

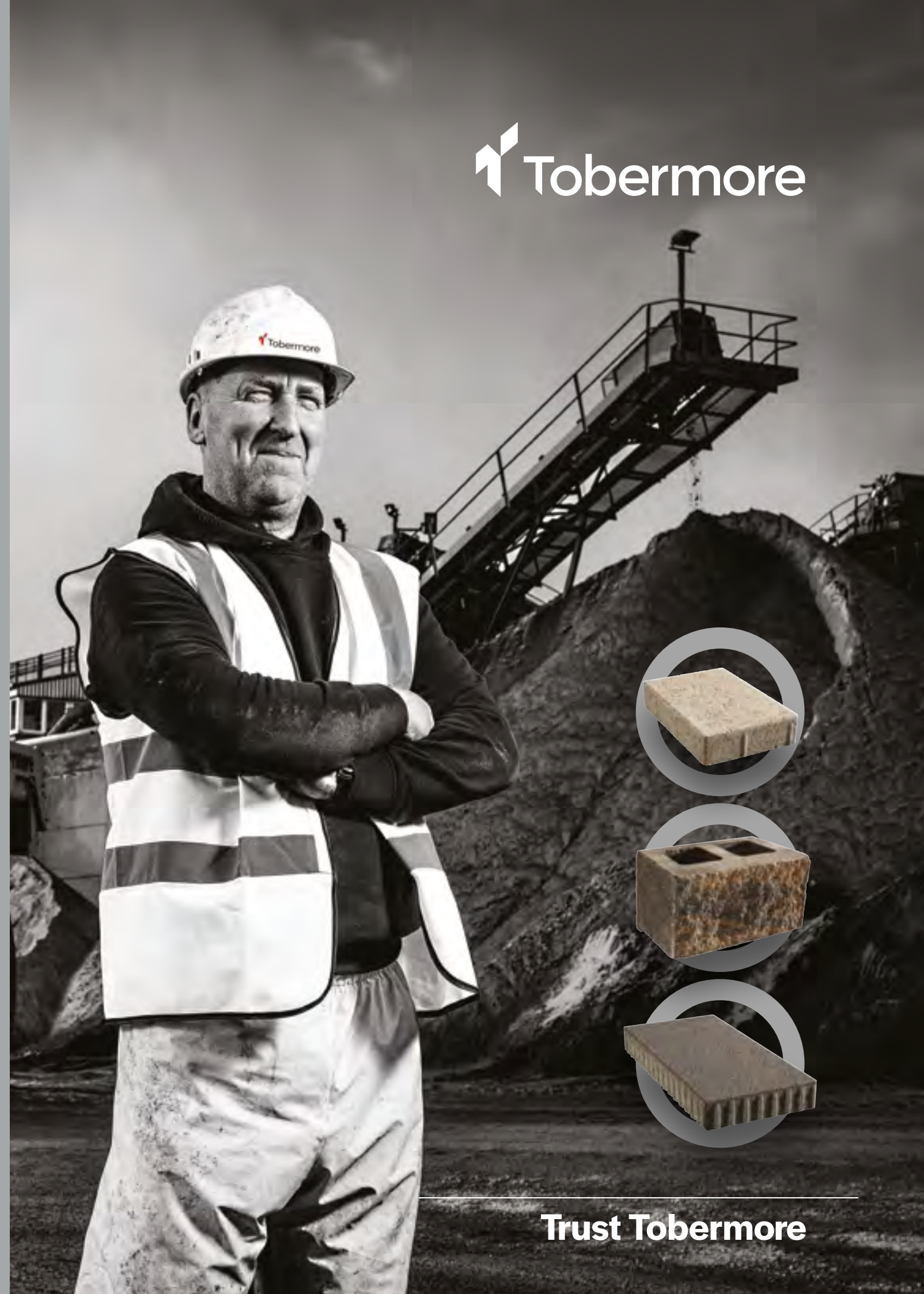


Paving & Walling

Specification Guide v.4.5



 **Tobermore**



Trust Tobermore



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Paving & Walling for the digital age

We have developed an extensive digital resource, capable of empowering designers to source, select and specify the optimum paving and walling solutions for every project.



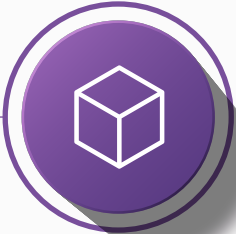
Find out more at
tobermore.co.uk



NBS SOURCE
NBS Source provides the construction product information you need, when you need it. Through NBS Source, Tobermore provides an additional level of enhanced product data, in a consistent, structured format that will integrate seamlessly into your project workflow.



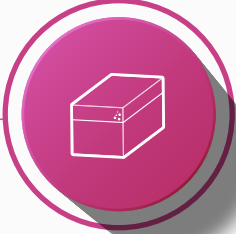
DOWNLOADS
If you prefer a paperless office, all of our data, brochures and case studies etc. can be easily downloaded from the Tobermore website.



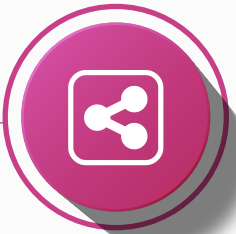
BIM DOWNLOAD
Tobermore's BIM objects are accessed via our website. Our products' physical characteristics can be transferred directly into your Building Information Model.



DESIGN INSPIRATION
Be inspired by searching our extensive online photo gallery or refer to our case studies for recent applications. Choose to filter by product category or project type.



SAMPLES & QUOTES
Our digital forms are the fastest way to request product samples or request a quote thanks to our highly responsive specification service.



COLLABORATIVE WORKING
We facilitate easy design collaboration with colleagues via our online Product Folder feature and convenient links for sharing via email or your preferred social media channel.

Trust Tobermore

A Proud History

TOBERMORE
SAND & GRAVEL Co.

75 Years & counting

Behind every remarkable company lies a story of vision and exceptional determination.

At Tobermore our inspirational story began over 75 years ago when Sam Henderson returned from the war as a young man. His mother had saved £500 during his time away and this was quickly invested in a fledgling family business. Sam went on to lead the business into pioneering production of concrete products before subsequent developments laid the foundations for the Tobermore brand.

Today, Tobermore remains family owned and managed, with the same vision, determination and values which are driving the business forward as one of

the UK and Ireland's leading manufacturers of concrete paving and walling products. We are now trusted suppliers to some of the country's most prestigious schemes in partnership with leading contractors and housebuilders.

At Tobermore "average" is never acceptable. Our recent £4m investment in the world's most advanced manufacturing equipment is indicative of our determination to always serve our chosen markets with excellent quality and service.

In 2019 we launched a fresh new face for Tobermore reflecting the energy and spirit which drives our people to bring market-beating solutions to designers and contractors across the country. Innovation fuels our growth as we find new ways to further enhance product performance, making us enthusiastic about Tobermore's future in a market which recognises the true value of our 'right first time', responsive service.



 **Tobermore**

“Our continual investment in people and new technology is securing Tobermore's excellence for both quality and service.”

David Henderson
Managing Director



Responsible Manufacturing

We care about our impact on the global environment, so we invest in a robust programme of continuous environmental improvement.



Energy

We are reducing our carbon footprint by hundreds of tonnes each year by investing in the production of our own clean energy output from solar panels and a 250kw wind turbine.



Waste

We have reduced our waste to landfill to zero through a process of continual improvement in production efficiency and the 100% recycling of manufacturing residue.



Transport

We maximise transport efficiency, through our “on time and in full” policy. All loads are despatched from a single site and vehicle use is optimised through back loading.



Water

We recycle 100% of the water used in our manufacturing process and manage our use of this precious resource by investing in systems to harvest rainwater.



Packaging

Our 100% recyclable packaging contains 30% recycled material. By using recycled material, we have decreased waste and reduced our packaging-related carbon footprint by 20%

PrimeTop®

PrimeTop is the high performance feature which differentiates Tobermore from standard concrete paving. Tobermore's PrimeTop is manufactured with a premium, hard-wearing surface layer which adds significant performance benefits.

PrimeTop Layer

Hard-wearing Surface

The PrimeTop surface layer has a dense composition of finer aggregates, hard sand and a higher percentage of cement. This hardened surface layer has enhanced strength and increased resistance to wear and tear, for both pedestrian and vehicular traffic.


Aesthetic appeal & enhanced weathering

The PrimeTop surface layer contains a high concentration of pigment creating vibrant colour and exceptional UV performance, leading to enhanced weathering properties.

Tobermore PrimeTop is renowned for its superior long-term retention of colour and visual appeal.

We produce two different material mixes; the PrimeTop layer and a robust base layer formulated for optimum structural performance. Both layers are formed simultaneously, producing an inseparable bond that stands the test of time.



 **PrimeTop®**
Look for products with the PrimeTop logo



✓ **More Cement** ✓ **More Pigment** ✓ **Finer Aggregates**



Ef-Stop®


Combatting efflorescence

Every aspect of our product’s performance is researched and optimised to provide an excellent long-lasting appearance. In respect to the challenge of efflorescence, we have invested in manufacturing technology which enables us to produce virtually efflorescence free paving.

Efflorescence is perhaps the single biggest problem encountered with decorative concrete paving products. The cause of efflorescence is simply a chemical reaction between the cement in the concrete and rainwater causing the formation of calcium carbonate. This white, crystalline substance stains the surface and spoils the appearance of the paving.

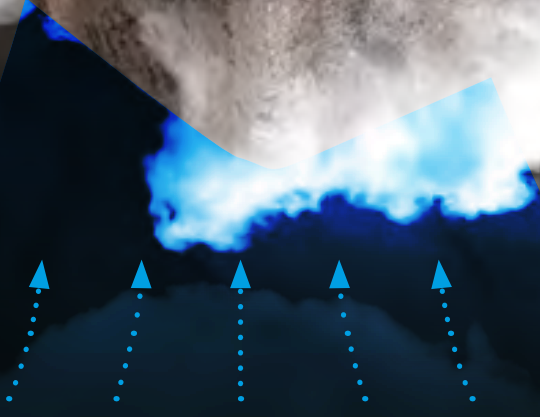
In the Tobermore manufacturing process, we cure our products in a warm vapour atmosphere for 12 hours, which ensures that efflorescence is dramatically reduced. Moreover, the vapour curing also enhances the colour, improves the strength and cures the products much faster, allowing products to be used almost immediately.



 **Ef-Stop®**
Look for products with the Ef-Stop logo



Competitor's paving



Vapour Cured
The Ef-Stop protection includes an intense vapour curing process. Vapour penetrates to the core of the paver.

ServiceSure

ServiceSure is Tobermore’s unique package of customer service benefits developed to ensure an efficient, consistent and streamlined experience. This unbeatable, seamless service follows your project from initial enquiry to delivery and beyond, keeping you fully informed at every stage.

Delivery excellence

You can trust Tobermore to fulfil your order on time and in full as agreed. This industry leading service is proven week in week out and in 2018 we achieved outstanding delivery performance with 99.4% of orders on time and in full.

99.4%
ON TIME IN FULL

Easy Spec

Our specification team is on hand across the UK and Ireland to support you with technical advice, design support and samples. Tobermore’s comprehensive website provides additional access to useful information. This is backed up by a package of the industry’s leading specification tools including NBS Source and BIM level 2.



NBS
Plus & Create



BIM
Level 2



Design
Services

Fast Quote

We always turn around quotes within one working day.

Unrivalled availability

With more stock on the ground and a faster turnaround on batch controlled orders we offer market leading availability on a full range of paving and walling products. As we manufacture everything on one site we can combine mixed product loads for customer friendly logistics.



Intelligent Ordering

Every order placed with Tobermore is sense checked on receipt by one of our trusted advisors who will liaise with you directly to ensure quantity, format and delivery details are right first time. All orders will receive an Order Confirmation with clear product and pricing information.

Texture & Scale

Create Character with Texture and Scale.
Creating character in hard landscaping schemes relies on the balance between paving texture and scale. At Tobermore, we bring you more choice, to help achieve your vision for every project.



Texture

Smooth surface products are ideal for areas where pedestrian wheeled traffic such as trolleys or buggies are frequently expected. Our diamond tipped grinding process is used to produce smooth, ground surfaces, in our premium Braemar and Anglesey paving ranges.

Rougher surface textures are associated with enhanced slip resistance and are suitable for use in most applications.

Tobermore's granite aggregate ranges offer a natural surface texture, blending well into both the built and natural environment, providing an attractive, hard-wearing solution.

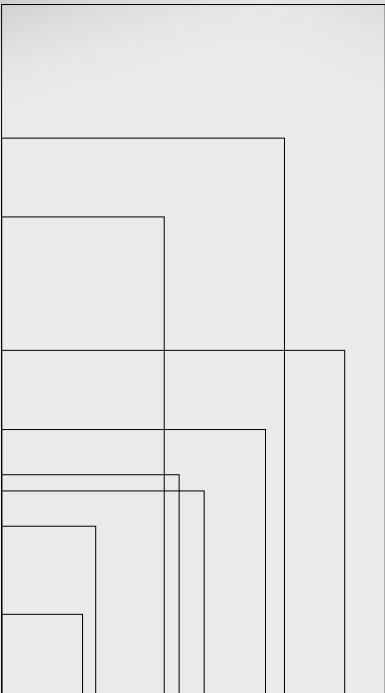


Surface solutions for all applications

Scale

A comprehensive selection of sizes is available across our block and flag paving ranges. Various sizes from 100x100 to 1200 x 400, facilitate the ideal paving design for everything from intimate courtyards and pathways to expansive public spaces.

Create engaging visual appeal through the selection of different paving formats and laying patterns with options including modern plank style, mixed sizes, square, rectangular or even circular features.



