Length of the hook to be 70mm (R +10mm)

Size of slate (mm)	R in mm	U in mm	No. of slates per m ²	No. of hooks per m ²	Length (ml) of battens per m ²	V in mm	E=P in mm	D in mm
600x300	60	174	7.72	270	3.70	66	270	310

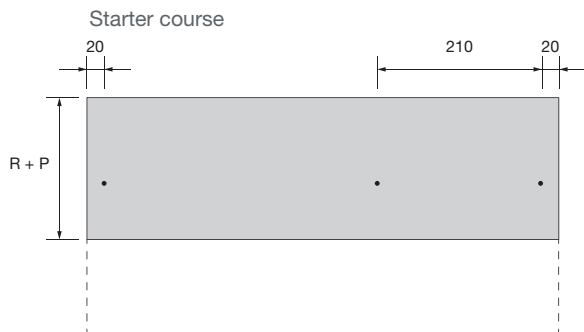
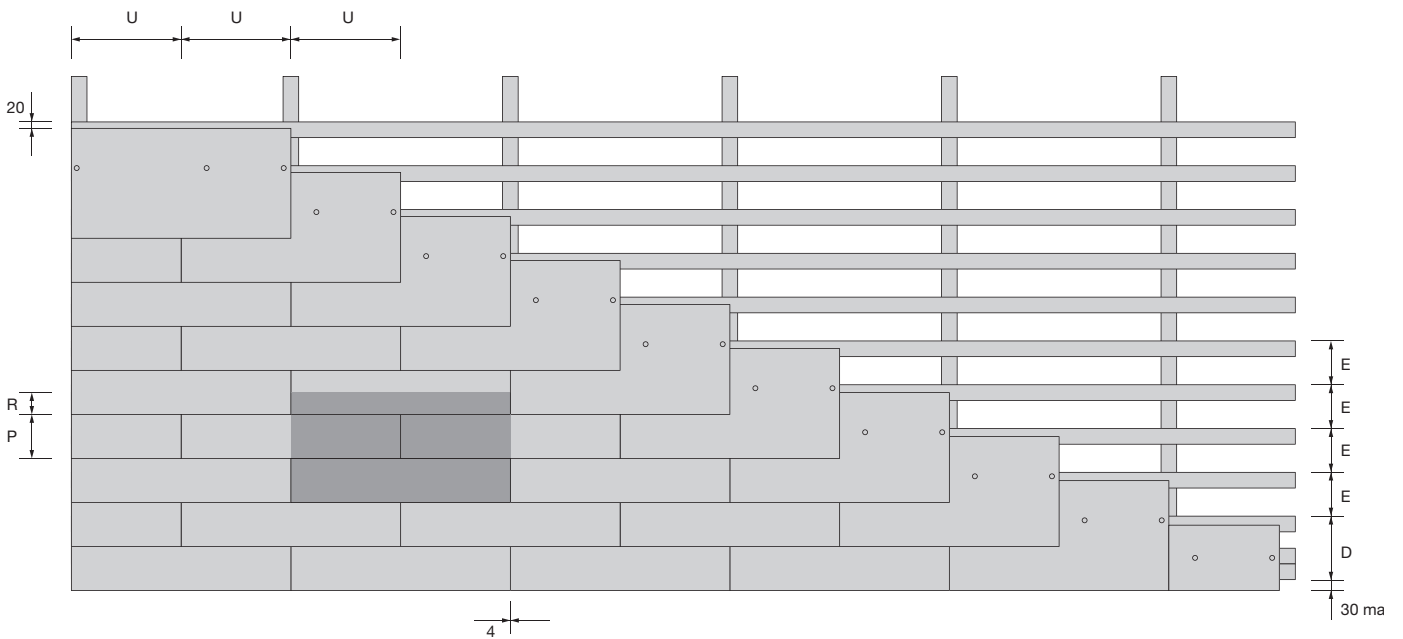


Broken bond installation

Broken bond configuration

Interlocking fitting: fixing: 3 nails. Min. nail dimension: length 27mm.

Size of slate (mm)	R in mm	U in mm	No. of slates per m ²	No. of nails per m ²	Length (m) of battens per m ²	E=P in mm	D in mm
600x300	60	302	13.8	41.4	8.33	120	170

