

Natura

Fibre cement
decorative cladding

Marley Eternit is at the forefront of design, development and supply of lightweight rainscreen cladding and fixing solutions.

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.

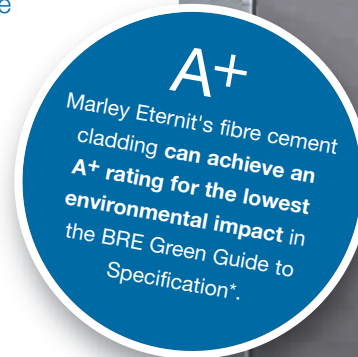
Available in a range of colours and finishes including an anti-graffiti coating, and both mechanical and secret fix options, the Natura range gives specifiers the full creative scope of modern cladding systems with the performance levels contemporary buildings demand.

Advantages of Natura

- 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



* Fibre Cement Cladding based on generic rating for autoclaved fibre cement single sheet (Element ref: 80623042, 806230422, 806230447, 806230450)



3 Assembly Square, Cardiff (Front cover: Sir Thomas Wharton College, Doncaster)





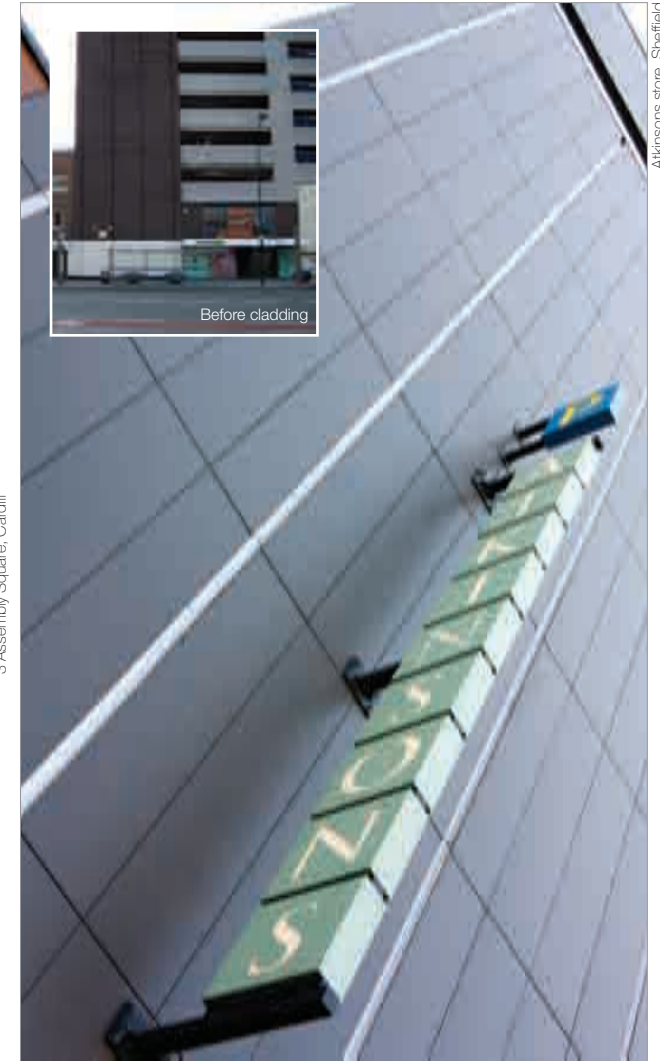
European commercial building



White River development, St Austell

Commercial applications

From offices and supermarkets, to retail and leisure, Natura cladding can be used to create unique aesthetic solutions generating pristine lines as well as providing levels of thermal and acoustic insulation that allow the designer to achieve the highest BREEAM ratings.



Project data - overcladding solution

Project: Atkinsons store	Location: Sheffield
Product: Natura	Colour: Opal
Project size: 500m ²	Specifier: Above and Beyond

Healthcare applications

Local Health Authorities are under ever-greater constraints to procure buildings that offer the very highest standards of thermal efficiency and sustainability, often coupled with the need to build rapidly. Marley Eternit rainscreen cladding systems, with the inclusion of high levels of insulation, can achieve A⁺ ratings in the Green Guide and can be installed quickly with no compromise to future durability.

Ysbyty Aneurin Bevan hospital, Ebbw Vale



Singleton Hospital, Swansea



Project data

Project: Singleton Hospital	Location: Swansea	Product: Natura
Colour: Anthracite	Project size: 850m ²	Specifier: Nightingale Associates





Education applications

In schools and universities, thermal performance is of paramount importance, but so are other issues such as those of impact resistance, low maintenance and 'high value aesthetics' which go together to create effective and efficient learning environments that the students respect and enjoy. Marley Eternit cladding systems combine all of these characteristics in a range of easy to install options.

Available with Marley Eternit's Pro coating, Natura offers good protection against graffiti, making it ideal for educational environments



Elmgreen School, Tulise Hill, London



Bexhill High School, East Sussex



Manchester Academy

Project data – overcladding solution

Project: Manchester Academy	Product: Natura
Colours: Amber, Ivory, Cement Grey	Project size: 500m ²
Specifier: Birch	Installer: Carlton Cladding



Natura fibre cement decorative cladding

Housing applications

Natura can be used for individual houses, low rise and high rise apartment projects, where overcladding is commonly used as an effective means of visual and thermal upgrade. Many solutions are A+ rated by the Green Guide and will help achieve higher code levels in the Code for Sustainable Homes.