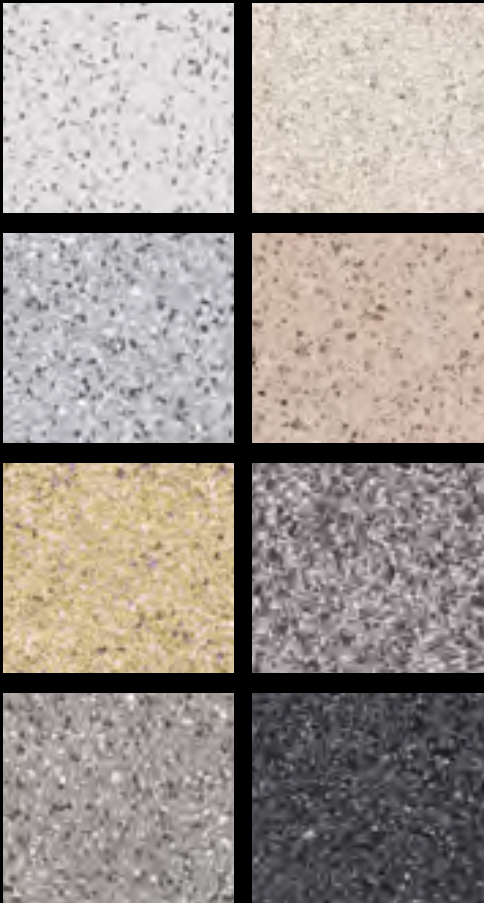
Comprehensive size range

Colour & Tone

Create Impact with Colour & Tone.
Colour is a major factor in paving design with the option to complement or contrast with the surrounding buildings and planting. At Tobermore we create colour through a variety of manufacturing techniques, each perfected to provide longer lasting colour performance.

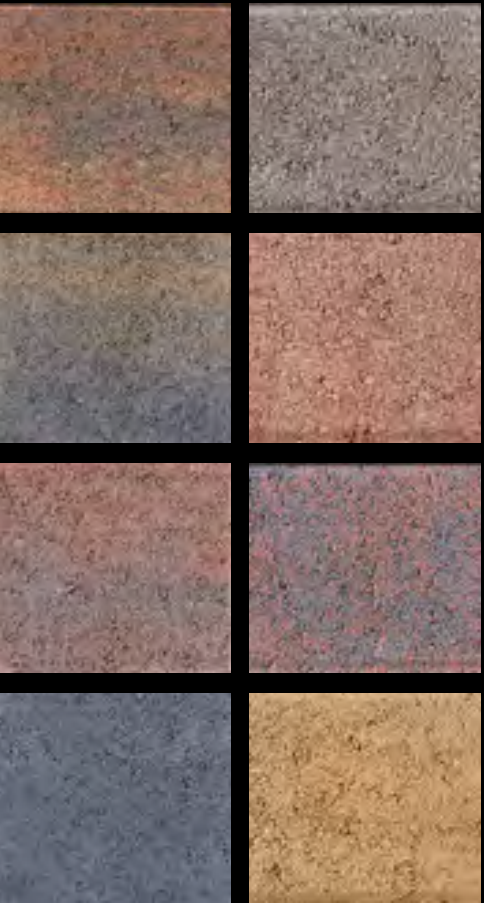
Colour

Spanning the colour spectrum from cool greys to warm buffs the range includes colour highlights ideal for adding interest and contrast in mixed colour designs.



Tone

We produce a range of tonal effects through a variety of material ingredients. We use single pigments for strong vibrant solid colours or mixed pigments to create blended effects across a paved area. The natural aggregates in our granite ranges create a unique effect, often with a natural sparkle and tonal interest.



Education

Tobermore excels in the provision of paving across a full range of applications within the Education sector, with solutions designed to retain their appearance over time, despite high traffic demands.

Our extensive range of smooth, textured and granite style paving meet the differing requirements of learning, sports and accommodation spaces across 1st, 2nd and 3rd level education projects.



Peel Park Quarter
University of Salford

| | | | | |
|---|--|--|---|--------------------------------------|
| Products: Hydropave Fusion Silver & Graphite | | Landscape Architect Gillespies | Main Contractor Graham Construction | Groundworker Gibson Paving |
| Fusion Kerb Silver | | | | |

Public Realm

Designing public spaces and townscapes to create a real sense of place requires the careful selection of hard landscaping materials. Our extensive range of textures, colours and sizes has been created to maximise the creative options without limiting the performance required for these high traffic locations. It is here that Tobermore's experience and advanced manufacturing techniques really count.



Leeds Public Transport Investment Programme (LPTIP), Leeds

Products:
Braemar Block Paving
Alto Silver, Cara Slate & Jura Grey

Client
Leeds City Council

Architect
Capita Symonds

Contractor
John Sisk & Sons

Commercial/Retail

Tobermore paving and walling excels in commercial environments thanks to the innovative PrimeTop manufacturing process which creates harder wearing products. Every aspect of design flexibility can be facilitated through the variety of scale, texture, colours and natural materials available in the range. We assist design professionals through technical support including easily accessed data in NBS plus and BIM formats.



British Airways i360
Brighton

| | | | | |
|--|------------------------------------|---|---|---|
| Products: Sienna Duo Silver | Client Brighton i360 Ltd | Architect Marks Barfield Architects | Landscape Architect The Terra Firma Consultancy | Groundworker JT Mackley & Co. Ltd |
|--|------------------------------------|---|---|---|

Medical & Healthcare

Designers of hospitals and health facilities place a high value on using both hard and soft landscaping to create a sense of well-being for patients and staff. Tobermore's wide range of natural colours, textures and sizes facilitate the design of hard wearing yet attractive spaces within a busy environment. A full range of technical services are available to assist the designer to deliver their creative vision for the scheme.



Queen Elizabeth II Hospital
Hertfordshire

Products:
Sienna Duo
Graphite & Silver

Architect
Penoyre & Prasad

Landscape Architect
Macfarlane & Associates

Main Contractor
Balfour Beatty

Sports & Leisure

Great paving adds to the experience enjoyed by those visiting and participating in sports and leisure venues. Tobermore facilitates the design of modern paving schemes through contemporary laying patterns and striking colour combinations. Our range of formats including plank, block and flag paving include options suitable for a diverse range of applications with varying needs for both pedestrian and vehicular traffic.



Sir Chris Hoy Velodrome
Glasgow

Products:
Hydropave Fusion Duo
Graphite & Silver
Hydropave 240
Bracken & Charcoal

| | | |
|----------------------------|--|--|
| Architect 3DReid | Main Contractor Sir Robert Alpine, Edinburgh | Sub Contractor Land Engineering, Glasgow |
|----------------------------|--|--|

Housing

Hard landscaping plays a significant part in creating the visual appeal essential for desirable homes. Our vibrant block paving creates real impact for roads, driveways and paths with a range of options to complement every style of development. The design of inviting outdoor spaces is made possible by Tobermore's vast range of paving formats, colour and texture, including the option for unique low maintenance paving.



Salterns Reach Prinsted

Products:

Hydropave Tegula Duo
Heather

Hydropave Tegula 240
Natural

Developer

Junnell Homes

Landscape Designer

Beth Moore (Tobermore)

Retaining Walls

The use of Retaining Walls is a growing requirement as site space is increasingly optimised across varying levels. To meet these needs, Tobermore has developed a highly efficient range of pre-finished Retaining Wall products which assist specifiers in creating attractive schemes with a high degree of effectiveness on-site.



The Woodlands
Loughborough

Products:
Secura Grand
Bracken

Developer
Willmark Homes LTD



| | |
|------------------------------|----|
| Product Range | |
| Braemar | 38 |
| Artro | 46 |
| Fusion | 50 |
| City Pave VS5 | 56 |
| Manhattan | 60 |
| Tegula | 64 |
| Tegula Setts | 68 |
| Retro | 72 |
| Shannon | 76 |
| Pedesta | 80 |
| Marker Block | 84 |
| Turfstone | 86 |
| Technical Information | 88 |
| Laying patterns | 90 |

Block Paving



Braemar

Braemar is an exceptionally versatile paving range combining the aesthetics of natural granite with the practical benefits of our modern high-performance PrimeTop paving.

Available in a co-ordinated range of natural granite colours, Braemar can be specified in two distinct diamond ground finishes, facilitating the creative use of texture and tone in projects which demand a premium hard landscaping solution.

Braemar is fully supported by Tobermore's ServiceSure package ensuring its availability on time and in full, unlike the extended delivery schedules often experienced with natural stone.





SCAN HERE

Braemar

Premium concrete paving with the aesthetic appeal of natural granite.

Manufactured from carefully selected premium aggregates, Braemar is diamond ground to produce two distinct finishes in a block paving size range in a choice of granite colours.

- Cost-effective alternative to natural stone
- Premium block paving
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look
- Readily available with much shorter lead times than natural stone

 **PrimeTop**  **Ef-Stop**



200 x 100mm



300 x 200mm



600 x 300mm

Sizes



80mm

Depths



Braemar Ground Textured



Braemar Ground

Surface solutions for all applications

Braemar's advanced PrimeTop construction and wide palette of natural granite aggregates provides a modern solution for use in projects requiring a superior paving solution. Each Braemar block or slab is individually finished through a diamond tipped grinding process to create the aesthetic appeal of natural stone. The range is available in two different finishes.



Ground

Braemar's Ground finish creates an attractive, smooth effect, similar to honed granite which highlights the colouring in the natural granite aggregates.



Ground Textured

Braemar's Ground Textured finish creates an effect similar to hammered granite, with distinctive granite highlights on the surface of the paving.

Braemar



Specification

PrimeTop® Ef-Stop®

| | | | |
|--|--|------------------------------|---|
| Product type | Concrete Paving Block | | |
| Manufactured to | BS EN 1338:2003 | 300x200x80mm | 200X100X80mm |
| | BS EN 1339:2003 | 600X300X80mm | |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement | | |
| Surface Finish | Ground/Ground Textured | | |
| Granite Content in Surface Layer (Not less than %) | Arran Stone | 83.3% | |
| | Alto Silver | 63.3% | |
| | Innis Black | 53.3% | |
| | Jura Grey | 51.3% | |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence | | |
| Slip/Skid risk | Low | | |
| Installed to | (Externally) | BS 7533-3:2005 | 200X100X80mm 300X200X80mm |
| | | BS 7533-4:2006 | 600X300X80mm |
| | (Internally) | Details available on request | |
| | | | |
| Strength | | BS EN 1338:2003 | Typical tensile splitting strength of >3.6MPa |
| | | BS EN 1339:2003 | Typical tensile splitting strength of >5MPa (Class 3) |
| BS | | Plus Q24 110 | 200X100X80mm |
| | | Create 45-20 64/400 | 300X200X80mm |
| | | Plus Q24 110 | 600X300X80mm |
| | | Create 45-20 64/395 | |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm | | |
| Abrasion Resistance | Class 3 | | |
| Durability (Freeze-thaw) | Class 3 | | |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC | | |
| Reaction to fire | Class A1 | | |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com | | |
| Energy used | 100% renewable energy | | |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole | | |
| Recycled content | Not less than 10% | 200X100X80mm | |
| | | 300X200X80mm | |
| | Not less than 6% | 600X300X80mm | |
| Carbon Footprint | 34kgCo²e/m² | | |
| Recyclable | 100% of this product can be recycled | | |
| Manufacturing & Delivery | From one location within the UK | | |
| breeam rating www.bre.co.uk | B , according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved when used in conjunction with a prepared recycled sub-base. | | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

| | |
|-----------------|--------|
| GT | G |
| Ground Textured | Ground |
| Finish | |

| | | |
|---------------------------------------|---------------|--------------------|
| | | |
| Pedestrian Use | Light Traffic | Commercial Traffic |
| Refer to relevant guidance in BS 7533 | | |

BIM Level 2



| | | |
|--------------|------------|--------------|
| Alto Silver† | Jura Grey† | Innis Black† |
| | | |
| Arran Stone† | | |
| | | |

Stock

| product | size (mm) | edge | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|----------------|-------------|--|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Braemar Ground & Ground Textured 80mm BIM | 200 x 100 x 80 | Square edge | Arran Stone, Alto Silver, Jura Grey, Innis Black | YES | 9.6 | 1.6 | 50 | 480 | 1756 | 1746 |
| | 300 x 200 x 80 | Square edge | Arran Stone, Alto Silver, Jura Grey, Innis Black | YES | 9.6 | 2.4 | 16.66 | 160 | 1756 | 1746 |
| | 600 x 300 x 80 | Square edge | Arran Stone, Alto Silver, Jura Grey, Innis Black | YES | 7.2 | 3.6 | 5.55 | 40 | 1319 | 1309 |

BIM - This product is available to download from our website in BIM Level 2 format.

IMPORTANT INFORMATION

| | | |
|--|---|--|
| A regular maintenance programme should always be established and active for all public spaces to reduce the risk of slip/skid. Tobermore's stunning ground and ground textured finishes are created using a modern diamond grinding process which achieves a premium finish. Ground textured provides a higher level of slip resistance. | Tobermore recommend that you separate product groups using contrasting bands of colour as each product is manufactured separately and may have slight variations in colour. | Light coloured blocks emphasise tyre marks and oil spills. It must be accepted that these products will need more maintenance if the overall appearance is to be maintained. |
|--|---|--|

† Product Information - Manufactured with natural granite aggregates



Artro

The concrete alternative to Clay Pavers.

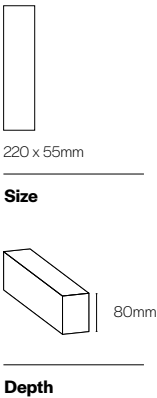
With creativity at its core, Artro's strength lies in its ability to adapt to any application. Artro is a new trafficable paving range providing the option of vehicular access in commercial, public realm or residential projects. Inspired by the intimate scale of traditional European clay pavers, Artro brings the concept right up to date, providing inspirational options for landscape designers.

