Rainscreen cladding **just got easier...**

**ElementiX**<sup>®</sup> **express**
Rainscreen Cladding Manual
Welcome to Forticrete

Forticrete is one of the best known UK manufacturers of concrete construction products and is renowned for setting the standards in dense concrete masonry innovation. With a diverse product range including roof tiles, concrete decorative facing blocks, walling stone and cast stone dressings from 7 manufacturing facilities across the UK, it is a natural progression to develop further innovative products.

Its rainscreen cladding system offers the specifier a virtually unlimited range of colours, finishes and sizes.

Forticrete introduced the ‘ECO’ branding scheme for product development some 10 years ago to enable customers to instantly recognise its products are manufactured to high environmental standards – the ECOTILE mark applies to rainscreen cladding.

A strong commitment to a sustainable future through its manufacturing, its communities and its products has been proven through the achievement of all manufacturing facilities complying to the requirements of BS EN ISO 9001:2008 and BS EN ISO 14001:2004, the national and international standards for quality and environmental management systems. This ensures a product of quality with dimensional accuracy designed to create a clean surface with either a bold uniformity or with a variety of colour and finishes. Having gained the rating of “very good” for BES 6001 across all seven of their factories, Forticrete demonstrates responsible sourcing at the highest level.

Forticrete’s rainscreen cladding system is backed by unique technical, design and site support services. This includes a team of regionally based Design Advisors who are experienced in developing practical solutions to design challenges that are quality assured to ISO 9001. Further support is provided by a comprehensive technical services department and a CAD team to help realise the most complex designs.
Welcome to Forticrete's Rainscreen cladding system
Using Rainscreen Claddings

Rainscreen systems have been used for centuries in Europe and were first introduced to the UK in the 1950s. They became popular in the UK in the 1980s for the re-cladding of tower blocks but this problem-free system is now more widely used in new build. Therefore, they can be successfully used in both new and old projects. In old buildings new life is given by changing the appearance and increasing thermal efficiency. In new build, the system’s proven principles allow a low risk, effective solution.

Rainscreen cladding is not a traditional cavity construction like brick and block. The principle of rainscreen cladding is that the majority of the rain is stopped at the outer face and the small amount of rain that penetrates is taken away by the updraft in the cavity or drains out at the bottom of the cladding.

Rainscreen Technology
Any external wall must satisfy a number of criteria: it must be durable, weatherproof, fire resistant and must not transmit heat and sound. Rainscreen claddings must therefore also meet these criteria. With rainscreens, the outer leaf resists rain penetration, keeping the inner leaf relatively dry by the separation of an airspace.

The cladding is supported by a frame, normally aluminium, within the cavity and located back to the structure with brackets and primary fixings.

Rainscreen systems rely on ingress of air at the bottom of the cladding - a ventilated cavity not less than 38mm (to allow the stack effect to work) and egress of air (normally baffled to avoid rain ingress) at the top of the cladding.

The majority of the water is kept out by the cladding material. The updraft in the cavity (stack effect) takes away the small amount of water which passes through the cladding.

Any water which penetrates through the cladding and is not taken away can drain down the back of the cladding and out through the bottom.

Condensation is controlled by allowing the fabric to breathe and condensation to pass into the ventilated cavity and be taken away by the updraft within the cavity.

Using the building’s thermal mass, if air permeable insulation is placed in the cavity whilst the condensation is evacuated, the heat is retained with the continuous insulation not allowing any cold bridging and keeping the temperature constant within the building. This will reduce cooling and heating requirements. As the building temperature is kept static, there are also beneficial results for maintenance and longevity.

The UK experience of rainscreen cladding is very positive. The systems have been commonly used for over 40 years. The principles are well understood and there is a great deal of expertise available from professionals and contractors.

There are very few situations where these systems cannot be used - they are suitable for steel and concrete frame buildings, masonry and steel, or timber stud wall construction. They can be used for both new build and refurbishing the exterior of an existing building.

Sustainability
Elementix® rainscreen cladding tiles are manufactured from naturally inert materials and are non toxic.

The term ‘adaptable’ building is used to describe a structure that has the ability to be modified or extended at a minimum cost to suit the changing needs of the people using the structure. Thoughtful design can provide the flexibility for these needs to be met without requiring expensive and energy intensive renovations. The ease of assembly and disassembly of rainscreen panels and components means a structure can be re-shaped or extended incorporating the re-use of the rainscreen system.