Gillespie Road, Highbury, North London



The Osbourne House, BRE Innovation Park, Watford

Project data

Project: The Osbourne House

Location: BRE Innovation Park, Watford

Product: Natura

Colour: Anthracite

Specifier: Baily Garner

Technical data

Brunel University, Uxbridge



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	2500 x 1250mm
N250, N251, N282, N292, N359	3100 x 1250mm
N373, N473, N572, N891, N973	
Colours 7020, 7030, 7040, 7050	2500 x 1220mm
7060, 7070, 7080, 7090, 8060	3040 x 1220mm
See pages 14-15 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.

→ More

For comprehensive fixing and installation details, please contact our Technical Advisory Service.

Tel 01283 722588
e-mail info@marleyeternit.co.uk
web marleyeternit.co.uk

Properties (air dry)

Density	1650kg/m ³
Bending strength:	
Longitudinal	24N/mm ²
Transverse	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 Class 0
EN 13501-1	A2-s1-d0

Fixing overview

Please refer to page 20 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/m² wind load.

Finishes

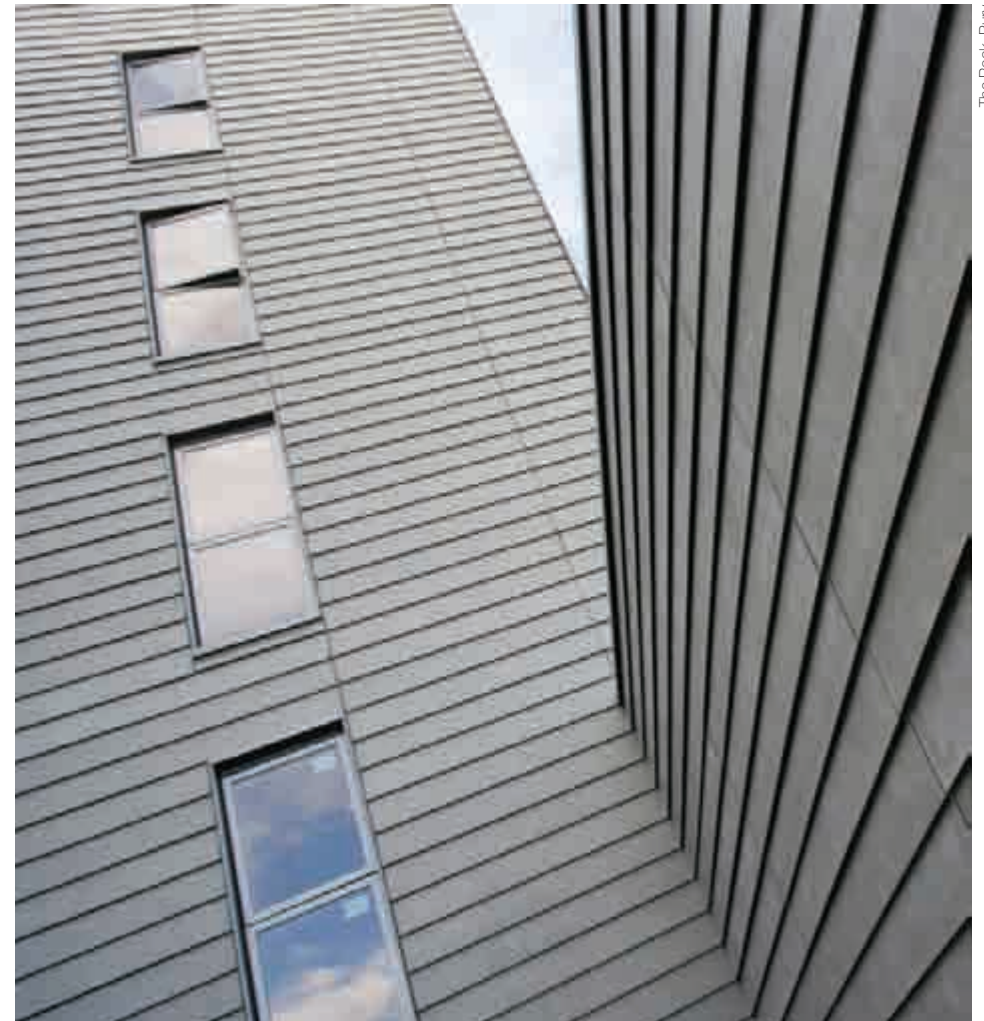
Natura panels are supplied with unfinished edges and must be cut by a specialist fabricator. Cut edges of Natura must be sealed with Luko solution. Please contact Marley Eternit for more information.

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.



The Rock, Bury

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.

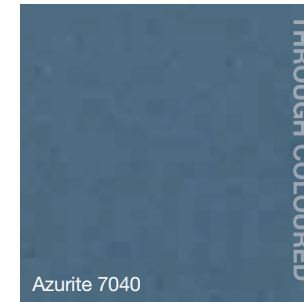
Pro coating

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.