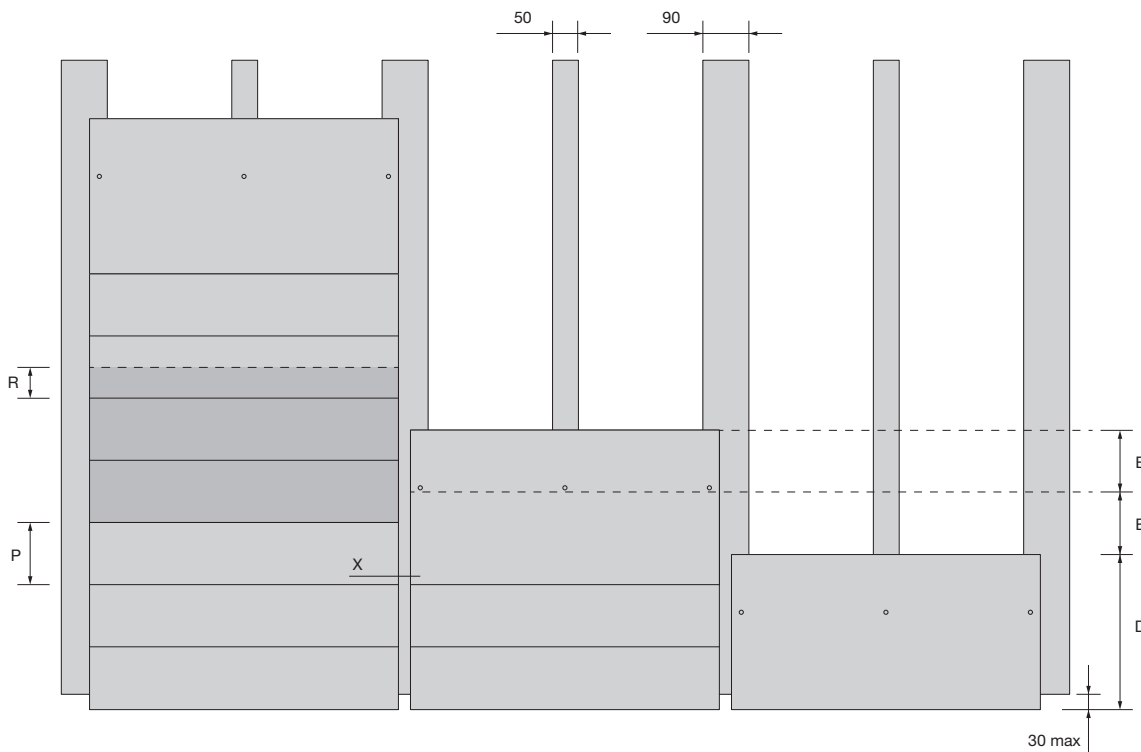


Panel installation

Panel configuration

Aligned fitting: fixing: 3 nails. Min. nail dimension: length 27mm.

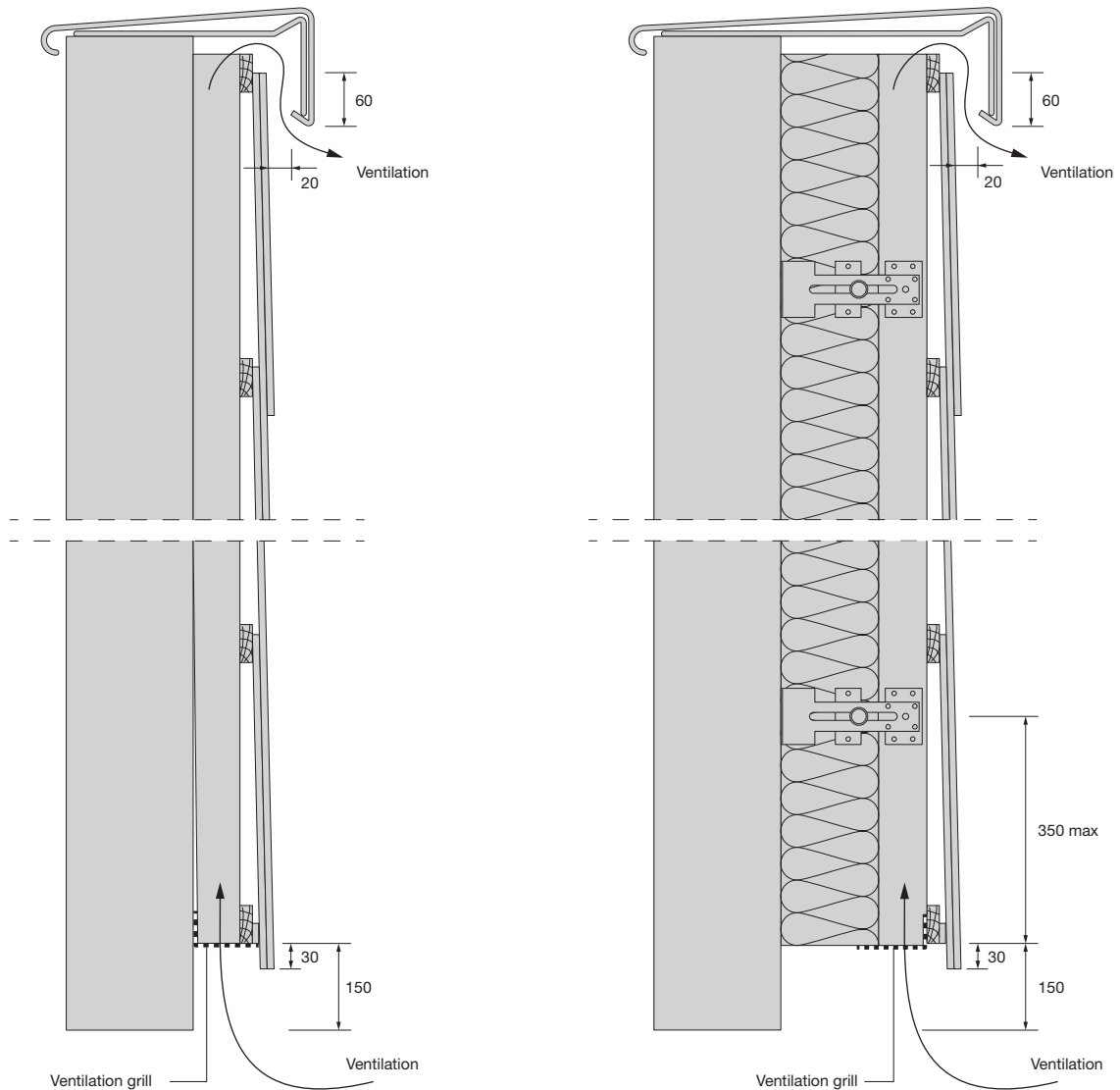
Size of slate (mm)	X vertical joint	R in mm	No. of slates per m ²	No. of nails per m ²	Length (m) of joists per m ²		E=P in mm	D in mm
600x300	10	60	13.66	40.98	1.64	2.0	120	300
600x300	20	60	13.44	40.32	1.16	2.0	120	300