The Forticrete rainscreen cladding system also offers further sustainability benefits as it is manufactured in the UK and therefore cuts down the delivery mileage required.
Concrete rainscreen just got easier…

Elementix® express has been engineered with the installer in mind to ensure ease and speed of construction.

The range of colours and surface finishes adds definition and detailing to a façade in an instant.
Elementix® express key features

- Quick and easy to install
- Minimal components for cost-effectiveness
- Available to match up with most finishes within the Forticrete® Masonry range
- Damaged tiles are easily replaced
- Tested to CWCT (Centre for Window and Cladding Technology) Standard
- Manufactured in the UK
- Maintenance free
- Flexibility of tile size

Sizes - co-ordinating tile size

Special feature

The length can be cut to any size within the above dimensions.
### Colours & finishes

<table>
<thead>
<tr>
<th>Colour</th>
<th>Etched finish</th>
<th>Shot-blasted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond</td>
<td>A fine textured finish</td>
<td>Provides a weathered appeal</td>
</tr>
<tr>
<td>Ivory</td>
<td>A fairfaced finish with a natural stone appearance.</td>
<td>Shot-blast adds a natural weathered appeal.</td>
</tr>
<tr>
<td>Sports Green®</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yorkstone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandstone</td>
<td></td>
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<tr>
<td>Damson</td>
<td></td>
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<tr>
<td>Spruce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pewter</td>
<td></td>
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</tbody>
</table>
Burnished Venezia™
The subtle beauty of burnished natural aggregates
A subtly burnished finish brings out all the deeply embedded beauty of the natural aggregates. For projects where reduced glare is a consideration.

Polished Florentine®
Affordable prestige
Use this to create broad expanses of reflective, decorative walling or in combination with other Forticrete Elementix® products to provide impressive highlights.

Artnoise colours
Giving the appearance & look of smooth natural stone.

Portland

Bath

Granito™
Combining the sparkle of a granite finish with environmental benefits.

Dark

Other colours and finishes are available, please contact your Forticrete Area Sales Manager for details.
Horizontal joints

Horizontal joints are a standard 10mm.

Vertical joints

Width to be determined by the specifier - 4mm is recommended.

Elementix® express installation sequence

1. Primary support brackets
2. Vertical carrier rail
3. Connectors
4. Anti-rattle clips
5. Elementix® express tile

Green rating

• UK manufactured ensures minimal delivery mileages.
• Lightweight cladding reduces structural weight compared with traditional masonry.
• Manufactured in Forticrete factories that hold very good ratings to BES 6001, the Standard for Responsible Sourcing and BS 14001, the Environmental Management Standard.
• All components are fully recyclable.
• A+ BREEAM rating.

Primary support brackets

Primary support brackets are fixed to the substrate at a maximum of 1m vertical centres (wall brackets to be isolated from the building substrate, thermally enhanced insulators are available. These sit directly behind the brackets, see standard sections).
2 Vertical carrier rail
Vertical carrier rails are fixed back to the primary support brackets (rails are supplied in 2.915m lengths and cut to suit on site). The vertical rail position is dictated by the length of tile specified.

3 Connectors
The connectors are then fitted into the carrier rail slots [two required per tile].

4 Anti-rattle clips
Anti-rattle clips are slotted onto the top of the express tile [two required per tile].

5 Elementix® express tile
The express tile is then hooked over the connectors. The tiles need to be installed from the bottom upwards to ensure there is an overlap between each tile.

Suitable substrates
Elementix® express can be fixed back to:
- Steel frame
- Concrete frame
- Brickwork
- Lightweight steel framing
- Timber frame
- Dense concrete block [min 1450kg/m³]
- Existing masonry

**Face Size Co-ordinating Total System Tile Durability Transverse Strength Water Absorption Tolerance**

<table>
<thead>
<tr>
<th>Face Size</th>
<th>Co-ordinating Size</th>
<th>Total System Weight</th>
<th>Tile Weight</th>
<th>Durability</th>
<th>Transverse Strength (Impact Resistance)</th>
<th>Water Absorption</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>446mm x 215mm</td>
<td>450mm x 225mm</td>
<td>65Kg/m²</td>
<td>6.1Kg</td>
<td>Frost Resistant</td>
<td>Category E to BS 8200</td>
<td>&lt; 8%</td>
<td>+/- 1mm</td>
</tr>
<tr>
<td>596mm x 215mm</td>
<td>600mm x 225mm</td>
<td>65Kg/m²</td>
<td>7.5Kg</td>
<td>Frost Resistant</td>
<td>Category E to BS 8200</td>
<td>&lt; 8%</td>
<td>+/- 1mm</td>
</tr>
</tbody>
</table>
Elementix express
Technical specifications