- ‡ Natural grey core
- † Anthracite core
- * May not be structurally bonded

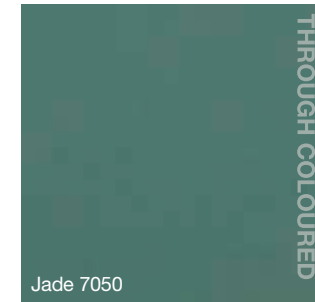


Blue N473 †♣



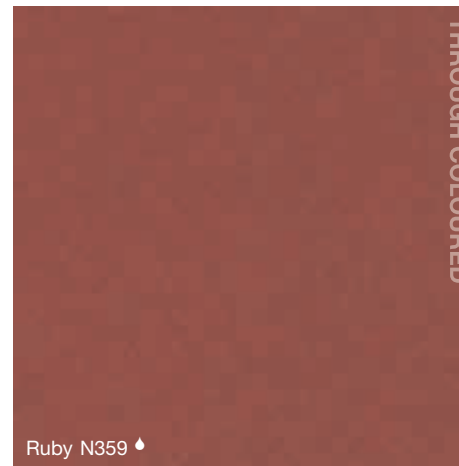
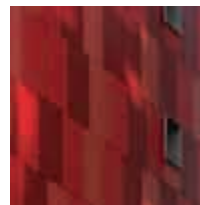
Azurite 7040