- Small linear paving blocks
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Suitable for contemporary or traditional applications
- Choose from cool contemporary greys or warm traditional tones

 PrimeTop®  Ef-Stop®



SCAN HERE



Artro



S

Smooth

Finish

Pedestrian Use

Light Traffic

Commercial Traffic

Refer to relevant guidance in BS 7533



Specification

PrimeTop® Ef-Stop®

| | |
|-------------------------------|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement |
| Surface Finish | Smooth |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to (flexibly) | BS7533-3-2005 |
| ns | Plus Q24-110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS7533 for the correct sub-base design. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 80mm 30kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| green rating www.bre.co.uk | BREEAM – 'B' according to the Green Guide to Specification, 4th Edition 2009. 'A' can be achieved when used in conjunction with a prepared recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---------|---------------|--|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Artro | 220 x 55 x 80 | Platinum, Steel, Carbon, Slate, Autumn, Heather, Bracken | YES | 6.776 | 0.847 | 82.64 | 560 | 1266 | 1266 |

Platinum

Steel

Slate

Carbon

Autumn

Heather

Bracken



SCAN HERE

Fusion

Modern granite aggregate paving.

Fusion's granite appearance creates a striking, contemporary look. The Fusion range is ideal for the creation of unique paving patterns and designs.

- Vibrant, granite appearance
- Manufactured with sparkling natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Creates a striking, contemporary look

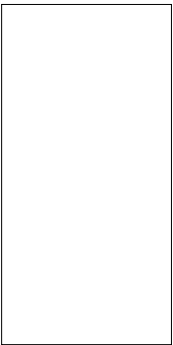
 PrimeTop®  Ef-Stop®



200 x 100mm



300 x 200mm



600 x 300mm

Sizes



60mm
80mm

Depths



Fusion



Silver



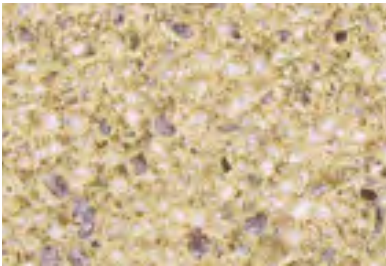
Mid Grey



Graphite



Sandstone



IMPORTANT INFORMATION

Tobermore recommend that you separate product groups using contrasting bands of colour as each product is manufactured separately and may have slight variations in colour.



Fusion



Specification

PrimeTop Ef-Stop

| | | | |
|--|--|--|------------------------------|
| Product type | Concrete Paving Block | | |
| Manufactured to | BS EN 1338:2003 | 100x100x60mm 200x100x60mm 200x200x60mm 100x100x80mm | 200x100x80mm 300x200x80mm |
| | BS EN 1339:2003 | 300x200x60mm | 600x300x60mm 600x300x80mm |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement | | |
| Surface Finish | Textured Granite Aggregate | | |
| Granite Content in Surface Layer (Not less than %) | 53% 45% | Graphite, Mid Grey, Silver Sandstone | |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence | | |
| Strength | BS EN 1338:2003 | Typical tensile splitting strength of >3.6MPa | |
| | BS EN 1339:2003 | Typical tensile splitting strength of >5MPa (Class 3) | |
| Slip/Skid risk | Extremely Low | | |
| Installed to | BS 7533-3:2005 | 100x100x60mm 200x100x60mm 200x200x60mm 100x100x80mm | 200x100x80mm 300x200x80mm |
| | BS 7533-4:2006 | 300x200x60mm | 600x300x60mm 600x300x80mm |
| NSI | Plus Q24 110 Create 45-20-64/400 | 100x100x60mm 200x100x60mm 200x200x60mm 100x100x80mm | 200x100x80mm 300x200x80mm |
| | Plus Q25 315 Create 45-20-64/395 | 300x200x60mm | 600x300x60mm 600x300x80mm |
| | | | |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm | | |
| Abrasion Resistance | Class 3 | | |
| Durability (Freeze-thaw) | Class 3 | | |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC | | |
| Reaction to fire | Class A1 | | |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com | | |
| Energy used | 100% renewable energy | | |
| Water used | 100% water used from rainwater harvesting system and groundwater bore hole | | |
| Recycled content | Not less than 6% | | |
| Carbon Footprint | 60mm 80mm | 26kgCo²e/m² 34kgCo²e/m² | |
| Recyclable | 100% of this product can be recycled | | |
| Manufacturing & Delivery | From one location within the UK | | |
| breem rating www.bre.co.uk | 60mm: A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved when used in conjunction with a prepared recycled sub-base. | | |
| | 80mm: B, according to the Green Guide to Specification, 4 th Edition 2009. A, can be achieved when used in conjunction with a prepared recycled sub-base. | | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

TGA
Textured
Granite Aggregate

Finish

Permeable

AirClean

Also available as

Pedestrian
Use

Light
Traffic

Commercial
Traffic

Refer to relevant guidance in BS 7533

BIM
Level 2



Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|------------------------|----------------|---------------------------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Fusion 60mm BIM | 100 x 100 x 60 | Graphite, Silver | YES | 11.52 | 0.96 | 100 | 1152 | 1630 | 1620 |
| | 200 x 100 x 60 | Graphite, Mid Grey, Sandstone, Silver | YES | 13.44 | 2.24 | 50 | 672 | 1810 | 1800 |
| | 300 x 200 x 60 | Graphite, Mid Grey, Sandstone, Silver | YES | 12.48 | 3.12 | 16.66 | 208 | 1765 | 1755 |
| | 600 x 300 x 60 | Graphite, Mid Grey, Sandstone, Silver | YES | 9.36 | 4.68 | 5.55 | 52 | 1325 | 1315 |
| Fusion 80mm BIM | 100 x 100 x 80 | Graphite, Silver | YES | 9.6 | 0.96 | 100 | 960 | 1756 | 1746 |
| | 200 x 100 x 80 | Graphite, Mid Grey, Sandstone, Silver | YES | 9.6 | 1.6 | 50 | 480 | 1756 | 1746 |
| | 300 x 200 x 80 | Graphite, Mid Grey, Sandstone, Silver | YES | 9.6 | 2.4 | 16.66 | 160 | 1756 | 1746 |
| | 600 x 300 x 80 | Graphite, Mid Grey, Sandstone, Silver | YES | 7.2 | 3.6 | 5.55 | 40 | 1319 | 1309 |

BIM - This product is available to download from our website in BIM Level 2 format.



City Pave VS5



SCAN HERE

Heavy duty paving for busy applications.

City Pave VS5 is designed for maximum stability with heavy duty use in towns and cities. City Pave VS5 is manufactured with natural granite aggregates for the most robust performance and a modern appearance.

- Shift protection on five sides of the block provides maximum stability
- Granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look



300 x 150mm

Sizes



100mm

Depths

✔ VS5 ✔ PrimeTop® ✔ Ef-Stop®



✔ VS5

Shift Protection

City Pave VS5 generates the optimum stability through a combination of shift protection on the 4 vertical sides, plus a 5th, as the base is grooved to create a clawing effect on the sand bed, preventing horizontal movement.



The 100mm block depth and 2mm joint, further enhances stability and protects the jointing material from wash out, ensuring consistent performance over time.

City Pave VS5

TGA
Textured
Granite Aggregate

Finish

 Pedestrian Use
 Light Traffic
 Commercial Traffic
 Shift Protection


Refer to relevant guidance in BS7533


BIM
Level 2



Specification

 **VS5**  **PrimeTop®**  **Ef-Stop®**

| | |
|--|--|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m ³ cement |
| Surface Finish | Textured Granite Aggregate |
| Granite Content | Not less than 53% of granite aggregate in surface layer for Silver, Mid Grey, Graphite |
| Spacer | Unique VS5 spacer which adds shift protection on five sides of the block |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | Specific installation instructions are available from Tobermore |
| NS | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±3mm, width ±3mm, thickness ±4mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy, See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | Silver 40kgCo ² e/m ² Graphite 43kgCo ² e/m ² Mid Grey 43kgCo ² e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
|  rating www.bre.co.uk | Refer to the Green Guide to Specification, 4 th Edition 2009 |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-----------------------------|-----------------|----------------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| City Pave VS5 BIM | 300 x 150 x 100 | Graphite, Mid Grey, Silver | YES | 7.2 | 1.8 | 22.2 | 160 | 1565 | 1555 |

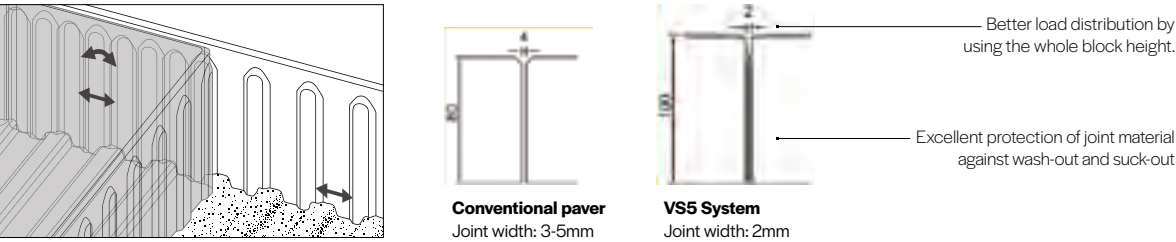
BIM - This product is available to download from our website in BIM Level 2 format.



IMPORTANT INFORMATION

Light coloured blocks emphasise tyre marks and oil spills. It must be accepted that these products will need more maintenance if the overall appearance is to be maintained. Tobermore recommend that you separate product groups using contrasting bands of colour as each product is manufactured separately and may have slight variations in colour.

Interlocking system with five side shift protection





Manhattan

Linear, plank paving.

Attractive plank-style paving making a strong design statement. Manhattan block paving is perfect for contemporary schemes and provides a textured finish in natural granite aggregates.

- Granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look

✔ PrimeTop® ✔ Ef-Stop®



SCAN HERE



600 x 150mm

Single Size



250 x 122mm



300 x 122mm



300 x 164mm



400 x 122mm



400 x 164mm



500 x 122mm



500 x 164mm

Mixed Length Sizes

All sizes in one pack



80mm

Depths



Manhattan



Specification

PrimeTop® Ef-Stop®

| | | |
|--------------------------------|--|-------------|
| Product type | Concrete Paving Block | |
| Manufactured to | BS EN 1338:2003 | |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement | |
| Surface Finish | Textured Granite Aggregate | |
| Granite Content | Not less than 53% of granite aggregate in surface layer for Silver, Mid Grey and Graphite; Not less than 45% of granite aggregate in surface layer for Sandstone | |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence | |
| Strength | Typical tensile splitting strength of >3.6MPa | |
| Slip/Skid risk | Extremely Low | |
| Installed to | BS 7533-3:2005 | |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm | |
| Abrasion Resistance | Class 3 | |
| Durability (Freeze-thaw) | Class 3 | |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC | |
| Reaction to fire | Class A1 | |
| Applications | 600x150x80mm & Mixed length x80mm Suitable for pedestrianised areas. Technical guidance must be considered for any other application. The latest British Standard should be consulted to ensure the correct sub-base design is achieved prior to installation. Specialised design advice can be obtained by contacting Tobermore directly. | |
| Energy used | 100% renewable energy | |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole | |
| Recycled content | Not less than 6% | |
| Carbon Footprint | Silver | 32kgCo²e/m² |
| | Mid Grey | 34kgCo²e/m² |
| | Sandstone | 34kgCo²e/m² |
| | Graphite | 34kgCo²e/m² |
| Recyclable | 100% of this product can be recycled | |
| Manufacturing & Delivery | From one location within the UK | |
| breeam rating www.bre.co.uk | Refer to the Green Guide to Specification, 4 th Edition 2009 | |

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TGA

Textured
Granite Aggregate

Finish



Pedestrian
Use

Refer to relevant guidance in BS7533



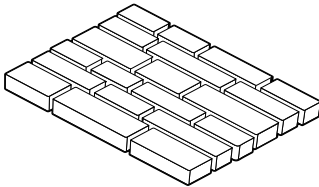
BIM
Level 2

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---------------|-------------------|---------------------------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Manhattan BIM | 600 x 150 x 80 | Graphite, Mid Grey, Sandstone, Silver | YES | 9 | 4.5 | 11.11 | 100 | 1646 | 1636 |
| | Mixed length x 80 | Graphite, Mid Grey, Sandstone Silver | YES | 9.6 | 0.96 | 20.7 | 200 | 1765 | 1755 |

BIM - This product is available to download from our website in BIM Level 2 format.

| product | size (mm) | no. per pack |
|---|----------------|--------------|
| Manhattan [Mixed length] (all sizes in one pack) | 250 x 122 x 80 | 40 |
| | 300 x 122 x 80 | 40 |
| | 300 x 164 x 80 | 20 |
| | 400 x 122 x 80 | 40 |
| | 400 x 164 x 80 | 20 |
| | 500 x 122 x 80 | 20 |
| | 500 x 164 x 80 | 20 |



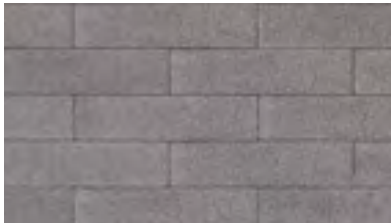
Silver



Mid Grey



Graphite



Sandstone



IMPORTANT INFORMATION

Light coloured blocks emphasise tyre marks and oil spills. It must be accepted that these products will need more maintenance if the overall appearance is to be maintained.

Tobermore recommend that you separate product groups using contrasting bands of colour as each product is manufactured separately and may have slight variations in colour.



Tegula



SCAN HERE

Traditional styling.

Tegula is a popular and versatile product that provides an aged appearance, reminiscent of stone setts and ideal for traditional settings. Tegula is created using an innovative aging process and comes in a wide selection of multi-tone colours.