Top and bottom edges

A 20mm minimum thickness ventilated air space is created between the back of the horizontal battens supporting the Vertigo slates and the supporting wall. Ventilation is achieved by two apertures at top and bottom.

The top edge of the Vertigo facade is protected by a capping (by others).

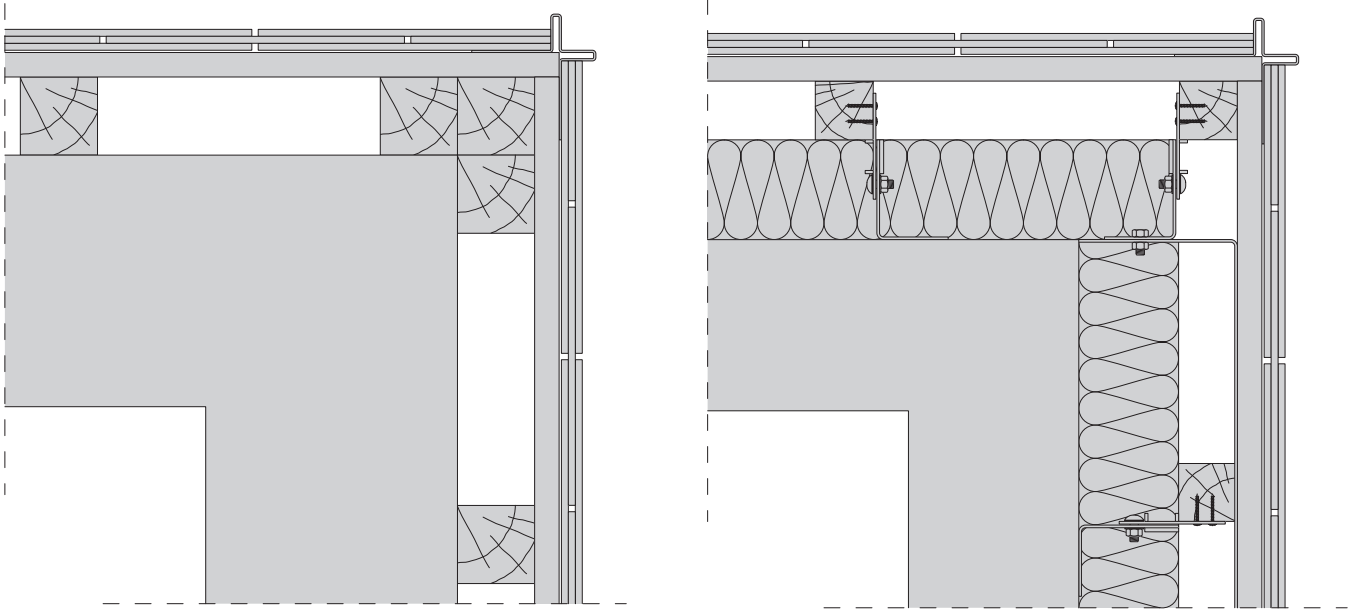




External corners

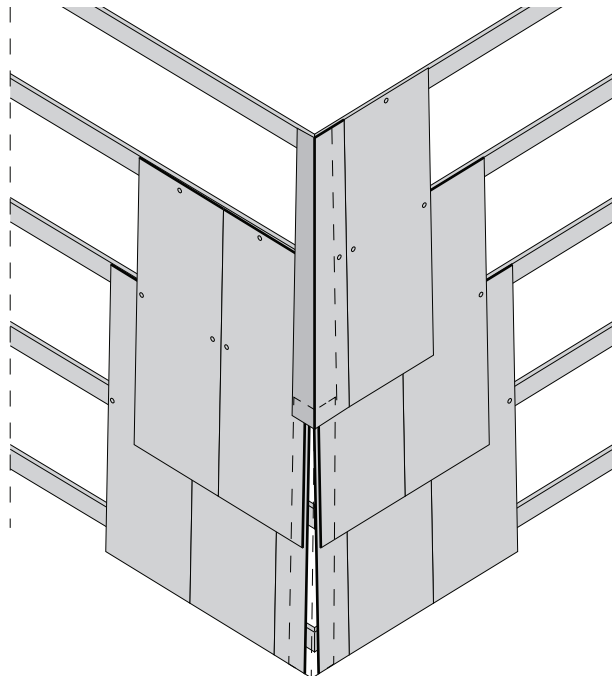