THROUGH COLOURED



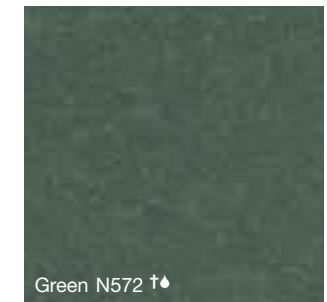
Jade 7050

THROUGH COLOURED

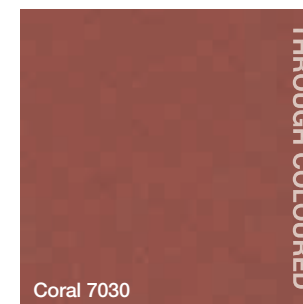


Ruby N359 ♣

THROUGH COLOURED

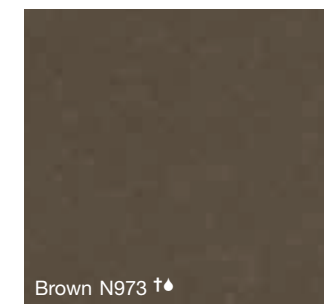


Green N572 †♣

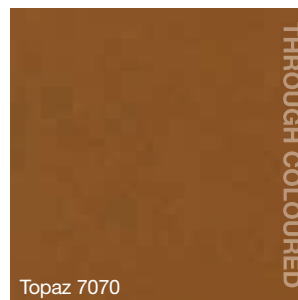


Coral 7030

THROUGH COLOURED

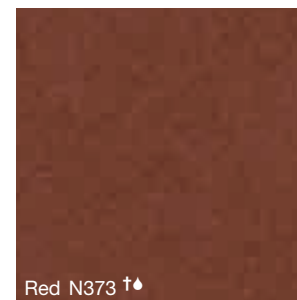


Brown N973 †♣

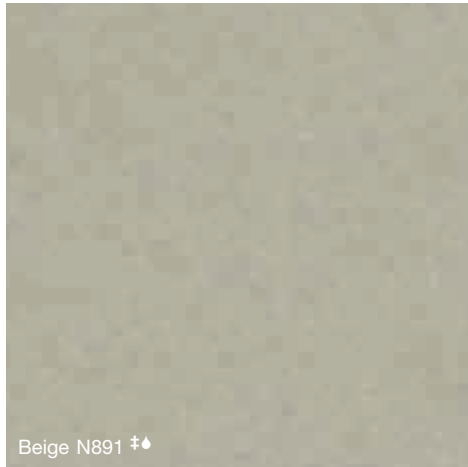


Topaz 7070

THROUGH COLOURED



Red N373 †♣



Beige N891 †♦

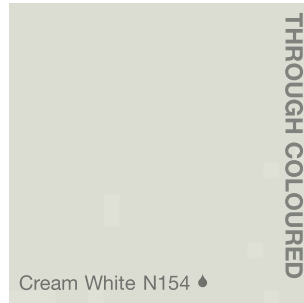


Amber 7080

THROUGH COLOURED

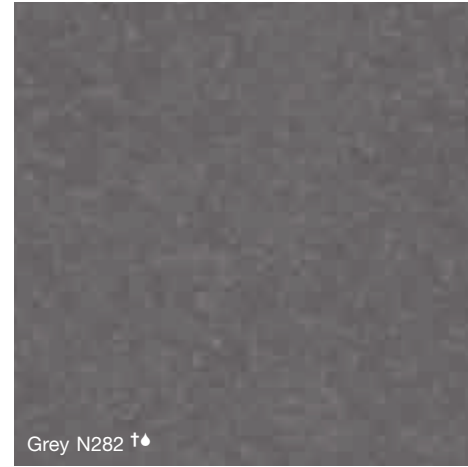


Cool Grey N292 †♦

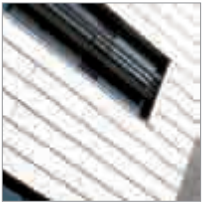
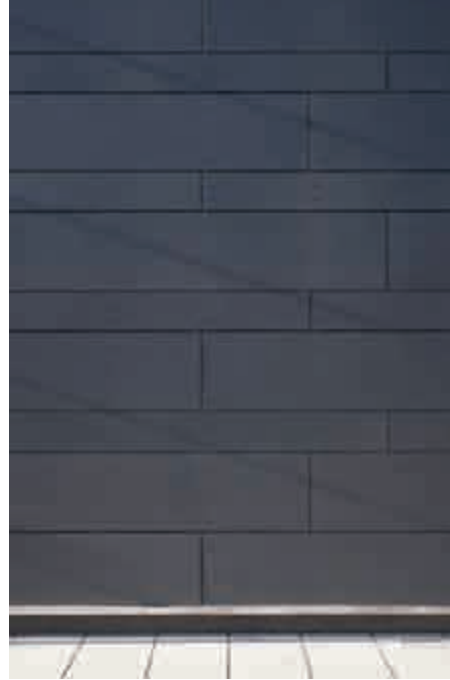


Cream White N154 ♦

THROUGH COLOURED



Grey N282 †♦



Ivory 7090

THROUGH COLOURED



Light Grey 8060*

THROUGH COLOURED



Anthracite N251 ♦

THROUGH COLOURED

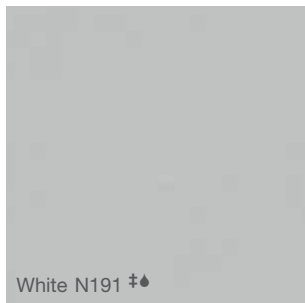


Black N073 †♦



Opal 7020

THROUGH COLOURED



White N191 †♦



Natural Grey N250 ♦

THROUGH COLOURED



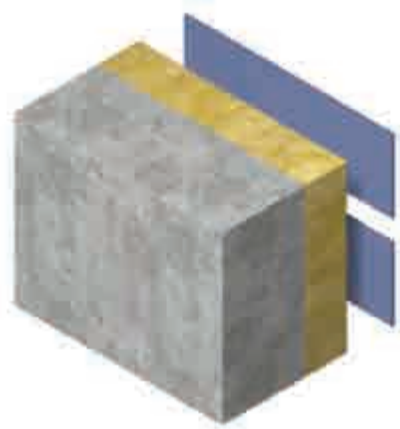
Sapphire 7060

THROUGH COLOURED

Natura: a rainscreen solution

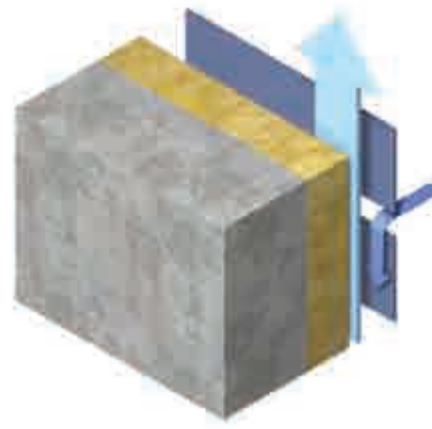
Today's rainscreen systems offer unique aesthetic and performance benefits:

- Contemporary, crisp elevations
- The ability to 'overclad' existing buildings
- Excellent levels of thermal insulation
- Improved acoustics for building users
- Excellent weather resistance



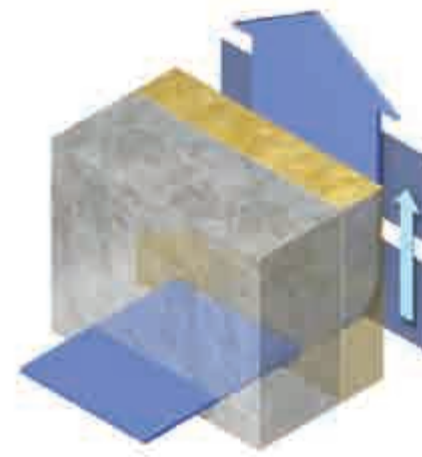
Insulation

- Insulation of up to 240mm thickness can be accommodated using a Marley Eternit framing system
- All types of insulation can be used – from rigid PUR to mineral wool
- Insulation positioned against substrate maximises heat retention and minimises condensation issues
- Externally located insulation maximises internal floor space
- Mineral wool insulation allows moisture to pass through to the cavity where passage of air evaporates it



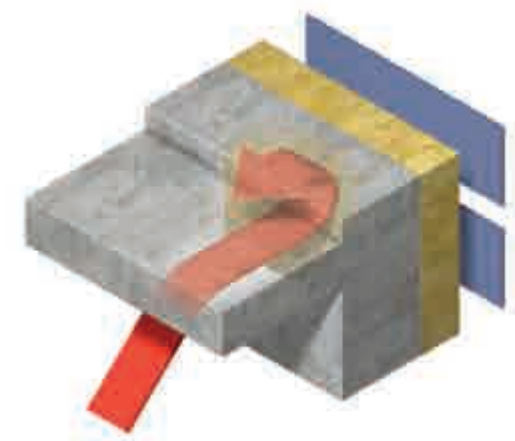
Rainwater removal

- Cladding prevents penetration of most rainwater
- Natural ventilation – stack effect – evaporates penetrating rain
- Residual rainwater drains harmlessly and evacuates at base of system
- Pressure equalised system naturally inhibits ingress of driven rain