- Processed to give an aged, antique appearance
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Suitable for both modern or period properties



140 x 140mm



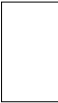
175 x 140mm



173 x 173mm



208 x 173mm



104 x 173mm



240 x 160mm

Single Sizes



130 x 173mm



173 x 173mm



197 x 173mm

Trio 50mm Sizes

All three sizes in one pack



50mm
60mm
80mm

Depths



Tegula



Specification



| | |
|--|--|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Finish | Processed to give an aged appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| НБС | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% (all colours except Natural, Golden & Slate) |
| Carbon Footprint | 50mm 18kgCo ² e/m ² 60mm 24kgCo ² e/m ² 80mm 32kgCo ² e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating www.bre.co.uk | 50/60mm: A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved when used in conjunction with a prepared recycled sub-base. 80mm: B , according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved when used in conjunction with a prepared recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

A

Aged

Permeable

Also available as

Pedestrian Use

Light Traffic

Commercial Traffic

Machine Lay

Refer to relevant guidance in BS 7533

BIM Level 2

Heather

Bracken

Brindle

Slate

Cedar

Charcoal

Golden

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---|----------------|---|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Tegula 50mm | 175 x 140 x 50 | Bracken, Charcoal, Heather, Slate | YES | 13.37 | 1.91 | 40.82 | 546 | 1503 | 1493 |
| | 140 x 140 50 | Bracken, Charcoal, Heather, Slate | YES | 13.77 | 1.53 | 51 | 702 | 1550 | 1531 |
| Tegula Trio 50mm (all three sizes in one pack) | 197 x 173 x 50 | Bracken, Brindle, Cedar, Charcoal, Golden, Heather, Slate | YES | 13.65 | 1.05 | 33.3 | 182 | 1530 | 1520 |
| | 173 x 173 x 50 | | | | | | 182 | | |
| | 130 x 173 x 50 | | | | | | 91 | | |
| Tegula 60mm BIM ML | 208 x 173 x 60 | Bracken, Cedar, Charcoal, Heather, Slate | YES | 12.95 | 2.16 | 27.79 | 360 | 1810 | 1800 |
| | 173 x 173 x 60 | Bracken, Cedar, Charcoal, Heather, Slate | YES | 12.56 | 1.79 | 33.41 | 420 | 1743 | 1733 |
| Tegula 80mm ML | 240 x 160 x 80 | Bracken, Charcoal, Heather, Slate | YES | 9.6 | 1.92 | 26.03 | 250 | 1748 | 1738 |
| | 208 x 173 x 80 | Bracken, Charcoal, Heather, Slate | YES | 9.72 | 1.62 | 27.79 | 270 | 1770 | 1760 |
| | 173 x 173 x 80 | Bracken, Charcoal, Heather, Slate | YES | 9.43 | 1.35 | 33.41 | 315 | 1717 | 1707 |
| | 104 x 173 x 80 | Bracken, Charcoal, Heather, Slate | YES | 9.07 | 1.3 | 55.58 | 504 | 1628 | 1618 |

BIM - This product is available to download from our website in BIM Level 2 format. **ML** - This product can be hand or machine laid.



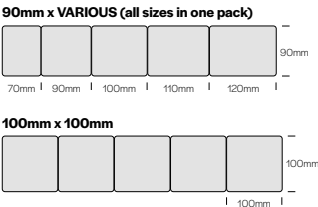
SCAN HERE

Tegula Setts

Traditional styling.

With Tegula Setts you can create an authentic aged effect. We manufacture Tegula Setts in two colours, so you can be even more creative with your paving design.

- Processed to give an aged, antique appearance
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Suitable for both modern or period properties
- Ideal for creating borders



50mm
60mm

Depths



Tegula Setts



Specification



| | |
|--|--|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Finish | Processed to give an aged appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| НЗС | Plus Q24 110 Create 45-20-64/410 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% (all colours except Natural & Golden) |
| Carbon Footprint | 17kgCo ² e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved when used in conjunction with a prepared recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

A

Aged

Finish

Pedestrian Use

Light Traffic

Refer to relevant guidance in BS7533

BIM Level 2



Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---------------------|----------------|-------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Tegula Setts BIM | Various x 50 | Bracken, Charcoal | YES | 8.5 | 0.85 | 117 | 995 | 930 | 920 |
| | 100 x 100 x 50 | Bracken, Charcoal | YES | 11.52 | 0.96 | 100 | 1152 | 1215 | 1205 |

BIM - This product is available to download from our website in BIM Level 2 format.

Charcoal

Golden



Retro



SCAN HERE

Classic European styling.

Retro block paving is reminiscent of the paved streets and plazas of Northern Europe and is the ideal paving to add character to a traditional scheme. Its slender shape and textured aged surface is particularly suited to more intimate spaces in addition to expansive use.

- Processed to give an aged, antique appearance
- Vibrant long-lasting colours
- Suitable for both modern or traditional projects
- Creates a vintage, cobbled look
- Option to lay textured side up, smooth side up or mixed



190 x 50mm

Sizes



60mm

Depths



Retro

A

Aged

Finish

Pedestrian Use

Light Traffic

Commercial Traffic

Refer to relevant guidance in BS 7533



Specification



| | |
|--|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Manufacturing process | Processed to give aged appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| NSI | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% |
| Carbon Footprint | 22kgCO ₂ e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breem rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BS EN ISO 14021:1026 and BES 6001.

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---------|---------------|-------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Retro | 190 x 50 x 60 | Bracken, Heather | YES | 6.5 | 2 or 4 | 105.3 | 684 | 820 | 810 |

Heather



Bracken



IMPORTANT INFORMATION

Please note that Retro has both a textured and a smooth surface, either can be laid upwards as the paving surface. It is important that laying instructions state clearly:

- Textured surface up
- Smooth surface up
- Mixed - Smooth and Textured surfaces up



Shannon

Versatile smooth paving.

Shannon's tight joints and chamfered edges make this product a popular choice for pedestrianised areas in addition to trafficked locations. Its smooth surface and range of vibrant long lasting colours allow for design flexibility.

- Vibrant long-lasting colours
- Superb hard-wearing smooth surface
- Pencil chamfer significantly reduces maintenance
- Smooth surface is ideal for use with trolleys, cases etc.

✓ PrimeTop® ✓ Ef-Stop®



SCAN HERE



208 x 173mm

Sizes



173 x 173mm



208 x 173mm

Duo Sizes

Both sizes in one pack



50mm
60mm

Depths



Shannon

S

Smooth

Permeable

Also available as

Pedestrian Use

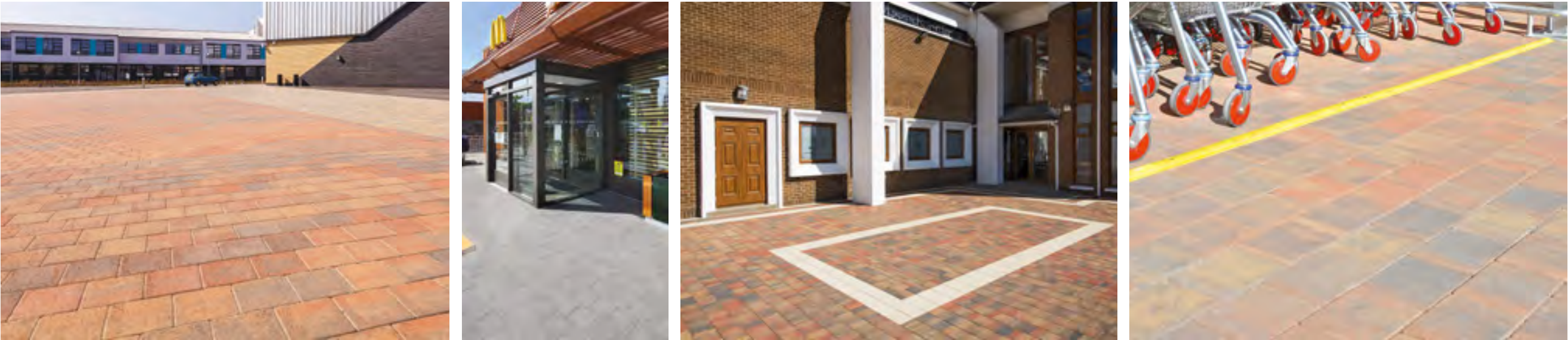
Light Traffic

Commercial Traffic

Machine Lay

Refer to relevant guidance in BS 7533

BIM Level 2



Specification

PrimeTop Ef-Stop

| | |
|--------------------------------|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement |
| Surface Finish | Smooth |
| Chamfer | Pencil Chamfer |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| NS | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 50mm 18kgCo²e/m² 60mm 22kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breeam rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved when used in conjunction with a prepared recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|----------------------------------|-----------------------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Shannon 50mm | 208 x 173 x 50 | Bracken, Charcoal, Heather, Slate | YES | 14.04 | 2.34 | 27.79 | 390 | 1638 | 1628 |
| Shannon Duo 50mm (both sizes in one pack) ML | 208 x 173 x 50 173 x 173 x 50 | Bracken, Charcoal, Heather, Slate | YES | 13.86 | 0.99 | 30.3 | 210 210 | 1617 | 1607 |
| Shannon 60mm | 208 x 173 x 60 | Bracken, Charcoal, Heather, Slate | YES | 12.96 | 2.16 | 27.79 | 360 | 1792 | 1782 |

ML - This product can be hand or machine laid.

Heather

Bracken

Slate

Charcoal



Pedesta

Attractive smooth finish.

The hard-wearing smooth surface of Pedesta creates a vibrant look in a popular rectangular format. Our PrimeTop manufacturing process creates colours which retain their vibrancy for longer than many other options on the market.

- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Rectangular profile allows the creation of distinctive patterns
- Creates a stunning, smooth look

 **PrimeTop**  **Ef-Stop**



SCAN HERE



200 x 100mm

Sizes



50mm
60mm
80mm

Depths



Pedesta



Specification

| | |
|--|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement |
| Surface Finish | Smooth |
| Chamfer | Standard |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| 认证 | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 50mm 18kgCo²e/m² 60mm 22kgCo²e/m² 80mm 30kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breeam rating www.bre.co.uk | 50/60mm: A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. 80mm: B , in according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

S

Smooth

Permeable

Also available as

Pedestrian Use

Light Traffic

Commercial Traffic

Refer to relevant guidance in BS7533

BIM

Level 2



Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---------------------|----------------|--|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Pedesta 50mm | 200 x 100 x 50 | Bracken, Brindle, Charcoal, Heather, Slate | YES | 14.40 | 2.40 | 50 | 720 | 1626 | 1616 |
| Pedesta 60mm BIM | 200 x 100 x 60 | Bracken, Brindle, Charcoal, Heather | YES | 13.44 | 2.24 | 50 | 672 | 1810 | 1800 |
| Pedesta 80mm | 200 x 100 x 80 | Bracken, Brindle, Charcoal, Heather | YES | 9.6 | 1.6 | 50 | 480 | 1724 | 1714 |

BIM - This product is available to download from our website in BIM Level 2 format.





SCAN HERE

Marker Block

Coloured indicator.

Marker Blocks offer a high-performance high-visibility marking solution. Coated in exceptionally hard-wearing pigments they eliminate the need for painting.

- Cost-effective solution where high visibility road markings are required
- Suitable for delineation & signage
- Coated with exceptionally hard-wearing heavy pigments
- Coloured marker eliminating the need for painting



200 x 100mm



240 x 120mm

Sizes



50mm

60mm

80mm

Depths



Painted



Permeable

Finish

Also available as



Pedestrian Use



Light Traffic



Commercial Traffic

Refer to relevant guidance in BS 7533



Specification

| | |
|-------------------------------|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Finish | Painted |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| NSI | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 30kgCO ₂ e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating | B , according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

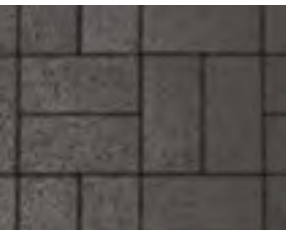
Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|------------------------|----------------|-----------------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Marker Block | 200 x 100 x 80 | Black, Green, White, Yellow | YES | 9.6 | 1.6 | 50 | 480 | 1724 | 1714 |
| Hydropave Marker Block | 200 x 100 x 60 | White | YES | 13.4 | 2.24 | 50 | 672 | 1808 | 1798 |
| | 200 x 100 x 80 | Green, Yellow, White | YES | 9.6 | 1.6 | 50 | 480 | 1732 | 1722 |
| | 240 x 120 x 80 | Green, White | YES | 10.1 | 2.02 | 34.7 | 350 | 1810 | 1800 |

White



Black



Yellow



Green





Turfstone

Grass paving system.

Turfstone is a ground reinforcement grass paving system ideal for occasional car parking or emergency vehicle access where the addition of grass is an attractive feature. The honeycombed cavities are designed to facilitate the growth of grass.

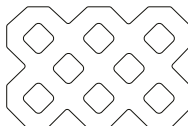
- Honey-combed cavities are designed to facilitate the growth of grass
- Functions as a SuDS permeable pavement

Turfstone typical applications:

- Vehicular access for occasional usage (emergency vehicle and utility access)
- Overspill car parking with infrequent trafficking (sports clubs, cemeteries, caravan parks)
- Nature reserves, sensitive heritage sites and country parks
- Road verges
- Environmental erosion control areas such as riverbanks and waterways
- Field entrances and farm tracks
- SuDS schemes



SCAN HERE



600 x 400mm

Sizes



100mm

Depths

ST

Standard

Finish



Pedestrian Use



Light Traffic



Commercial Traffic

Refer to relevant guidance in BS 7533



Specification



| | |
|--|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 771-3: 2011 |
| Surface Finish | Standard |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | Specific installation guidelines are available from Tobermore |
| NS | Plus Q25 345 Create 45-20-64/390 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon Footprint | 24kgCo ₂ e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breed rating www.bre.co.uk | Refer to the Green Guide to Specification, 4 th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BS EN ISO 14021:1026 and BES 6001.

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-----------|-----------------|-------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Turfstone | 600 x 400 x 100 | Natural | Yes | 7.68 | 3.84 | 4.17 | 32 | 1070 | 1060 |



Technical Information

Block paving is now an established product in the construction industry and has a number of British Standards (BS) dedicated to the range to ensure they are professionally designed and installed. Refer to the following relevant BS guidelines for detailed information.

Note
BS guidelines are subject to change and therefore you should refer to www.bsigroup.com for the latest version.

Other important references include - British Port Association heavy duty pavement design manual: "The structural design of heavy duty pavements for ports and other industries".