The external angle between two slate facades can be finished using a bespoke profile or metal flashing pieces on every second row of slates.

External profile



Metal flashing interleaved with Vertigo slates

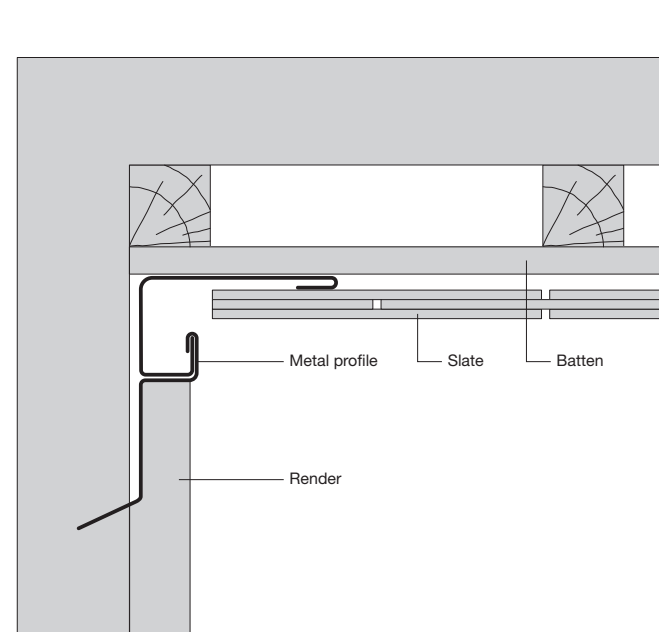
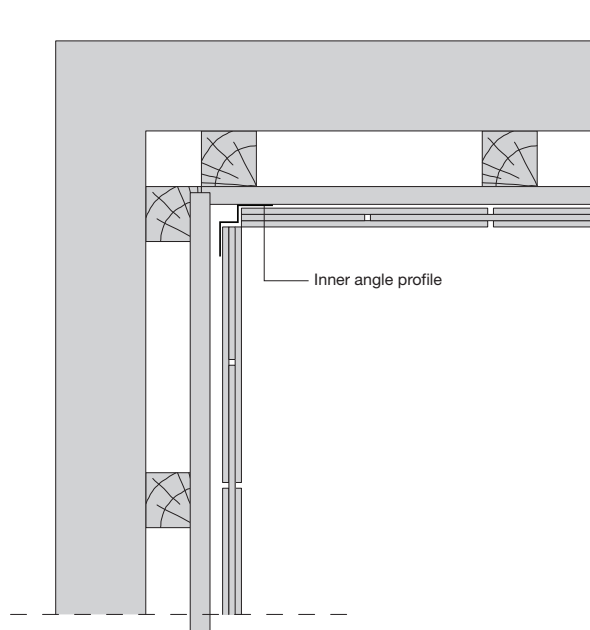
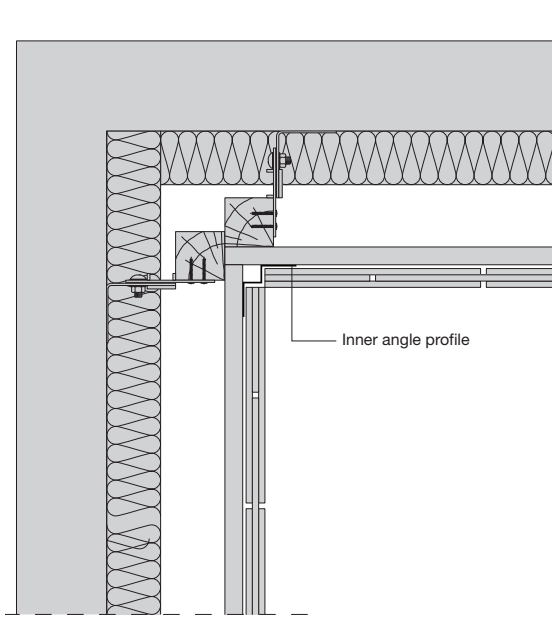
Metal flashing pieces or lead soakers are inserted to weather external corners.