Removal of interstitial condensation

- Thermally efficient system
- Any interstitial condensation kept to outside of structure
- Quickly removed via evaporation
- Structure maintained at even temperature
- Structure temperature kept above dew point



Minimisation of thermal bridging

- Continuous insulation envelope possible
- Insulation is external, so no thermal breaks required to accommodate internal structural elements such as floors and beams



Brockington Community College, Leicestershire

Overcladding with Natura:

an aesthetic, remedial and thermal solution

Apartment and office blocks, retail and commercial establishments may well require both remedial and aesthetic work to make them suitable for today's environment.

On top of this, the thermal inefficiencies inherent in this legacy building stock will almost certainly need radically upgrading to meet today's exacting regulations.

Overcladding with Natura rainscreen cladding systems achieves all three key requirements: aesthetic, remedial and thermal.

Other benefits

Minimising disturbance

Overcladding is carried out entirely from the outside, so there is usually minimal disruption.

Balconies

Balconies and walkways can be fully enclosed to create buffer zones. If external wall insulation is not considered then enclosing the balconies will also reduce the effect of the thermal bridges associated with them.

Vandalism

Those external wall surfaces prone to vandalism and graffiti – for instance, at ground floor level – can be clad with more suitable material or one such as Natura incorporating the UV Pro coating offering good protection against graffiti.

Maintenance

As a non-loadbearing extra 'skin', fixed to the substrate, maintenance or replacement of panels is straight-forward and non-invasive, as is access to the loadbearing structure i.e., columns, beams and slabs.

Building life

Whilst overcladding will not reinstate structural integrity of a building, it will, if designed and installed correctly, extend its life by improving weather resistance.

Providing thermal insulation for walls

Rainscreen is a relatively high-benefit, low-cost method of providing thermal insulation to external walls for both refurb (overclad) and new projects. It can also help minimise cold-bridging.

Adding insulation to the external surface of the loadbearing structure has three key benefits:

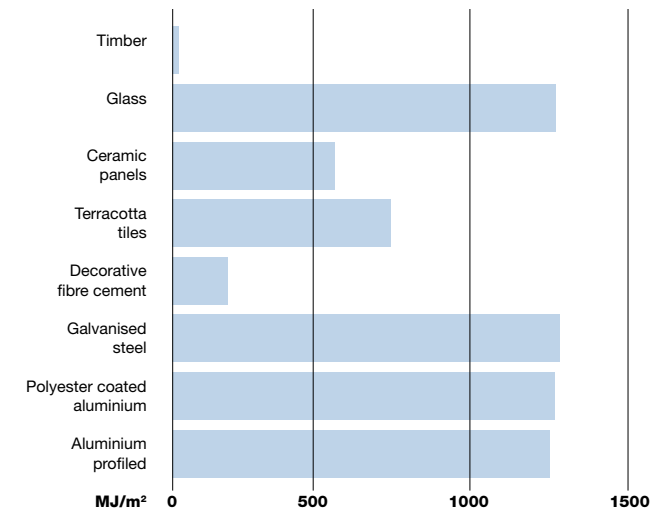
- Increased thermal efficiency – dependent on the fixing system used. Up to 240mm of insulation can be added using a Marley Eternit framing system
- No loss of internal space - insulation added to wall cavities or inner leaf inevitably consumes internal habitable space
- Light weight and easy to fix – insulation can be rapidly and easily fixed to the exterior substrate and adds very little loading to the rainscreen support system

Key features for overcladding

- Restoration of existing facade
- Extending the life of the building
- Improving appearance and image
- Provide thermal insulation and weather-tightness
- Improve acoustical performance of the building
- Lower maintenance cost

Embodied energy for cladding materials

The table below shows embodied energy for various cladding materials. Lower embodied energy will allow the designer to achieve a higher BREEAM rating.