Important Information

Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it. Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

| | |
|------------------------|---|
| BS 7533-1:2001 | Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of heavy duty pavements constructed of clay or concrete pavers. |
| BS 7533-2:2001 | Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of lightly trafficked pavements constructed of clay pavers or precast concrete paving blocks. |
| BS 7533-3:2005+A1:2009 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements. |
| BS 7533-4:2006 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of precast concrete flags or natural stone slabs. |
| BS 7533-7:2010 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of natural stone paving units and cobbles, and rigid construction with concrete block paving. |
| BS 7533-10:2010 | Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of trafficked pavements constructed of natural stone setts and bound construction with concrete paving blocks. |
| BS 7533-11:2003 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the opening, maintenance and reinstatement of pavements of concrete, clay and natural stone. |
| BS 7533-12:2006 | Pavements constructed with clay, natural stone or concrete pavers. Code to the design of trafficked pavements constructed on a bound base using concrete paving flags and natural stone slabs. |

Important notes

Edge restraint
It is essential that the paved area is restrained at the edges to prevent movement. The edge restraints prevent rotation of the blocks under load, reducing the possible loss of laying course material at boundaries and resists lateral movement.

Laying course
If grit is used as the laying course, then fine sand must not be used for jointing as the fine sand can percolate into the bedding layer causing pavement failure.

Jointing sand
Block paving is capable of supporting substantial loads because the presence of sand in the joints generates significant friction between adjacent blocks and thereby distributes loads horizontally across the surface of the pavement from block to block. Jointing sand is available from Tobermore. Sand is purchased separately from paving. Very fine jointing sand is not suitable for heavily trafficked areas. Refer to BS7533-3 for all jointing sand specifications. It's worth pointing out that the vast majority of contractors apply the jointing sand before consolidation. This is found to give better results and does not conflict with BS 7533:3. Block paving can also be installed with a rigid joint. Please refer to BS 7533-10:2010.

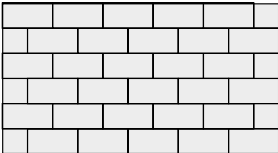
Recess manhole covers
Tobermore can supply manhole surrounds suitable for domestic applications only.

Instructions and warnings
Refer to page 257

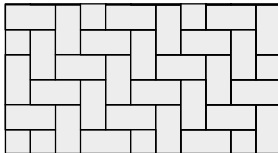
Vibrant long-lasting colours*
Tobermore only use high quality Iron Oxide pigments, (which are made to BS EN 12878), to produce our strong, vibrant and deep colours. Our state-of-the-art equipment makes our products extremely dense thus ensuring that our colours remain intact for very long periods. For example when we examine products which are 10 years old we can see that the colour retention is excellent. Tobermore would recommend that to maintain the colour and quality of product a regular maintenance programme is carried out on all projects.

Laying Patterns

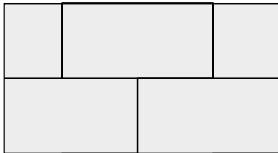
BRAEMAR



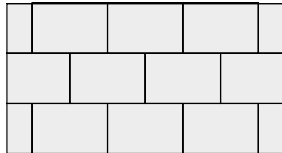
Stretcher bond
200 x 100mm



Herringbone 90°
200 x 100mm

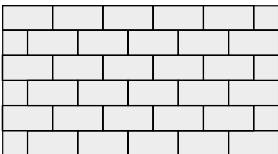


Stretcher bond
600 x 300mm

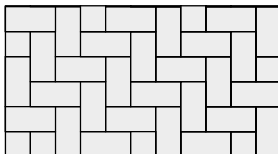


Stretcher bond
300 x 200mm

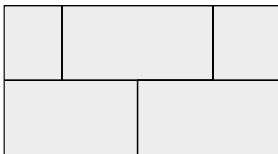
FUSION



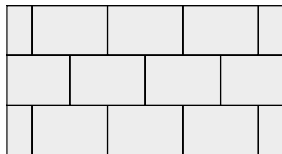
Stretcher bond
200 x 100mm



Herringbone 90°
200 x 100mm

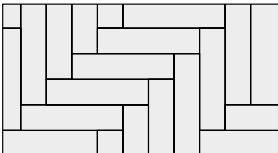


Stretcher bond
600 x 300mm

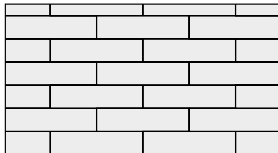


Stretcher bond
300 x 200mm

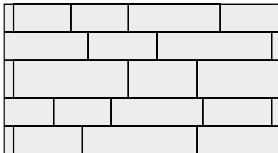
MANHATTAN



Herringbone 90°
600 x 150mm

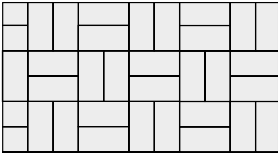


Stretcher bond
600 x 150mm

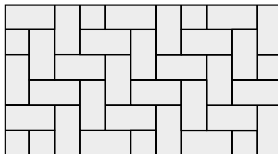


Stretcher bond, random pattern
Mixed lengths

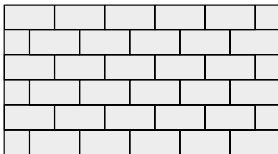
PEDESTA



Basket weave
200 x 100mm

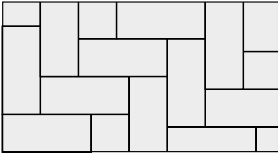


Herringbone 90°
200 x 100mm

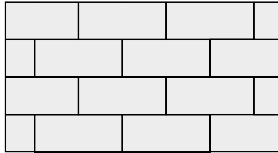


Stretcher bond
200 x 100mm

CITY PAVE VS5

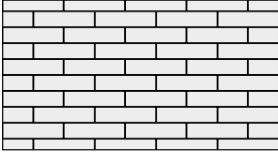


Herringbone 90°
350 x 150mm

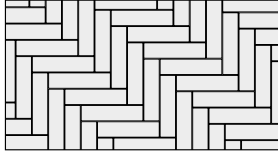


Stretcher bond
350 x 150mm

ARTRO

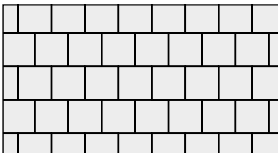


Stretcher bond
220 x 55mm

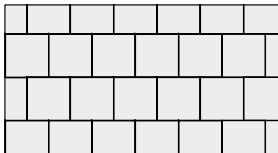


Herringbone 90°
220 x 55mm

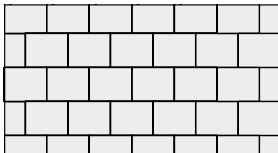
TEGULA



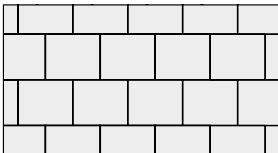
Stretcher bond
140 x 140mm



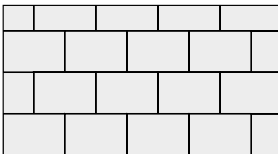
Stretcher bond
173 x 173mm



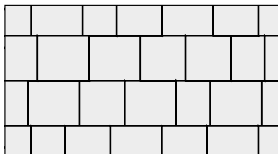
Stretcher bond
175 x 140mm



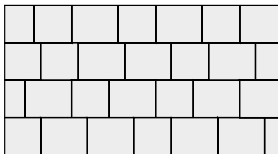
Stretcher bond
208 x 173mm



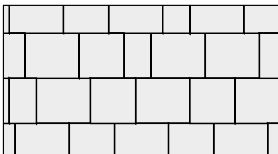
Stretcher bond
240 x 160mm



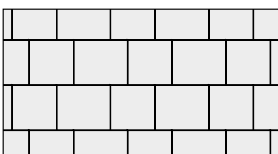
Stretcher bond 50mm Trio
197x173mm, 173x173mm, 130x173mm



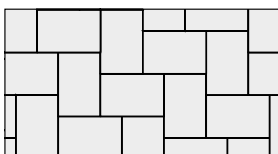
Stretcher bond
175 x 140mm, 140 x 140mm



Stretcher bond
208 x 173mm, 173 x 173mm, 104 x 173mm

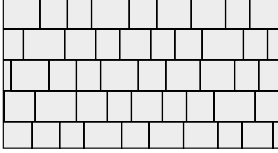


Stretcher bond
208 x 173mm, 173 x 173mm

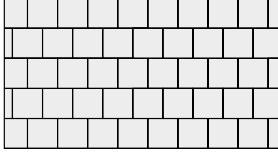


Herringbone 90°
240 x 160mm

TEGULA SETTS

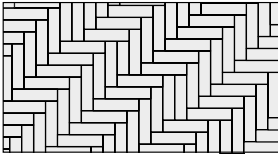


Stretcher bond, random pattern
Mixed lengths

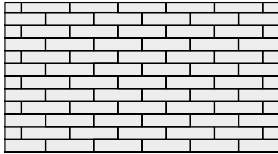


Stretcher bond
100 x 100mm

RETRO

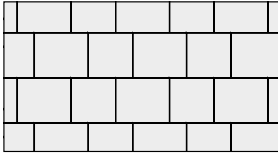


Herringbone 90°
190 x 50mm

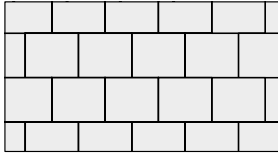


Stretcher bond
190 x 50mm

SHANNON



Shannon Duo, Stretcher bond
208 x 173mm, 173 x 173mm



Stretcher bond
208 x 173mm



| | |
|------------------------------|-----|
| Product Range | |
| Hydropave Fusion | 94 |
| Hydropave Fusion Duo | 98 |
| Hydropave Tegula | 102 |
| Hydropave Shannon Duo | 106 |
| Hydropave Pedesta | 110 |
| Hydropave 240 | 114 |
| Hydropave Textured Flags | 116 |
| Hydropave Classica Flags | 118 |
| Technical Information | 120 |
| Laying Patterns | 125 |

Permeable Paving



Hydropave Fusion



SCAN HERE

Permeable paving with natural granite aggregates.

Hydropave Fusion is a popular permeable block paving product, manufactured with a natural granite appearance creating a striking, contemporary look.

- Functions as a SuDS paving system
- Granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look

✓ PrimeTop® ✓ Ef-Stop®



200 x 100mm

Sizes



80mm

Depths



Hydropave Fusion

TGA
Textured
Granite Aggregate

Finish


Pedestrian
Use


Light
Traffic


Commercial
Traffic

Refer to relevant guidance in BS7533



Specification

 PrimeTop®  Ef-Stop®

| | |
|--|--|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kg/m³ cement |
| Surface Finish | Textured Granite Aggregate |
| Granite Content in Surface Layer (Not less than %) | 53% Silver, Graphite, Mid Grey 45% Sandstone |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 5.5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| BS | Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400 Plus Q24 119 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | 34kgCO²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breedon rating www.bre.co.uk | B , according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|------------------|----------------|---------------------------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Hydropave Fusion | 200 x 100 x 80 | Graphite, Mid Grey, Sandstone, Silver | YES | 9.6 | 1.6 | 50 | 480 | 1739 | 1729 |

Silver



Mid Grey



Graphite



Sandstone





Hydropave Fusion Duo

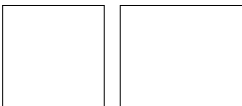


SCAN HERE

Striking granite aggregate permeable paving.

Hydropave Fusion Duo is a contemporary permeable block paving with granite aggregates available in our Duo mixed size format. Fusion is an attractive and practical block paving solution.

- Functions as a SuDS paving system
- Granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look



173 x 173mm 208 x 173mm

Duo Sizes
Both sizes in one pack



60mm

Depths

✓ PrimeTop® ✓ Ef-Stop®



Hydropave Fusion Duo

TGA
Textured
Granite Aggregate

Finish

Pedestrian
Use
Light
Traffic
Commercial
Traffic

Refer to relevant guidance in BS7533

BIM
Level 2



Specification

PrimeTop® Ef-Stop®

| | |
|---------------------------------|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement |
| Surface Finish | Textured Granite Aggregate |
| Granite Content | Not less than 53% of granite aggregate in surface layer for Silver and Graphite; not less than 45% of granite aggregate in surface layer for Sandstone. |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| BS | Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400 Plus Q24 119 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | Silver 24kgCo ² e/m ² Sandstone 26kgCo ² e/m ² Graphite 26kgCo ² e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breedon rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---|----------------------------------|-----------------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Hydropave Fusion Duo (both sizes in one pack) BIM | 208 x 173 x 60 173 x 173 x 60 | Graphite, Sandstone, Silver | YES | 12.87 | 0.99 | 30 | 195 195 | 1800 | 1790 |

BIM - This product is available to download from our website in BIM Level 2 format.

Silver



Graphite



Sandstone



IMPORTANT INFORMATION

Light coloured blocks emphasise tyre marks and oil spills. It must be accepted that these products will need more maintenance if the overall appearance is to be maintained.

*Swatches are for colour reference only.



Hydropave Tegula

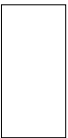


SCAN HERE

Permeable paving with traditional styling.

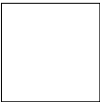
Manufactured to create an aged appearance, Hydropave Tegula permeable block paving is ideal for traditional projects. Available in two solid and four multi-tone colours.

- Functions as a SuDS paving system
- Processed to give an aged, antique appearance
- Vibrant long-lasting colours
- Suitable for both modern or traditional projects



240 x 120mm

Single Size



173 x 173mm



208 x 173mm

Duo Sizes

Both sizes in one pack



60mm
80mm

Depths



Hydropave Tegula

A

Aged

Finish

Pedestrian Use

Light Traffic

Commercial Traffic

Refer to relevant guidance in BS 7533

BIM Level 2



Specification



| | |
|--|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Finish | Processed to give an aged appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 60mm 5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate 80mm 6% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| UN5 | Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400 Plus Q24 119 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% (all colours except Slate) |
| Carbon Footprint | 60mm 24kgCo ² e/m ² 80mm 32kgCo ² e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating www.bre.co.uk | 60mm: A according to the Green Guide to Specification, 4 th Edition 2009. A+ can be achieved by using a recycled sub-base. 80mm: B , according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---|----------------------------------|--|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| Hydropave Tegula 240 BIM | 240 x 120 x 80 | Bracken, Charcoal, Slate | YES | 10.08 | 2.02 | 34.72 | 350 | 1781 | 1771 |
| Hydropave Tegula Duo (both sizes in one pack) BIM | 208 x 173 x 60 173 x 173 x 60 | Bracken, Cedar, Charcoal, Heather, Slate | YES | 12.87 | 0.99 | 30 | 195 195 | 1721 | 1711 |

BIM - This product is available to download from our website in BIM Level 2 format.