Internal corners

The internal angle between two slate facades can be finished using a bespoke profile or lead soakers to weather internal corners.

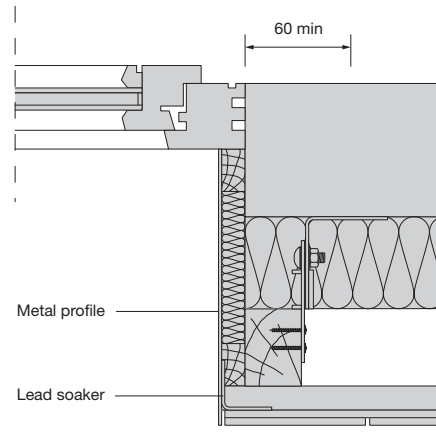
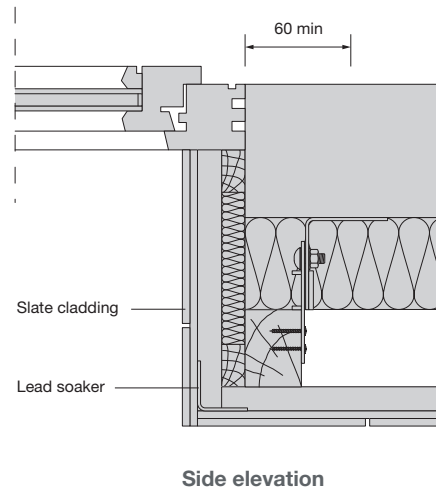
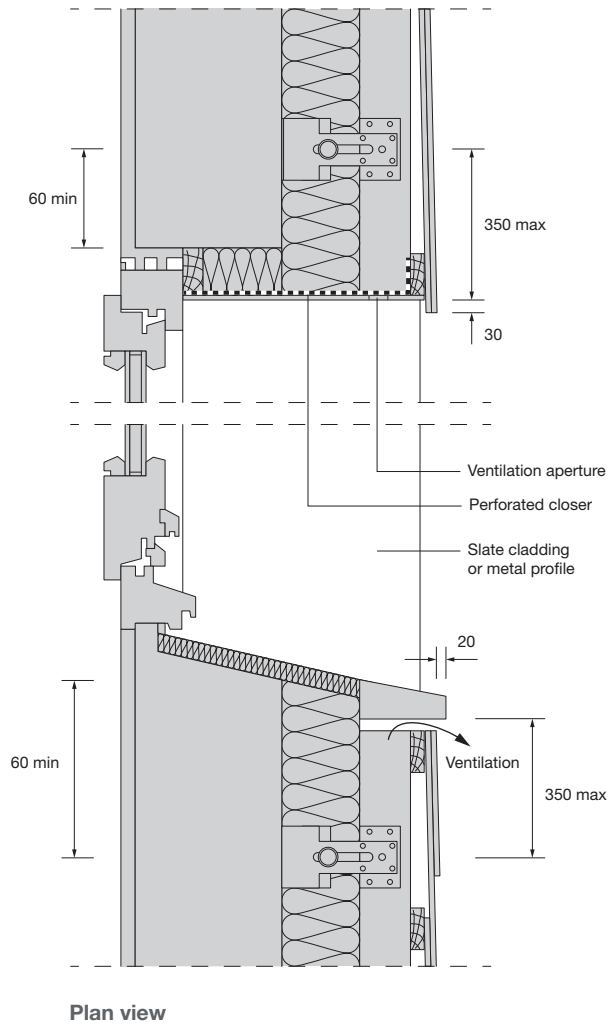
Internal profile