Data from www.sustainingtowers.org/WALLSa.htm

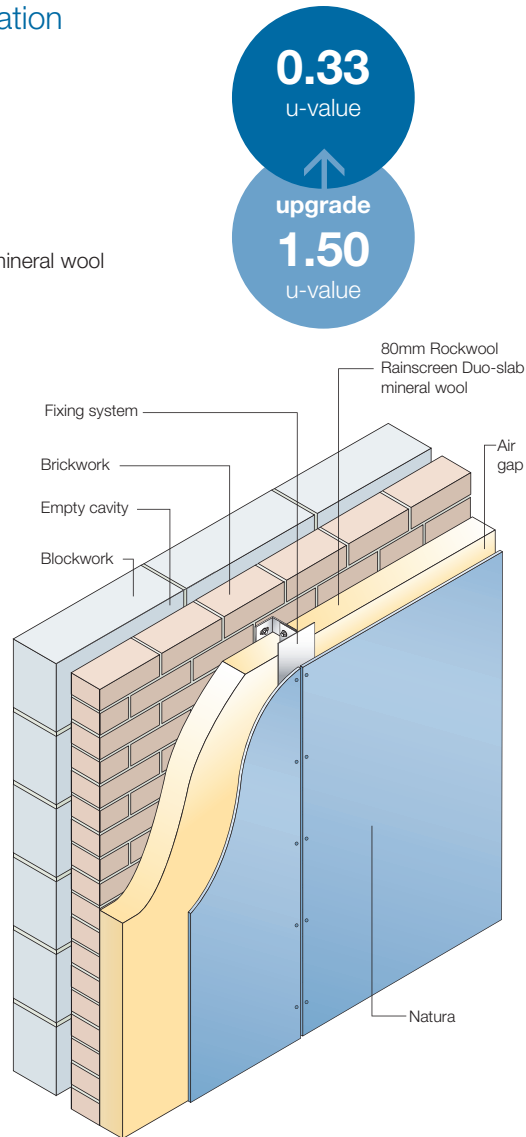
Typical refurb housing application

Block and brickwork wall

- Marley Eternit external cladding
- Ventisol fixing system
- Air gap
- 80mm Rockwool Rainscreen Duo-slab mineral wool
- Brick outer skin
- Cavity not insulated
- Brick inner skin

Notes

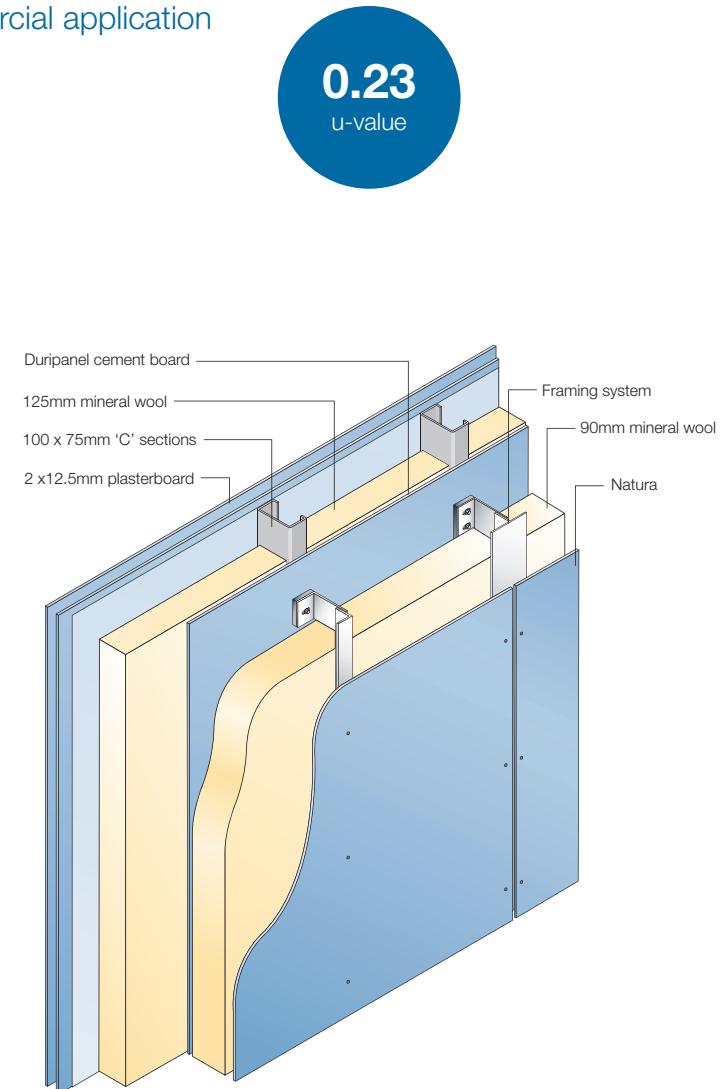
- U-values of these types of un-insulated wall are typically 1.0-1.6 W/m²k
- Other fixing systems can also be used
- Greater (or lesser) depths of insulant can be accommodated



Typical new build commercial application

Lightweight steel frame

- Marley Eternit external cladding
- 125mm stone mineral wool
- Ventisol or similar framing system
- Duripanel cement board
- 100 x 75mm 'C' sections
- 90mm glass mineral wool
- Vapour control layer
- Internal wall should be 2 layers of 12.5mm plasterboard on dabs



Fixing systems

Natura cladding can be installed using a comprehensive range of fixing systems.

The interchangeability of panel and system offers wide-ranging design permutations, and careful choice of product and system will allow almost any aesthetic and performance specification to be met.



Timber battens

Economical and durable, timber battens are widely used for all applications from fascias and soffits to total cladding.



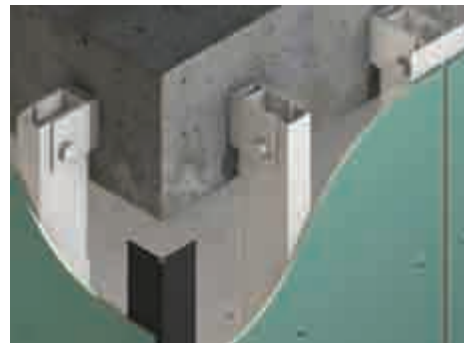
Omega and Zed

A simple metal component system installed in a similar way to timber battens with the added benefit of non-combustibility and a completely rot-proof construction.