Bracken



Heather



Cedar



Natural*



Slate



Charcoal*



*Swatches are for colour reference only.



Hydropave Shannon Duo

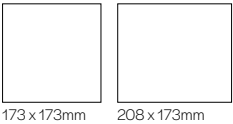


SCAN HERE

Permeable paving with
smooth surface.

Hydropave Shannon Duo is a stylish permeable block
paving product. Its smooth, contemporary look and
range of vibrant colours allow for design flexibility.

- Functions as a SuDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours



Duo Sizes
Both sizes in one pack



Depths

✓ **PrimeTop** ✓ **Ef-Stop**



Hydropave Shannon Duo

S
Smooth
Finish

Pedestrian Use
Light Traffic
Commercial Traffic
Refer to relevant guidance in BS7533

BIM
Level 2



Specification

PrimeTop Ef-Stop

| | |
|-------------------------------|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement |
| Surface Finish | Smooth |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| NS | Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400 Plus Q24 119 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 22kgCO²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breem rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|----------------------------------|----------------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Hydropave Shannon Duo (both sizes in one pack) BIM | 208 x 173 x 60 173 x 173 x 60 | Bracken, Charcoal, Heather | YES | 12.87 | 0.99 | 30 | 195 195 | 1764 | 1754 |

BIM - This product is available to download from our website in BIM Level 2 format.

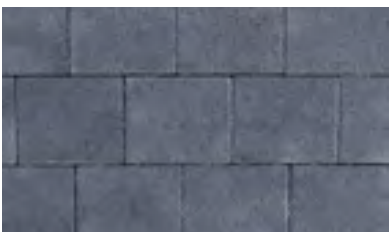
Bracken



Heather



Charcoal



*Swatches are for colour reference only.



Hydropave Pedesta



Versatile permeable paving.

Hydropave Pedesta has a smooth surface and a timeless appeal. Available in four colours, this paving provides you with plenty of scope to create patterns and designs.

- Functions as a SuDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours

✓ PrimeTop® ✓ Ef-Stop®



200 x 100mm

Sizes



60mm
80mm

Depths



Hydropave Pedesta

S

Smooth

Finish

Pedestrian Use

Light Traffic

Commercial Traffic

Refer to relevant guidance in BS7533

BIM Level 2



Specification

PrimeTop® Ef-Stop®

| | |
|--|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum layer of 4mm and >350kgs/m³ cement |
| Surface Finish | Smooth |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 5.5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| ن٥٥ | Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400 Plus Q24 119 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 60mm 22kgCo²e/m² 80mm 34kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Breeam rating www.bre.co.uk | 60mm:A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. 80mm:B , according to the Green Guide to Specification, 4 th Edition 2009. A , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-----------------------|----------------|-------------------------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Hydropave Pedesta BIM | 200 x 100 x 60 | Bracken, Brindle, Charcoal, Natural | YES | 13.44 | 2.24 | 50 | 672 | 1808 | 1798 |
| | 200 x 100 x 80 | Bracken, Brindle,Charcoal, Natural | YES | 9.6 | 1.6 | 50 | 480 | 1732 | 1722 |

BIM - This product is available to download from our website in BIM Level 2 format.

Bracken



Brindle



Charcoal



Natural





Hydropave 240

Efficient, large format permeable block paving.

Hydropave 240 is an exceptionally versatile permeable block paving product. This classic looking paving comes in a choice of practical colours ideal for use in high volume locations.

- Functions as a SuDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours

PrimeTop® Ef-Stop®



SCAN HERE



240 x 120mm

Sizes



80mm

Depths

S
Smooth
Finish

Pedestrian Use
Light Traffic
Commercial Traffic
Refer to relevant guidance in BS 7533

BIM
Level 2



Specification

PrimeTop® Ef-Stop®

| | |
|--|---|
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement |
| Surface Finish | Smooth |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 6% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| Options | Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400 Plus Q24 119 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy, See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 34kgCO ₂ e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breedon rating www.bre.co.uk | B, according to the Green Guide to Specification, 4 th Edition 2009. A, can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------------|----------------|-------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Hydropave 240 BIM | 240 x 120 x 80 | Bracken, Charcoal | YES | 10.08 | 2.02 | 34.72 | 350 | 1810 | 1800 |

BIM - This product is available to download from our website in BIM Level 2 format.

Bracken



Charcoal



Natural - For delineation only





Hydropave Textured Flags

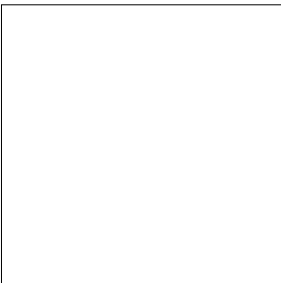


SCAN HERE

Permeable paving flags with a modern textured surface.

Hydropave Textured Flags provide a practical modern design with an attractive textured surface in a choice of neutral tones.

- Functions as a SuDS paving system
- Superb hard-wearing textured surface
- Vibrant long-lasting colours
- Natural appearance



400 x 400mm

Sizes



65mm

Depths

PrimeTop® Ef-Stop®



T
Textured
Finish

Pedestrian Use
Light Traffic
Commercial Traffic
Refer to relevant guidance in BS 7533



Specification

PrimeTop® Ef-Stop®

| | |
|---|---|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | YES |
| Drainage Void Width | 2.7% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | Specific installation instructions are available from Tobermore |
| UN5 | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | 28kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| brecon rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | edge | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--------------------------|----------------|-----------|-------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Hydropave Textured Flags | 400 x 400 x 65 | Chamfered | Charcoal, Natural | YES | 10.56 | 3.52 | 6.25 | 66 | 1556 | 1546 |

Charcoal



Natural





Hydropave Classica Flags



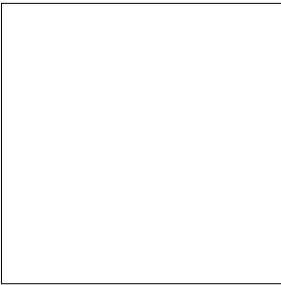
SCAN HERE

Non-slip Affordable
Permeable Paving.

Hydropave Classica Flags are a permeable paving solution designed with versatility in mind. Available in two attractive shades of grey.

- Functions as a SuDS paving system
- Superb hard-wearing textured surface
- Vibrant long-lasting colours
- Natural appearance

PrimeTop® Ef-Stop®



400 x 400mm

Sizes



65mm

Depths



NSS

Non-Slip
Smooth

Finish



Pedestrian
Use



Light
Traffic



Commercial
Traffic

Refer to relevant guidance in BS 7533



Specification

PrimeTop® Ef-Stop®

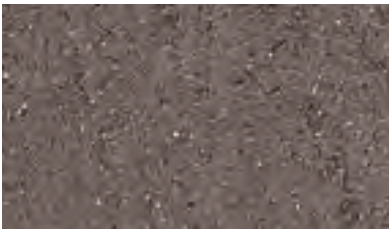
| | |
|--|---|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Frost Protection | Yes |
| Drainage Void Width | 2.7% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | Specific installation instructions are available from Tobermore |
| NS | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | 28kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breed rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | edge | colours available | in stock | m² per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--------------------------|----------------|-----------|-------------------|----------|-------------|--------------|------------|--------------|-----------------------|---------------------------|
| Hydropave Classica Flags | 400 x 400 x 65 | Chamfered | Charcoal, Natural | YES | 10.56 | 3.52 | 6.25 | 66 | 1556 | 1546 |

Charcoal



Natural





Technical Information

Important Information

Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it.

Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

BS 7533-3:2005

Pavements constructed with clay, natural stone or concrete pavers. Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements.

BS 7533-13:2009

Pavements constructed with clay, natural stone or concrete pavers. Guide for the design of permeable pavements constructed with concrete paving blocks and flags, natural stone slabs and setts and clay pavers.

What types of systems are available?

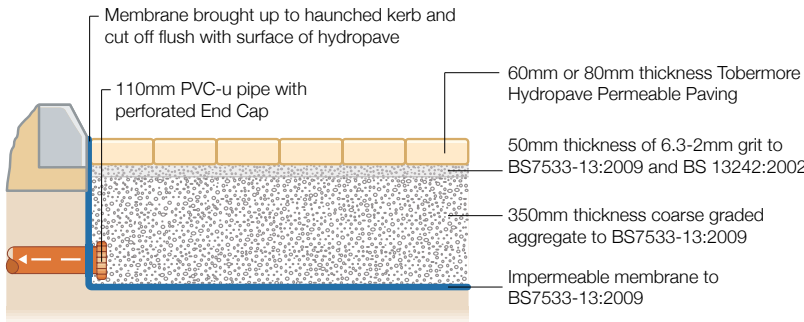
There are two common types of permeable paving systems; Attenuation and Infiltration.

The Infiltration system allows the water to flow slowly through the crushed stone beneath the paving before being slowly released back into the ground through a geotextile.

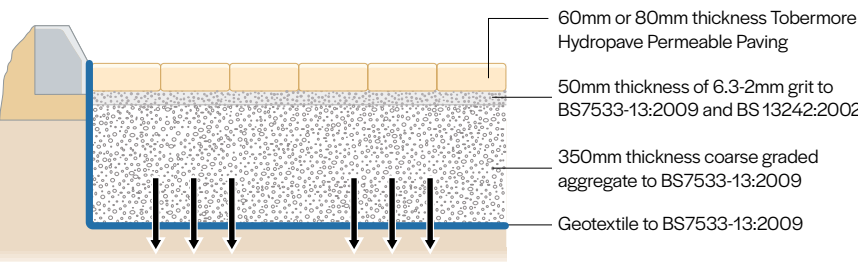
What system should I use?

Tobermore can introduce you to specialist engineers, who can provide design advice for your permeable paving project.

Typical Attenuation System



Typical Infiltration System



What are the key components of a permeable paving system?

The key components of the system are:

- Paving blocks & jointing grit
- Bedding layer
- Sub-base

As long as the system has been adequately designed for the site the most important next step is to get these components right.

* In particular, the material should be categorised as LA30, F120 and MDE20 according to table A.3 within this standard. The grit should be insoluble in dilute hydrochloric acid and should be naturally occurring material.

** You must ensure the grit and coarse graded aggregate are compatible. For example, if you use a finer grit it may percolate into the sub-base and may destabilise the pavement. Please refer to the following source of information – BS7533-13:2009 Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of permeable pavements.

Paving blocks & jointing grit

Tobermore have a wide range of Hydropave blocks and flags available. The permeability of the joints greatly exceeds UK rainfall requirements. The blocks and flags are jointed using a 6.3-2mm grit to BS EN 7533-13:2009*

Bedding layer

The blocks are bedded on a 6.3mm-2mm grit to BS EN 7533-13:2009*

Sub-base

A clean 4/20mm coarse graded aggregate** to BS EN 13242:2002 must be used for this component. A crushed rock angular stone works best.



DESIGN

How do I design a permeable paving system?

Refer to the following source of information:

- BS7533-13:2009 Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of permeable pavements.

Tobermore can provide design assistance. Please contact us for details.

Upper geotextile

An upper geotextile may be used between the sub-base and the bedding layer. Please refer to BS7533-13:2009 for further information.

What if the ground is poor or there will be significant vehicles on the paving?

Various improvement layers can be installed below the permeable paving to ensure the system can meet the structural load on the project. The engineer on the project will design these into it based on the loading category required.

The two most common types of improvement layers are **Dense Bitumen Macadam (DBM) and Cement Stabilised Coarse Graded Aggregate (CSCGA).**

Specifications for Dense Bitumen Macadam and Cement Stabilised Coarse Graded Aggregate can be found in BS 7533-13:2009. Method statements on how to install these layers can be supplied on request.

What is the ratio required of permeable area (Hydropave) to impermeable areas (roads, roofs etc)?

Sometimes, water from building roofs or nearby impermeable areas is fed into permeable paving. It is best to do this only in the case of attenuation systems when a typical ratio of 2:1 can be used between impermeable and permeable zones.

Note

A permeable paving design relies heavily on using the correct aggregates. Prior to installation, we would ask you to test both the 4/20mm coarse graded aggregate and also the 6.3-2mm bedding and jointing grit as per the relevant British Standard specification (BS EN 13242:2002). In particular, the material should be categorised as LA20 according to Table 9, SZ18 according to Table 10 and MDE15 according to Table 11 within this standard. The grit should be insoluble in dilute hydrochloric acid and should be naturally occurring material. In our experience, incorrect use of aggregates is one of the most common reasons for failure of a permeable paving system.

INSTALLATION

How to install a permeable paving system

Please refer to the following sources of information - BS 7533-3:2005 Pavements constructed with clay, natural stone or concrete pavers. Part 3: Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements.

Sub-base: 4/20mm aggregate

After putting the required depth of stone in position, it needs to be re-orientated using either a tandem roller or a plate vibrator.

Bedding layer: 6.3-2mm laying course material

The bedding layer should be screeded over the 4/20mm.

Paving blocks

When the blocks are placed to the chosen pattern they should be plate vibrated, before the 6.3-2mm grit is brushed into the joints until they are completely filled.

Joint filling

All joints must be filled to the top with 6.3-2mm grit. Joints which are not fully filled can lead to possible movement of the blocks after use. We recommend that after a few weeks use that any joints, which have settled and are not full, are topped up with grit. Joints should be kept filled at all times. You will need approximately 1 ton of grit for every 100m² of 80mm paving.