A non-loadbearing external cladding tested to CWCT standards, fixed back to and providing weather protection to an inner leaf, drained and back ventilated, suitable for both new build and refurbishment projects.
connectors are fitted to the vertical carrier rails, the Elementix® express tiles are restrained to each tile. 2 no. Elementix® express Anti Rattle Clips per tile placed approx 1/7 inboard of the edge of the tile. Fasteners; Aluminium Elementix® express connectors protect against rainwater and humidity. Elementix® express connector is designed to keep the tiles in place, and prevent movement or damage during and after installation. Each tile is fixed to the vertical carrier rail with a minimum of 1100 kg/m² / lightweight steel framing / timber frame / existing masonry.

Rainscreen Cladding System
Manufacturers: Forticrete® Limited, Thornley Station Industrial Estate, Salters Lane, Shotton Colliery, Durham DH6 2QA.
Tel: 01429 838001 Fax: 01429 836206
Reference: Forticrete® Elementix® express Rainscreen Cladding System
Type: Drained and back ventilated

Rainscreen Panel
Material: Forticrete®
Product Reference: Forticrete® Elementix® express Rainscreen Cladding System
Thickness: 35mm

Air Gap
Minimum 38mm

Secondary Support System
Manufacturer: Nvelope Rainscreen Systems Limited, Unit 10 Blenheim Court, Brownfields, Welwyn Garden City, AL7 1AD Tel: 01707 333396. Fax: 01707 333343.
Product Reference: Nvelope NV Brackets.
Material: Aluminium wall brackets joined to Elementix® express vertical carrier rail with stainless steel fasteners.
Fasteners: Consult Nvelope Rainscreen Systems Limited.
Number and Location: Bracket layout to suit site wind loading and substrate, consult Nvelope Rainscreen Systems Limited.

Backwall
Vapour Control Layer: As clause 780
Thermal Insulation: As clause 776
Breather Membrane: As clause 785

Incorporated Components:

Other Requirements:
776 Thermal Insulation
Material: - Manufacturer: - Product Reference:
Thickness: Not less than......
Fixing: Attached to the outer face or supported within the backing wall so as not to bulge, sag, delaminate or detach during installation or in situ during the life of the rainscreen cladding.

REFER TO INSULATION MANUFACTURER FOR APPLICATION ADVICE.

780 VAPOUR CONTROL LAYER
Material: - Minimum vapour resistance: - Manufacturer: - Product reference:
Continuity: No breaks and with minimum of joints. Penetrations and abutments; Seal to vapour control layer. If necessary, prime substrates to achieve full bond.
Sheet laps; Not less than 150mm, seal with tape. Prime substrates as necessary to achieve full bond.
Sheet tape: Double sided sealant with vapour resistivity not less than vapour control sheet.
Size (width and thickness):
Sheet repairs and punctures: Seal with lapped patch of vapour control membrane and continuous band of sealant tape along edges.

REFER TO VAPOUR CONTROL LAYER MANUFACTURER FOR APPLICATION ADVICE.
785 Breather Membrane
Material: - Product reference:
Laps; not less than 150mm, bond with tape. Achieve full bond.
Tape: As recommended by breather membrane manufacturer.
Repairs: Lapped patch of breather membrane material secured with continuous band of tape on edges. Junctions at flashings, sills, gutters etc. Overlay and allow free drainage to exterior.

REFER TO BREATHER MEMBRANE MANUFACTURER FOR APPLICATION ADVICE.
985 Damage
Reps; Damaged or broken tiles can be easily replaced by carefully lifting the tile to be replaced along with the two tiles above it, care should be taken to ensure these do not fall out. WEAR PERSONAL PROTECTIVE EQUIPMENT. Damage to the vertical supporting rails may require removal of a section of tiles to remediate. Unbroken tiles can be re-used.

995 Maintenance
Elementix® express Rainscreen Cladding requires little or no maintenance. Refer to Forticrete for guidance on specific topics if required.

Recycling
Elementix® express Rainscreen Cladding tiles are manufactured in the UK from recycled sources. The majority of the aluminium used in Nvelope extrusions is from recycled concrete building materials:
• Reclaim and re-use.
• Filling and stabilising material for infrastructure works.
• Aggregates for in-situ and precast concrete and mortars.