Ventisol

A highly engineered system for fixing to new or existing structures. The adjustable components allow a true plane to be easily achieved for the new cladding facade.



Ventispan

Framework for the cladding of both concrete and steel framed structures, anchored to the structure at each floor level with vertical profiles spanning from floor to floor.



Structural bonding

The structural bonding system utilises structural adhesives to fix internal and external cladding panels for a secret fix system.



Mechanical secret fix

Suitable for use with 12mm thick fibre cement panels and supports the cladding panels by means of aluminium profiles.

Sitework & storage

Cutting

When cutting fibre cement, saw blades of the highest quality should be used; diamond tipped circular saws: diamond tipped for Mafell panel saws; ABC saw blades for compass saws; tungsten carbide black jigsaw blades. Silicon carbide and diamond cutting discs should not be used for cutting fibre cement.

Cutting and feeding speeds will be dependent on the power tool used and by practical trial.

Drilling

For pre-drilling panels cleanly and accurately, we recommend using HSS (high speed steel) drills or tungsten carbide-tipped drills.

Hole diameter will depend upon the framing to be fixed back to timber or metal framing.

Immediately remove dust from cutting/drill holes using a vacuum or soft brush or dry soft and clean cloths. It is advisable to coat the undercut anchor holes with Luko solution.

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.

Health and safety

Fibre cement is a modern, reinforced construction material made from natural and environmentally-neutral raw materials, predominantly Portland cement.

Transport conditions

The panels should be moved in stacks using a fork-lift truck or a crane. Individual panels should be carried vertically and should not be set down on corners.

Stacks should be transported under a waterproof cover.

Storage and handling

Natura should be stored and transported on a flat, dry surface which gives support over the entire area. Stack to a maximum height of 1.0 metre, preferably on pallets, or on dry wooden slats placed sufficiently close to avoid sagging. The panels should be covered, for example with a heavy-duty tarpaulin, to protect against dampness, weather and dirt. The covering must remain in place at all times for stacked material.

Individual panels should be stored on edge with air circulation on both sides. If only one side of a panel dries out or becomes damp this can lead to deformation. Paper or foil is inserted between front surfaces to protect the high quality finish, and this should be kept in place when restacking. Stack the panels front face to front face or rear surface to rear surface. Each panel should be lifted from the pile by two workers, removed without scraping the other panels and then carried vertically. Natura panels should always be carried upright.



Assessing the sustainability of claddings

At Marley Eternit, we were among the first in the industry to achieve ISO 14001 accreditation, the internationally recognised environmental management standard.

All of our products are able to achieve an A or A+ rating when used in those constructions specified in the new BRE 'Green Guide to Specification'*.

BRE Green Guide on-line

www.thegreenguide.org.uk

contains a listing of building materials and components which are assessed in terms of their environmental impact across their entire life cycle – from 'cradle to grave', within comparable specifications.

The Green Guide contains more than 1200 specifications used in various types of building which examine the relative environmental impacts of the construction materials commonly used in six different generic types of building covering six sectors.

Materials and components are arranged on an 'building element' basis so that designers and specifiers can compare and select comparable systems or materials that may be used in, say, roofs, walls, floors etc.

Across these building element categories, the Guide provides an extensive, but not complete catalogue of building specifications covering most common building materials.

This data is set out as an A+ to E ranking system, where A+ represents the best environmental performance/least environmental impact, and E the worst environmental performance/most environmental impact. BRE has provided a summary environmental rating – 'The Green Guide' rating – which is a measure of overall environmental impacts covering the construction specifications (i.e. they are not manufacturer specific).

Ratings tables

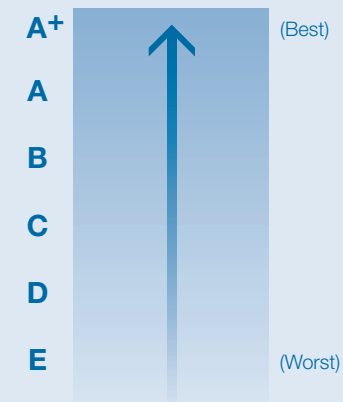
For each element, the 'Green Guide' ratings are displayed alphabetically in tables. Depending on the number of specifications, the element group may have been divided into sub-categories. The ratings are based on the range for the whole element group, not the sub-categories.

The table contains information taken from 'The Green Guide' and details some of the specifications covered in the rainscreen cladding section.

Ratings

When used in one of the construction types† listed in the table below, Natura claddings achieve an A+ rating.