Note

Care should be taken that the permeable joints do not become contaminated as work on the scheme is completed. Special care needs to be taken when soft landscaping is carried out so that soil does not enter the joints. When this type of work is being carried out, the surface of the permeable paving should be protected by an appropriate cover to protect the joints from being contaminated.

Adverse weather

Due to the superior drainage capabilities of Hydropave it is possible to install the product in more adverse weather conditions compared to standard paving.

MAINTENANCE

Please refer to Tobermore's detailed 'Permeable Paving Maintenance Guidelines' available on our website: www.tobermore.co.uk

Instructions and warnings

Refer to page 257

Catalogue of Designs

The following common designs are intended solely for use at scheme appraisal stage and should not be relied upon in substitution for obtaining a permeable paving design that has been prepared by a suitably qualified engineer specifically for the scheme.

Note
In the case of attenuation designs, subgrade CBR values are equilibrium moisture content values.

In the case of infiltration designs, subgrade CBR values are soaked values.

Capping thickness may need to be adjusted upwards to achieve a firm working platform which can sustain loads from construction traffic without deforming excessively and which can offer sufficient reaction to allow the overlying materials to be fully compacted.

All pavements must meet the requirements of BS7533 Part 3 in terms of installation.

The thicknesses of coarse graded aggregate will be suitable for the traffic conditions shown and in the case of attenuation designs should be sufficiently thick to meet the attenuation requirements. However, a site specific hydraulic analysis should be carried out using the method set out in the Interpave Guidelines. In the case of infiltration designs, there is usually no need to check hydraulic capacity but a check must be made on the infiltration capacity of the ground. (The ground must be proven to accept sufficient water which will have to be scaled up if the pavement is infiltrating water draining towards it from impermeable paving or from downpipes.)

Where traffic weights exceed those commonly encountered on public highways, specialised design advice should be sought.

Where light vans are included, their maximum capacity is 15kN (300cwt).

Loading Categories

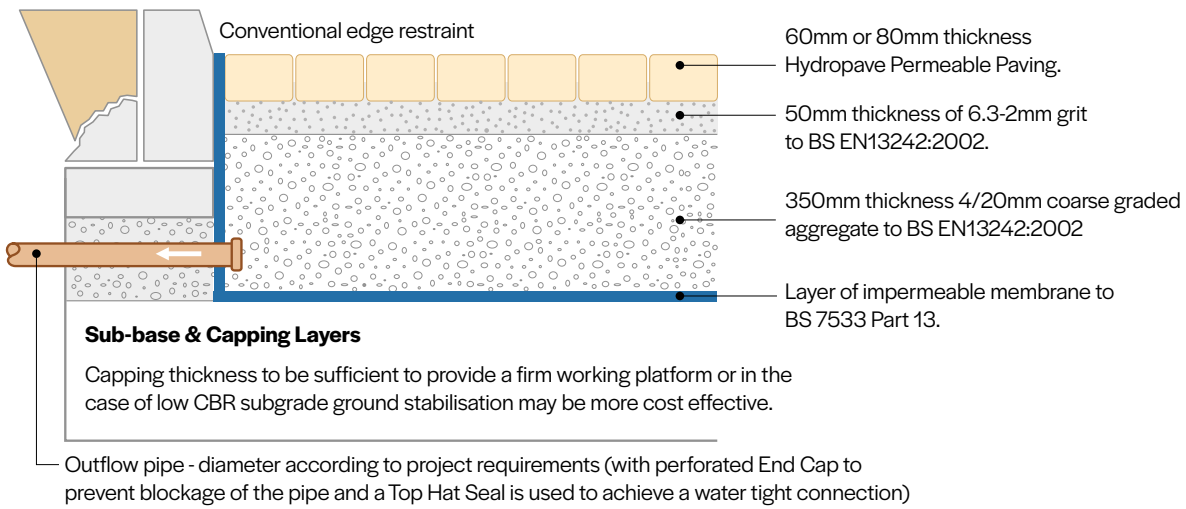
| Category/ Application | No. of standard axles | Traffic Guide | Application |
|--------------------------|--------------------------|-------------------------|---|
| A/Domestic | 0 | No Large HGV | <ul style="list-style-type: none">PatioPrivate DrivesDecorative FeaturesEnclosed PlaygroundsFootways with Zero overrun |
| B/Car Parking | 100 | Emergency vehicles only | <ul style="list-style-type: none">Car parking bays and aislesRailway station platformsExternal car showroomsSports stadium pedestrian routesFootways with occasional overrunPrivate drivesFootway crossover |
| C/Pedestrian | 0.015msa | Large HGV/week | <ul style="list-style-type: none">Town/City pedestrian streetNursery accessParking areas to residential developmentMotel parkingGarden centre external displaysCemetery/CrematoriumAirport car park (no bus pick-up)Sports centre |
| D/Shopping | 0.15msa | 10 large HGV/week | <ul style="list-style-type: none">Retail development delivery access routeSchool/college access routeOffice block delivery routeGarden centre delivery routeDeliveries to small residential developmentFire station yardAirport car park with bus to terminalSports stadium access route/forecourt |
| E/Commercial | 1.5msa | 100 large HGV/week | <ul style="list-style-type: none">Industrial premisesLightly trafficked public roadsLight industrial developmentMixed retail/industrial developmentTown SquareFootway with regular overrunAirport landslide |
| F/Heavy traffic | 15msa | 1000 large HGV/week | <ul style="list-style-type: none">Main roadDistribution centreBus station (bus every 5 minutes)RoundaboutBus lane |

Sub-base & Capping Layers
Capping thickness to be sufficient to provide a firm working platform or in the case of low CBR subgrades ground stabilisation may be more cost effective. If CBR is 5% or greater then capping layers are not required.

It is advised that all sites need independent inspection and assessment by a suitably qualified engineer prior to project commencement.

Attenuation designs

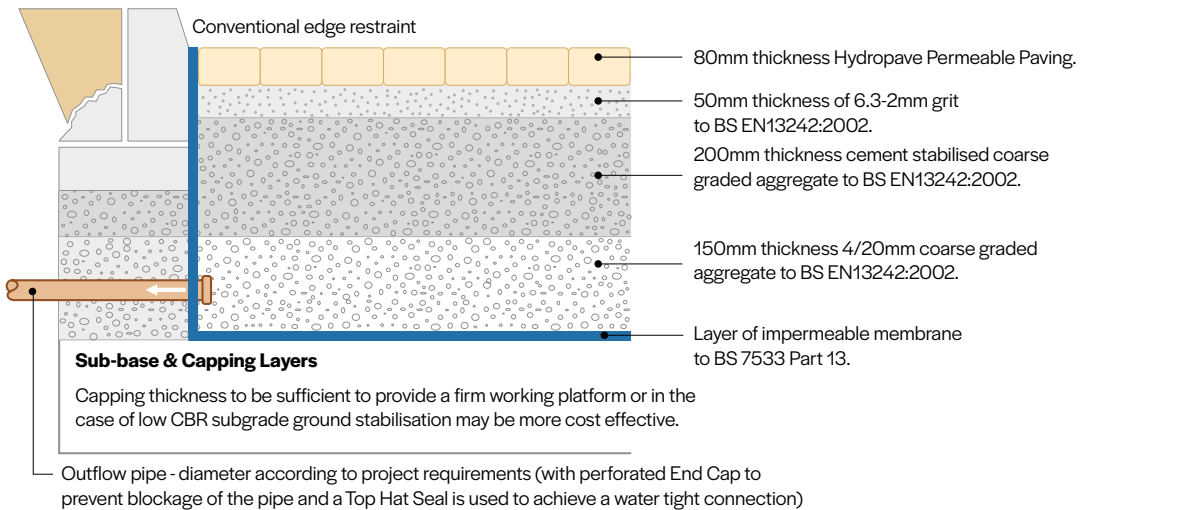
LOADING CATEGORY B: 1-5%CBR



The design sections shown should be checked and cross referenced by a qualified engineer against BS7533 Part 13. Other design examples are available on request or by visiting the Hydropave section on our website.

An upper geotextile is optional on this design.

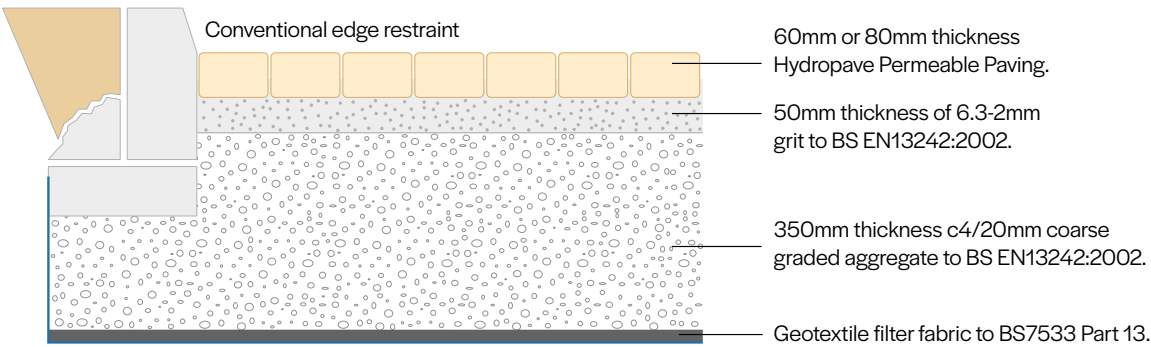
LOADING CATEGORY E: 1-5%CBR



Catalogue of Designs

Infiltration designs

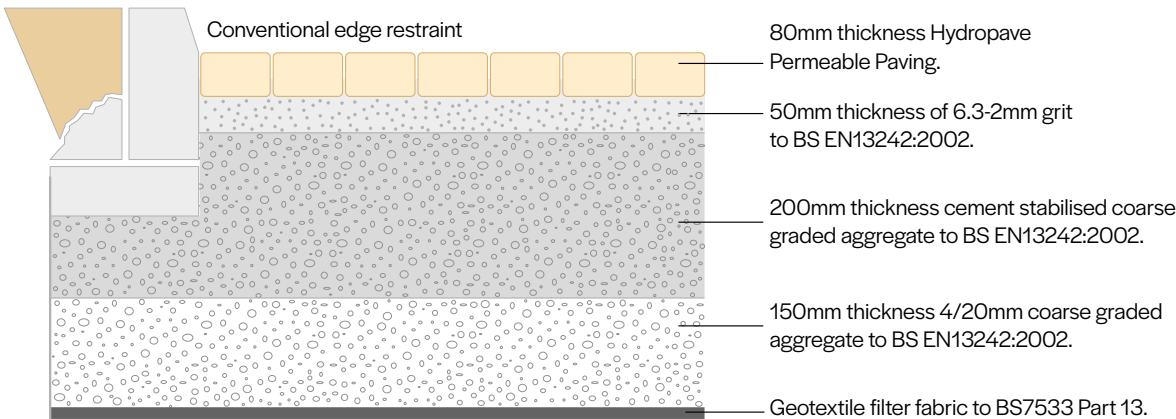
LOADING CATEGORY B: 5%CBR



The design sections shown should be checked and cross referenced by a qualified engineer against BS7533 Part 13. Other design examples are available on request or by visiting the Hydropave section on our website.

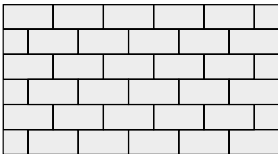
An upper geotextile is optional on this design.

LOADING CATEGORY E: 5%CBR



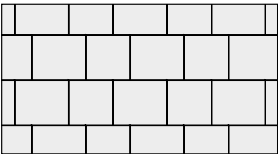
Laying Patterns

HYDROPAVE FUSION



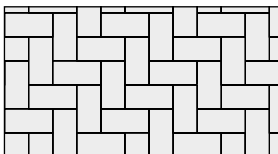
Stretcher bond
200x100mm

HYDROPAVE FUSION DUO



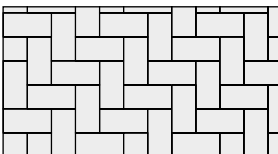
Stretcher bond
208x173mm, 173x173mm

HYDROPAVE 240



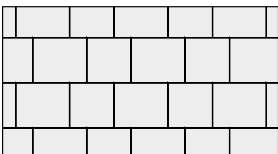
Herringbone 90°
240x120mm

HYDROPAVE TEGULA 240



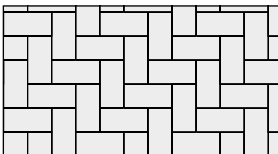
Herringbone 90°
240x120mm

HYDROPAVE TEGULA DUO



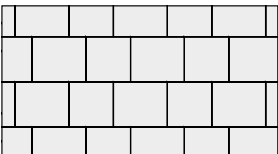
Stretcher bond
208x173mm, 173x173mm

HYDROPAVE PEDESTA



Herringbone 90°
200x100mm

HYDROPAVE SHANNON DUO



Stretcher bond
208x173mm, 173x173mm





| | |
|------------------------------|-----|
| Product Range | |
| Braemar Flags | 128 |
| Mayfair Flags | 132 |
| Historic Flags & Circles | 136 |
| Beaufort Flags | 140 |
| Textured Flags | 142 |
| Riven Flags | 146 |
| Classica Flags | 150 |
| Tactile Flags | 154 |
| Technical Information | 158 |
| Laying Patterns | 159 |

Paving Flags



Braemar Flags



SCAN HERE

High performance paving with the aesthetic appeal of natural stone.

- Premium flag
- Diamond ground finish
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colour
- Creates a striking, contemporary look
- Readily available with much shorter lead times than natural stone
- Cost effective alternative to natural stone



600 x 400mm



50mm

Depths

✓ PrimeTop® ✓ Ef-Stop®



Surface solutions for all applications

Braemar's advanced PrimeTop construction and wide palette of natural granite aggregates provides a modern solution for use in projects requiring a superior paving solution. Each Braemar block or slab is individually finished through a diamond tipped grinding process to create the aesthetic appeal of natural stone. The range is available in two different finishes.

Ground

Braemar's Ground finish creates an attractive, smooth effect, similar to honed granite which highlights the colouring in the natural granite aggregates.