The following are possible uses for recycled concrete building materials:
• Clay products are non-toxic.

Despite the potential longevity of concrete products, they are sometimes demolished well before the end of their useful life. The following are possible uses for recycled concrete building materials:

‘Adaptable building’ is used to describe a structure that has the ability to be modified or extended at minimum cost to suit the changing needs of the people using the structure. Thoughtful design can provide the flexibility for these needs to be met without requiring expensive and energy intensive renovations. The ease of assembly and disassembly of Elementix® express panels and components means a structure can be re-shaped or extended incorporating the re-use of the Elementix® express system.

www.forticrete.co.uk
Elementix® express technical specifications

- **Elementix® express tile.** Module to suit project
- **Elementix® express Vertical Carrier Rail**
- **PVC Anti-Rattle Clip**
- **Elementix® express Tile Connector**
- **Framing Rivet**

**Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness**

**Nvelope NV bracket**

**Wall bracket anchors can vary subject to substrate composition**

**Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators**

**Ventilation Profile to suit construction depth. (Additional support for vent profile required for large cavities)**

Line of Building Substrate

**225mm Tile Module**

**215mm**
Elementix® express

Module to suit project

Elementix® express
Vertical Carrier Rail

PVC Anti-Rattle Clip

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators

Nvelope NV bracket

Wall bracket anchors can vary subject to substrate composition

Elementix® express
Tile Connector

Framing Rivet

225mm Tile Module

215mm

Horizontal joint detail

Line of Building Substrate

35

60

Varies

Horizontal joint detail
Elementix® express technical specifications

Parapet detail

- Elementix® express Vertical Carrier Rail
- Elementix® express Tile Connector
- Framing Rivet
- PVC Anti-Rattle Clip

Elementix® express tile. Module to suit project

Parapet details to project requirements by others

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators

Nvelope NV bracket

Wall bracket anchors can vary subject to substrate composition

Line of Building Substrate

225mm Tile Module
215mm

35 60 Varies

www.forticrete.co.uk
Vertical joint detail

**Elementix® express tile.** Module to suit project

**Elementix® express**
- Tile Connector
- Vertical Carrier Rail

**Elementix® express tile.** Module to suit project

**Framing Rivet**

4mm or to suit project requirements

**Elementix® express**
- Tile Connector

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators

Wall bracket anchors can vary subject to substrate composition

Nvelope NV bracket

Moisture repellent insulation (Rockwool / Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

35  60  Varies

Line of Building Substrate

www.forticrete.co.uk
Vertical movement joint detail

Elementix® express technical specifications

- Elementix® express tile. Module to suit project
- Elementix® express Vertical Carrier Rail
- Elementix® express Tile Connector
- Framing Rivet
- Line of Building Substrate

Movement Joint

- Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators.
- Wall bracket anchors can vary subject to substrate composition.
- Nvelope NV bracket
- Moisture repellent insulation (Rockwool / Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness.

35 60 Varies
Wall bracket anchors can vary subject to substrate composition.

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators.

Elementix® express tile. Module to suit project

Framing Rivet

Elementix® express Vertical Carrier Rail

Elementix® express Tile Connector

Moisture repellent insulation (Rockwool / Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Elementix® express Tile Connector

4mm or to suit project requirements

To Suit Project

Tile Module To Suit Project

Bonded external return
Elementix® express technical specifications

Wall bracket anchors can vary subject to substrate composition.

Nvelop NV bracket

Framing Rivet

Elementix® express Vertical Carrier Rail

Elementix® express tile. Module to suit project

Elementix® express Tile Connector

4mm or to suit project requirements

Elementix® express Tile Connector

Elementix® express tile. Module to suit project

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators.

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness.
Wall bracket anchors can vary subject to substrate composition

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators

Trim external return

Elementix® express tile. Module to suit project

Elementix® express Tile Connector

Framing Rivet

Elementix® express Vertical Carrier Rail

Moisture repellent insulation (Rockwool/ Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Elementix® express Tile Connector

Elementix® express tile. Module to suit project

Tile Module To Suit Project

 PPC Corner Rail

Varies

60

35
Elementix® express technical specifications

Window and cill details to project requirements by others

Elementix® express
Vertical Carrier Rail

Elementix® express
Tile Connector

Framing Rivet

PVC Anti-Rattle Clip

Elementix® express tile
Module to suit project

150 or 225 Tile Module
150 or 215mm

35
60
Varies

Line of Building Substrate

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators

Wall bracket anchors can vary subject to substrate composition

Nvelope NV bracket

Window cill detail
Window detail with trim

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Wall bracket anchors can vary subject to substrate composition