† The constructions shown below are excerpts from the 'Green Guide to Specification'. There are many other constructions covered at www.thegreenguide.org.uk



Commercial external wall construction

Rainscreen cladding (Steel frame with block infill)	Summary rating
Autoclaved fibre cement single sheet and timber battens, breather membrane, insulation, structural steel frame, medium dense solid blockwork with cement mortar, plasterboard on battens, paint (element no. 806230421)*	A+
Coated aluminium profiled single sheet and steel support, breather membrane, insulation, structural steel frame, medium dense solid blockwork with cement mortar, plasterboard on battens, paint (element no. 806230419)*	A
Precast concrete panel (non-load bearing) with 'reconstructed stone' finish and support system, structural steel frame, breather membrane, insulation, medium dense solid blockwork with cement mortar, plasterboard on battens, paint (element no. 806230429)*	C
Precast concrete panel with brick finish and support system, structural steel frame, breather membrane, insulation, medium dense solid blockwork with cement mortar, plasterboard on battens, paint (element no. 806230680)*	C
Precast concrete panel (non-load bearing) with limestone facing panels, support system, breather membrane, insulation, structural steel frame, medium dense solid blockwork with cement mortar, plasterboard on battens, paint (element no. 806230427)*	D

* Typical breakdown using element no. 806230421 (by environmental issues):

<i>Summary Rating</i>	A+	Acidification	A	Climate change	A
Water extraction	A+	Mineral resource extraction	A+	Stratospheric ozone depletion	A
Human toxicity	A+	Ecotoxicity to freshwater	A+	Nuclear waste (higher level)	A+
Ecotoxicity to land	A	Eutrophication	A+	Photochemical ozone creation	A
Waste disposal	A+	Fossil fuel depletion	A		

* Fibre Cement Cladding based on generic rating for autoclaved fibre cement single sheet (Element ref: 80623042, 806230422, 806230447, 806230450)

Measuring environmental success

BREEAM and the Green Guide

The BRE's Environmental Assessment Method (BREEAM) is a design and management stage assessment tool that provides an environmental label for buildings, based on good practice.

BREEAM is widely used to specify overall environmental performance. One of the aims of BREEAM is to encourage the use of materials that have lower environmental impact, taking account of the full life cycle of the materials in question.

How do materials credits within BREEAM and EcoHomes work?

BREEAM

Within BREEAM, materials credits are achieved by specifying materials which achieve an 'A' rating in the Green Guide to Specification, where at least:

Credits are available where significant use of crushed aggregate, crushed masonry or alternative aggregates are specified for high grade aggregate uses (such as the building structure, ground slabs, roads etc). Credits are also available where materials used in structural elements are responsibly sourced (e.g. materials should have EMS certification such as ISO 14001).

Ecohomes

Within EcoHomes, materials credits are achieved by specifying materials which achieve an 'A' rating in the Green Guide to Specification.

Credits are also available where materials used in key building elements (including the roof structure and cladding) are responsibly sourced (eg. from a manufacturer who has ISO 14001).

How does BREEAM work?

BREEAM assesses the performance of buildings in the areas shown:

Credits are awarded in each area according to performance. A set of environmental weightings enables the credits to be added together to produce a single overall score.

The building is then rated on a scale of Pass, Good, Very Good or Excellent.

Specifiers are encouraged to consider these issues at the earliest opportunity to maximise their chances of achieving a high BREEAM rating.



Health and well being

Indoor and external issues affecting health and well being.



Transport

Transport-related CO₂ and location related factors.



Ecology

Ecological value conservation and enhancement of the site.



Materials

Environmental implication of building materials, including life-cycle impacts.



Management

Overall management policy, commissioning site management and procedural issues.



Energy use

Operational energy and carbon dioxide (CO₂) issues.



Pollution

Air and water pollution issues.



Land use

Greenfield and brownfield sites.



Water

Consumption and water efficiency.

The Code for Sustainable Homes

The Code is designed to ensure homes are built to progressively improving sustainability ratings and that, by 2016, all newly built homes achieve the highest (level 6), zero carbon rating.

Marley Eternit cladding products, in conjunction with insulation and other products can help materially improve the sustainability and code ratings of new-build housing.

→ More

To find more on the sustainability of Marley Eternit systems, please visit the following link:

marleyeternit.co.uk/environment



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.

Services & support



Customer Services

Marley Eternit is committed to providing outstanding customer care and is staffed by experienced personnel in departments dedicated to providing the following services:

Advice, literature and samples

→ All current product and technical literature can be downloaded from www.marleyeternit.co.uk/downloads

To request samples and advice:

→ **T 01283 722588** **E info@marleyeternit.co.uk**

Quotations and ordering information

→ **T 01283 722588** **E info@marleyeternit.co.uk**

Stockist information

To find details for stockists of Marley Eternit products:

→ **T 01283 722588** **E info@marleyeternit.co.uk**



Technical Advisory Service

Marley Eternit provides a free Technical Advisory Service which is staffed by personnel with specialist knowledge of the use of all Marley Eternit products and systems.

To request Technical Advice:

→ **T 01283 722588**

→ **E info@marleyeternit.co.uk**

Marley Eternit offer a comprehensive range of products, including:

- ✓ Clay and concrete plain and interlocking tiles
- ✓ Fibre cement slates
- ✓ Interlocking slates
- ✓ Ventilation and dry fix accessories
- ✓ Decorative cladding
- ✓ Profiled sheeting
- ✓ High performing interior and exterior building boards

Information for all these products is available on request.

→ www.marleyeternit.co.uk **T 01283 722588**

Marley Eternit is committed to the cost effective and sustainable manufacture of high quality, high performing cladding systems

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

- Natura
- Textura
- Pictura
- Cedral Weatherboard
- Operal

Information for all these products is available on request.

→ www.marleyeternit.co.uk **T 01283 722588**

For further information

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www.marleyeternit.co.uk



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