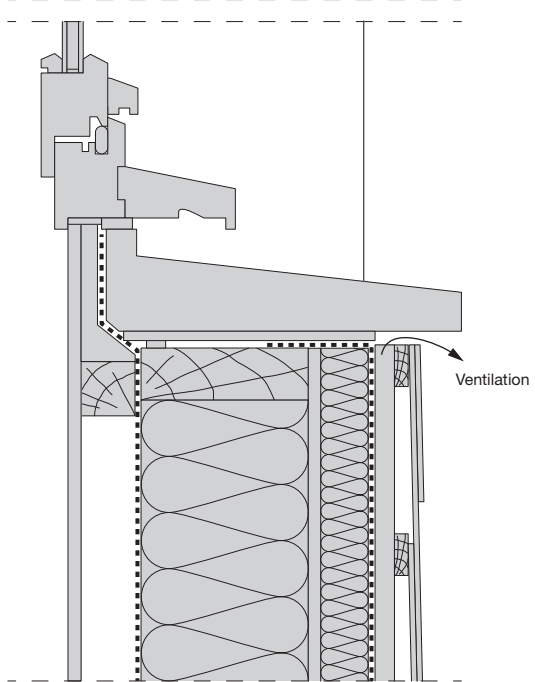
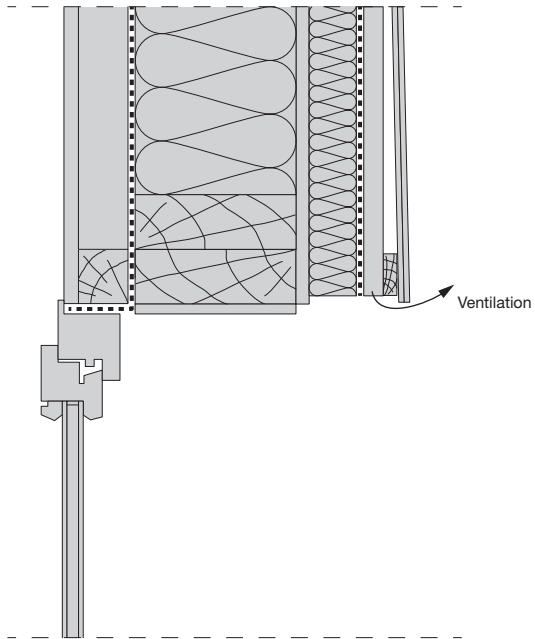
Internal corner where Vertigo meets render
The inner angle, where a Vertigo slated elevation meets a rendered elevation, is finished using a specially formed metal profile (by others).