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators

PPC Jamb Closer
Nvelope NV bracket
Framing Rivet
Elementix express Vertical Carrier Rail

Elementix express tile. Module to suit project
Elementix express Tile Connector
Elementix® express technical specifications

Elementix® express tile. Module to suit project

Elementix® express Vertical Carrier Rail

PVC Anti-Rattle Clip

Elementix® express Tile Connector

Framing Rivet

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness

Envelope NV bracket

Wall bracket anchors can vary subject to substrate composition

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Envelope Insulators

Ventilation profile to suit construction depth

Window detail to suit project requirements

35 60 Varies

Line of Building Substrate

Window head detail

225 Tile Module 215mm

www.forticrete.co.uk
Window jamb detail with tile

Moisture repellent insulation (Rockwool/Kingspan Rainscreen or similar) fixed with anchors to suit insulation thickness.

Wall bracket anchors can vary subject to substrate composition.

Wall Brackets to be isolated from the building substrate (i.e. Dissimilar Material). For thermally enhanced isolation use Nvelope insulators.

Bonded return

Nvelope NV bracket

Framing Rivet

Elementix® express Vertical Carrier Rail

Elementix® express Tile Connector

Elementix® express tile. Module to suit project.
Identification Of The Substance & Company - Forticrete®
Elementix® Rainscreen Tiles.

Company name: Forticrete® Limited, Thornley Station Industrial Estate, Salters Lane, Shotton Colliery, Durham DH6 2QA. Tel: 01429 838001 Fax: 07429 836206 Email: masonry@forticrete.com

Composition/Information On Ingredients
- Cementicious Mineral Aggregate Composite; Not hazardous
- Crystalline Quartz Silica (released when dry cut); up to 30%
- Other ingredients determined not to be hazardous; 70%

Hazards Identification - This is an inert material, which presents no risk to health and safety through handling or use, subject to good site practice being followed.

The use of safety clothing such as safety hats, boots and industrial gloves is strongly recommended whenever practicable, to minimise the risks associated with falling objects and sharp edges.

If tiles are hit with a trowel, bolster, scutch, etc., sharp chips may fly and damage eyes, suitable goggles should be worn. Individual tiles are grouped together into packs. Packs are heavy and great care should be taken in their handling. Equipment used for lifting packs must be adequate for the weight involved. The weight of the pack varies according to the size of the product and quantity per pack, but the maximum weight of each standard pack from Forticrete Limited factories is approximately 1.4 tonnes.

Crystalline Quartz Silica (Quartz – Silicon Dioxide SiO2) - This component is not released under normal usage conditions but substantial amounts of dust may be released from the tile body as airborne respirable free crystalline silica particles when dry cutting. There is no need to cut tiles on site and our advice would be to avoid dry cutting of tiles wherever possible. Wet cutting reduces the amount of dust generated and is a preferable method of cutting.

If cutting machinery is required use a diamond tipped blade and dust suppression kit, preferably bench mounted or the tile should be firmly held by a mechanical clamp or similar device to prevent movement.

The cutting slurry produced is unavoidable and needs to be washed away from the surface of the tiles immediately after cutting. The chemical reaction caused by cutting reactivates the cement which hardens on the first material it makes contact with after cutting. This is accelerated by the heat generated in the cutting process. Dry cutting is not recommended because of this reaction.

First Aid Measures
Skin contact: Minor cuts and grazing can occur on sharp edges. Wash with clean soap and water. Treat with normal antiseptic if required.

Eye contact: Rinse with potable water or eyewash until foreign particles are removed. Do not rub eyes.

Ingestion: na.

Inhalation: If cutting with mechanical dry cutter and dust is inhaled, irritation and coughing may result. Move to fresh air. Drink potable water to ease. Long term inhalation of silica in dust can be harmful to health. Wear a suitable mask.

Fire Fighting Measures
- Product not flammable
- Packaging may be flammable: Extinguish with water or foam

Accidental Release Measures No special measures required.

Exposure Control/Personal Protection

Workplace exposure limits: Under the COSHH Regulations, the Workplace Exposure Limit (WEL) for respirable silica is 0.1mg/m³ (from October 2006). The only reliable way to ascertain the levels of individual exposure during cutting is to carry out detailed personal monitoring.

Engineering measures: na

Respiratory protection: Wear suitable face mask if cutting. A suitable respirator or disposable mask meeting BS EN 149 (Specification For Filtering Half Masks To Protect Against Particles) is recommended. The use of appropriate respiratory protection by those working near to the dry cutting operation should be considered.

Hand protection: Wear suitable gloves to avoid abrasion.

Eye protection: Wear suitable safety goggles when cutting.

Ear protection: Suitable ear defenders should be worn by everyone in the vicinity of mechanical cutting machines.

Skin protection: Dust may cause skin irritation.

Ecological Information - All components are non toxic.

Stability & Reactivity - Solid, inert cementicious material.

Disposal Considerations - As per local authority requirements. Redundant packing materials should be gathered together daily and placed in a waste disposal skips for removal to an approved tip.

The burning of any packaging materials is not normally permitted on sites; some plastic materials may give off harmful fumes. If permission is granted for the burning of wooden pallets great care must be exercised to ensure that environmental pollution controls are not contravened.
Transport Information
No special toxicological requirements. Suitable offloading equipment required.

Regulatory Information
na

OTHER INFORMATION

Off Loading - These packs will be delivered on disposable wooden pallets, they may be in cardboard boxes or held together as a unit by plastic or steel straps. In all cases, the products will be contained by plastic shrink-wrap. All personnel involved in the handling of packs should be made aware that both steel and plastic straps could snap in certain circumstances or shrink-wrapping could become loose, allowing the products to fall:

**AVOID** abnormal shocks to the packs
**AVOID** sliding one pack against any face of another pack
**AVOID** straps can deteriorate over a period of time

The strapping, if provided must never be used to lift packs. Only use the holes in the pallets provided. It is recommended that suitable handling forks should have a width of 90mm and be 1100mm long. Packs should be placed singly on dry, level ground and products kept on the pallets provided.

On Site Handling - Where packs are lifted more than 1 metre above ground level, a safety cage of adequate dimensions around the pack should be used. All personnel must stand well clear of packs when they are being lifted or moved.

If it is considered necessary to store a pack above ground level, it should only be placed on a suitably designed staging with guard rails and brick nets of appropriate height to prevent any bricks falling to lower working areas.

Processing - Straps should be cut by wire cutters and not burst by the application of levered pressure. When cutting straps, the operative should stand to the side of the strap being cut and not in line with that strap. Highly tensioned straps can spring away from the package when tension is released.

In accordance with the Personal Protective Equipment At Work Regulations 1992, persons cutting wire strapping under tension MUST wear suitable eye protectors (reference: BS EN 166, 167 & 168).

Strapping around packs has sharp edges and suitable gloves should always be worn when handling this material. When straps are cut, protective footwear and overalls should also be worn because tiles may fall from the pack, particularly if the pack has been subjected to irregular handling or storage.

Manual Handling - An individual standard tile typically weighs 6 to 8 kg and presents low risk of a manual handling injury. Repetitive handling of any product including tiles can give rise to Upper Limb Disorders such as muscular strains and sprains. Specialist help should be sought for anyone involved in this type of work.

Cleaning Procedures

General Cleaning Down
For guidance, the following procedure should be applied after completion of the construction for the purpose of general cleaning down. For the removal of general dirt and grime, mild detergent such as “Sugar Soap” may be used. This can be obtained from most builders’ merchants.

Under no circumstances should acid or non-approved cleaners containing acid be applied to Forticrete tiles. Remedial cleaning procedures may affect a final appearance of the product. Therefore it is advisable to carry out the initial cleaning procedure on an affected area that will not be seen. Power wash treatments are not recommended as they could “blast out” the fines of the tiles however a standard hose may be utilised when washing down.

Polished tiles
Any materials sticking to the surface should be gently removed with a plastic or wooden scraper prior to the contaminant “going off”. Care should be taken to ensure that this process does not scratch surface of the tile. A proprietary marble cleaner can be used to restore the products sheen if the polished face is damaged during cleaning. A lamb’s wool buffer with beeswax polish can further enhance the products sheen. Vegetable-based waxes should not be used as they can attack the cement content of the tile.

INHALATION: IF CUTTING WITH MECHANICAL DRY CUTTER AND DUST IS INHALED, IRRITATION AND COUGHING MAY RESULT. MOVE TO FRESH AIR. DRINK POTABLE WATER TO EASE. LONG TERM INHALATION OF SILICA IN DUST CAN BE HARMFUL.
Information on the complete range of Forticrete products can be found at www.forticrete.co.uk
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