Window detailing

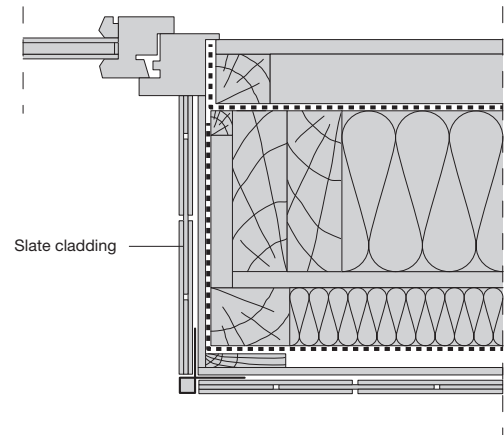
Masonry structures



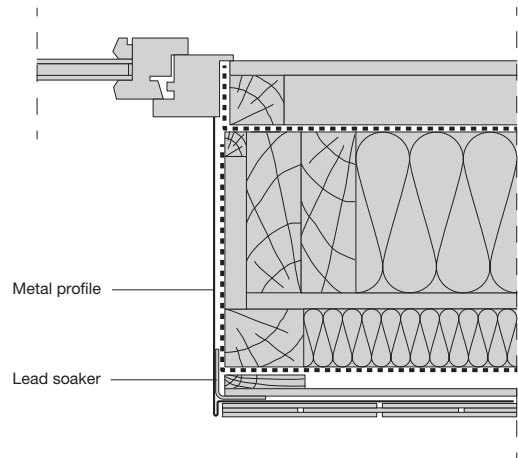
Timber framing structures



Side elevation



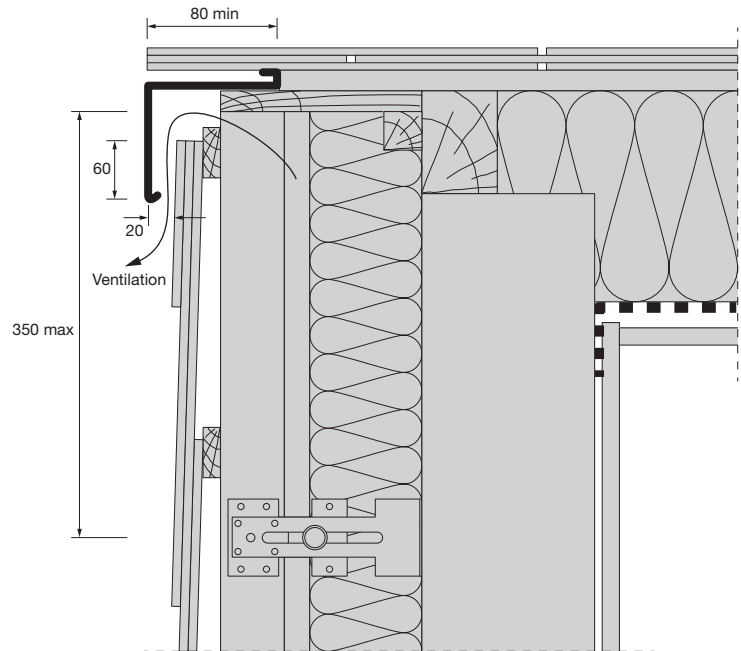
Plan view



Roofs

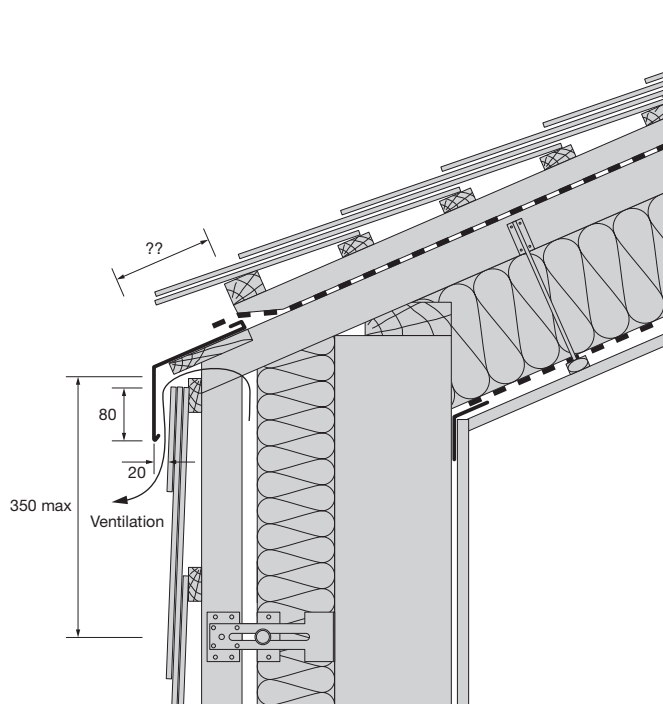
Flat roof projecting over facade

These junctions can be detailed using metal cappings (by others).



Facade/roof junction

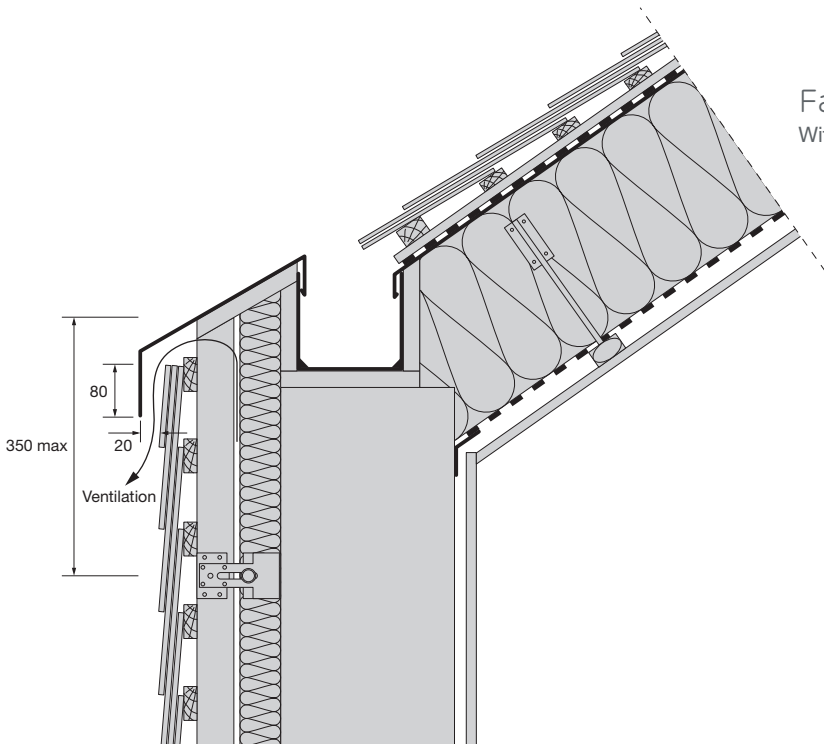
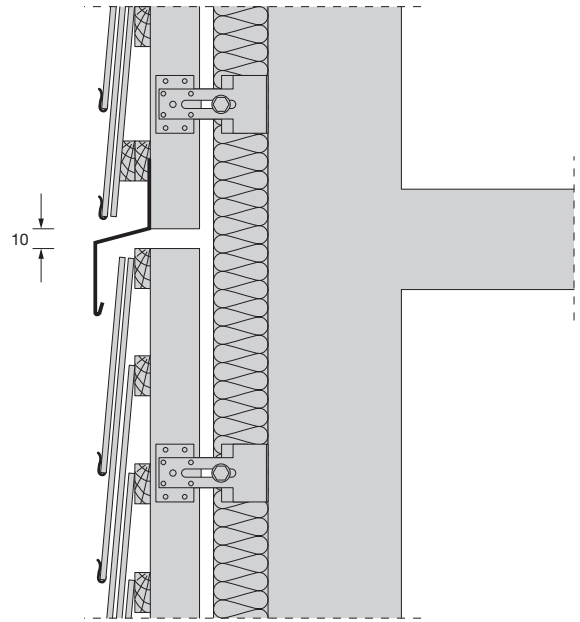
Visually seamless junction from facade to pitched roof.



Roofs and air gaps

Air gap provision

This detail provides both an expansion/movement joint for large areas and a new ventilation entry point, if required, for cavity/fire barriers.



Facade/roof junction

With built in concealed gutter.

Technical toolkit

tools and assets that make design and specification as straightforward as possible



> NBS

A tool to produce instant NBS clauses that meet the recommendations of British Standards and Codes of Practice: marleyeternit.co.uk/specrite



> Dry fix selector

Easy-to-use and comprehensive system finder delivering results from choice of pitch, material type or specific tile type: marleyeternit.co.uk/roofing



> CAD details

Access to over 2,000 CAD drawings illustrating how specific tile and slate details can be formed: marleyeternit.co.uk/cad



> Tilefix

Tool to create fixing specifications based on the geographical location and building dimensions of specific roofing projects: marleyeternit.co.uk/tilefix



> CPDs

A tool to produce instant NBS clauses that meet the recommendations of British Standards and Codes of Practice: marleyeternit.co.uk/specrite



> Samples

Samples of all Vertigo and other fibre cement slates, clay and concrete tiles are available at: marleyeternit.co.uk/samples



> BIM

BIM Space is a set of free to download Building Information Modelling (BIM) objects that provide a standard range of build ups for our fibre cement roof slates, clay plain tiles and facades (EQUITONE, Operal and Cedral): marleyeternit.co.uk/bim



> Fixing instructions & literature

Comprehensive sitework, fixing and installation literature and videos: marleyeternit.co.uk/resources

All current product and technical literature can be downloaded: marleyeternit.co.uk/downloads

Services

Getting our knowledge to you and your project smoothly and efficiently



> Customer services

Marley Eternit is committed to providing outstanding customer care and is staffed by experienced personnel:

Tel 01283 722894 E-mail info@marleyeternit.co.uk

To find your nearest stockist, please visit:

www.marleyeternit.co.uk/resources

> Technical Advisory Service

Specifiers require prompt, knowledgeable and detailed responses to a vast range of enquiries covering everything from the embodied energy of a typical roof tile, to the different ventilation options available.

Our Technical Advisory Service is staffed by a qualified team with specialist knowledge not only of all Marley Eternit products, but also crucially, how those systems integrate with other roofing components and comply with Building Regulations, Health and Safety, environmental and other critical roofing criteria.

**Tel 08705 626400 E-mail info@marleyeternit.co.uk
www.marleyeternit.co.uk**

Sustainability and standards

Credits, credentials and clarity of information



> BES 6001

Demonstrating our commitment to sustainable building, all our roofing products are certified under the BES 6001 standard for responsible sourcing and therefore contribute to extra credits under BREEAM and The Code for Sustainable Homes.

Embodied carbon

Embodied carbon figures are available at product level for our entire roofing range. This absolute clarity of environmental information allows our customers to make informed choices.

> BREEAM and the Code for Sustainable Homes

Credits gained from specifying our A-rated products, combined with additional credits from BES 6001 make our products more beneficial to the specifier.

Quality standard

All Marley Eternit's factories in the UK are ISO 9001, 14001 and ISO OHSAS 18001 accredited. They achieve the highest standards in quality, health and safety and the environment.

CE Marking

All of our products covered by an EN Standard carry an appropriate CE Mark. This means that our products meet the required safety standards and have a guaranteed level of quality.



This publication is based on the latest data available at the time of printing. Due to product changes, improvements and other factors, the Company reserves the right to change or withdraw information contained herein without prior notice. For specific applications users should refer to the Technical Advisory Service and relevant Standards and Codes of Practice for guidance. The photography shown in the document should not necessarily be taken as recommendations of good practice. The printing process restricts the exact representation of colours. For true colour reference, please request product samples.

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