Braemar Flags

G
Ground

Finish


 Pedestrian Use
 Light Traffic
Refer to relevant guidance in BS 7533


BIM
Level 2



Specification

 PrimeTop®  Ef-Stop®

| | |
|--|--|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Granite content | Not less than 63.3% of granite aggregate in surface layer |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Low |
| Installed to | (Externally) BS 7533-4:2006 |
| | (Internally) Details available on request |
| UL5 | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | 22kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
|  rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | edge | colours available | in stock | m² per pack | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|----------------------|----------------|-----------|-------------------|----------|-------------|------------|--------------|-----------------------|---------------------------|
| Braemar Ground Flags | 600 x 400 x 50 | Chamfered | Alto Silver | YES | 4.8 | 4.16 | 20 | 589 | 584 |
| BIM | | | | | | | | | |

BIM - This product is available to download from our website in BIM Level 2 format.

Alto Silver



IMPORTANT INFORMATION

A regular maintenance programme should always be established and active for all public spaces to reduce the risk of slip/skid. Tobermore's stunning ground and ground textured finishes are created using a modern diamond grinding process which achieves a premium finish. Ground textured provides a higher level of slip resistance.

Light coloured flags emphasise tyre marks and oil spills. It must be accepted that these products will need more maintenance if the overall appearance is to be maintained.



Mayfair Flags



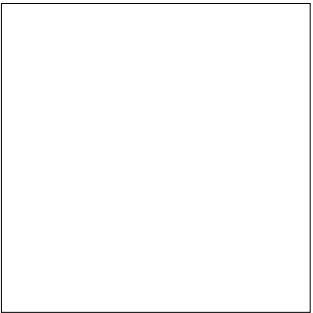
SCAN HERE

Granite aggregate paving slabs.

Mayfair flags have a sophisticated, modern feel. Manufactured with natural granite aggregates, Mayfair flags have a hard-wearing, durable surface and come in three natural colours.

- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look

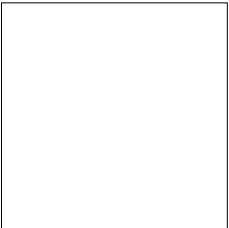
✓ PrimeTop® ✓ Ef-Stop®



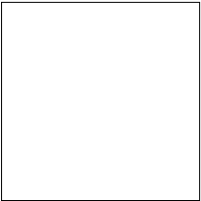
600 x 600mm



600 x 400mm



450 x 450mm



400 x 400mm

Sizes



- 65mm
- 50mm
- 40mm
- 35mm

Depths



Mayfair Flags



TGA

Textured
Granite Aggregate

Finish

Steps

Also available as

Pedestrian
Use

Light
Traffic

Commercial
Traffic

Refer to relevant guidance in BS 7533

BIM
Level 2

Specification

PrimeTop Ef-Stop

| | | | | |
|---|--|-------------|-------------|-----|
| Product type | Concrete Paving Flag | | | |
| Manufactured to | BS EN 1339:2003 | | | |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement | | | |
| Granite content | Not less than 57% of granite aggregate in surface layer for Silver and Graphite; Not less than 46% of granite aggregate in surface layer for Sandstone | | | |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence | | | |
| Strength | Less than 50mm deep Typical tensile splitting strength of >3.5MPa 50mm or greater Typical tensile splitting strength of >5MPa (Class 3) | | | |
| Slip/Skid risk | Extremely Low | | | |
| Installed to | BS 7533-4:2006 | | | |
| НДС | Plus Q25 315 Create 45-20-64/395 | | | |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm | | | |
| Abrasion Resistance | Class 3 | | | |
| Durability (Freeze-thaw) | Class 3 | | | |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC | | | |
| Reaction to fire | Class A1 | | | |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com | | | |
| Energy used | 100% renewable energy | | | |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole | | | |
| Recycled content | Not less than 6% | | | |
| Carbon Footprint | 35mm | 40mm | 50mm | |
| | Silver | 14* | 16* | 19* |
| | Sandstone | 15* | 17* | 22* |
| | Graphite | 15* | 17* | 24* |
| Recyclable | 100% of this product can be recycled | | | |
| Manufacturing & Delivery | From one location within the UK | | | |
| breem rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. | | | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|----------------------|----------------|-----------|-----------------------------|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Mayfair Flags BIM | 600 x 600 x 50 | Chamfered | Graphite, Sandstone, Silver | YES | 2.78 | 20 | 20 | 859 | 851 |
| | 600 x 400 x 50 | Chamfered | Graphite, Sandstone, Silver | YES | 4.16 | 20 | 40 | 584 | 580 |
| | 450 x 450 x 50 | Chamfered | Graphite, Sandstone, Silver | YES | 4.94 | 20 | 80 | 470 | 466 |
| | 450 x 450 x 35 | Chamfered | Graphite, Sandstone, Silver | YES | 4.94 | 30 | 120 | 529 | 525 |
| | 400 x 400 x 40 | Chamfered | Graphite, Sandstone, Silver | YES | 6.25 | 25 | 100 | 384 | 382 |

BIM - This product is available to download from our website in BIM Level 2 format.

Silver

Graphite

Sandstone



Historic Flags & Circles

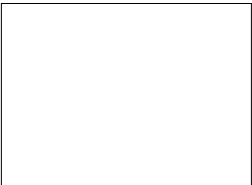
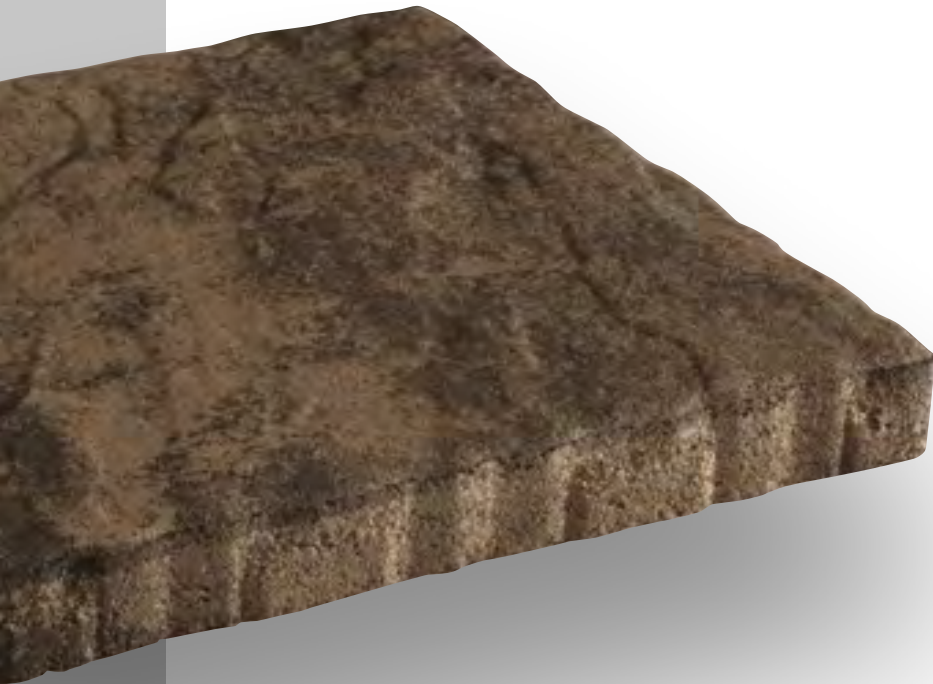


Riven stone effect.

Historic Flags, with a neutral, slate-like finish, contain a subtle blend of natural tones and colours. These paving flags complement both modern and period properties.

- Provides the look and feel of traditional natural stone
- Superb hard-wearing surface
- Vibrant long-lasting colours
- Features beautiful fettled edges and a riven face
- Available in a mixed size pack
- Allows fast installation
- An inspiring focal point can be created with a Historic Circle

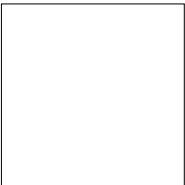
 PrimeTop®  Ef-Stop®



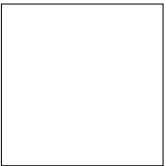
600 x 450mm



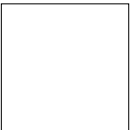
600 x 300mm



450 x 450mm



450 x 300mm



300 x 300mm

Mixed Length Sizes
All sizes in one pack



50mm

Depths



Historic Flags & Circles




PrimeTop® Ef-Stop®

| | |
|-------------------------------|--|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >350kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| ΠΣ5 | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 12% |
| Carbon Footprint | 18kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breem rating | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. www.bre.co.uk |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

R
Riven
Finish


Pedestrian
Use
Refer to relevant guidance in BS 7533


BIM
Level 2



Stock

| product | size (mm) | edge | colours available | in stock | m² per pack | m² per slice | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|---|--|---------|-------------------------|----------|-------------|--------------|----------------------------|----------------|-----------------------|---------------------------|
| Historic Flags (all sizes in one pack) | 600 x 450 x 50 600 x 300 x 50 450 x 450 x 50 450 x 300 x 50 300 x 300 x 50 | Fettled | Bracken, Heather, Slate | YES | 14.04 | 1.08 | 13 13 26 13 13 | 78 | 1596 | 1596 |
| Historic Circle | 50mm x 2.24m diameter | Fettled | Bracken, Heather, Slate | YES | 3.94 | - | 25 | | 455 | 455 |

BIM - This product is available to download from our website in BIM Level 2 format.

| Slate | Bracken | Heather |
|---|---|---|
|  |  |  |



Beaufort Flags



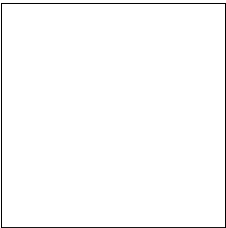
SCAN HERE

Natural contoured appearance.

Beaufort Flags are inspired by the timeless appeal of natural stone. Manufactured with a contoured surface, lightly embossed and finished with a subtle sparkle, Beaufort Flags are available in natural, muted colours.

- Superb hard-wearing surface
- Natural, muted colour range
- Resembles the aesthetics of natural stone
- Contemporary appearance

PrimeTop® Ef-Stop®



400 x 400mm

Sizes






40mm

Depths

C
Contoured
Finish

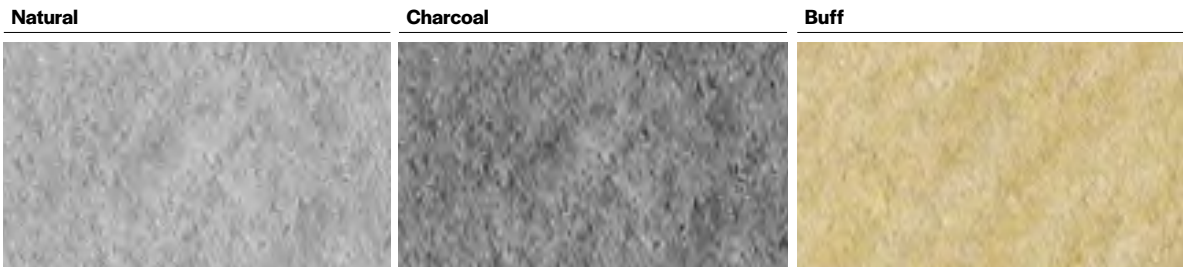
Pedestrian
Use
Refer to relevant guidance in BS 7533



| Specification | |  PrimeTop® |  Ef-Stop® |
|--|--|---|--|
| Product type | Concrete Paving Flag | | |
| Manufactured to | BS EN 1339:2003 | | |
| Granite Content | Not less than 60% of granite aggregate in surface layer for Charcoal; Not less than 73% of granite aggregate in surface layer for Natural; Not less than 44% of granite aggregate in surface layer for Buff. | | |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement | | |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence | | |
| Strength | Typical tensile strength of > 3.5MPa | | |
| Slip/Skid risk | Extremely Low | | |
| Installed to | BS 7533-4:2006 | | |
| NS | Plus Q25 315 Create 45-20-64/395 | | |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm | | |
| Abrasion Resistance | Class 3 | | |
| Durability (Freeze-thaw) | Class 3 | | |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC | | |
| Reaction to fire | Class A1 | | |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com | | |
| Energy used | 100% renewable energy | | |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole | | |
| Recycled content | Not less than 5% | | |
| Carbon Footprint | 18kgCo²e/m² | | |
| Recyclable | 100% of this product can be recycled | | |
| Manufacturing & Delivery | From one location within the UK | | |
|  rating www.bre.co.uk | A, according to the Green Guide to Specification, 4 th Edition 2009. A+, can be achieved by using a recycled sub-base. | | |
| Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001. | | | |

Stock

| product | size (mm) | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|----------------|----------------|-----------|-------------------------|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Beaufort Flags | 400 x 400 x 40 | Chamfered | Buff, Charcoal, Natural | YES | 6.25 | 25 | 100 | 403 | 400 |
| | 600 x 400 x 40 | Chamfered | Charcoal, Natural | YES | 4.16 | 25 | 100 | 569 | 560 |





Textured Flags

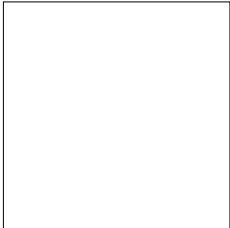


Stylish granular surface.

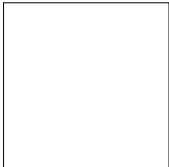
Textured Flags have a modern and natural look that blends beautifully with a variety of other products. Manufactured with a hard-wearing granular surface, these flags are both stylish and hard-wearing.

- Superb hard-wearing textured surface
- Vibrant long-lasting colours
- Natural appearance

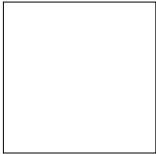
 **PrimeTop**  **Ef-Stop**



600 x 600mm



450 x 450mm



400 x 400mm

Sizes



- 32mm
- 35mm
- 40mm
- 40mm

Depths



Textured Flags



T
Textured
Finish

PT
Patio Textured
Also available as

Permeable

Pedestrian Use

Light Traffic

Commercial Traffic

BIM Level 2

Refer to relevant guidance in BS 7533

Specification

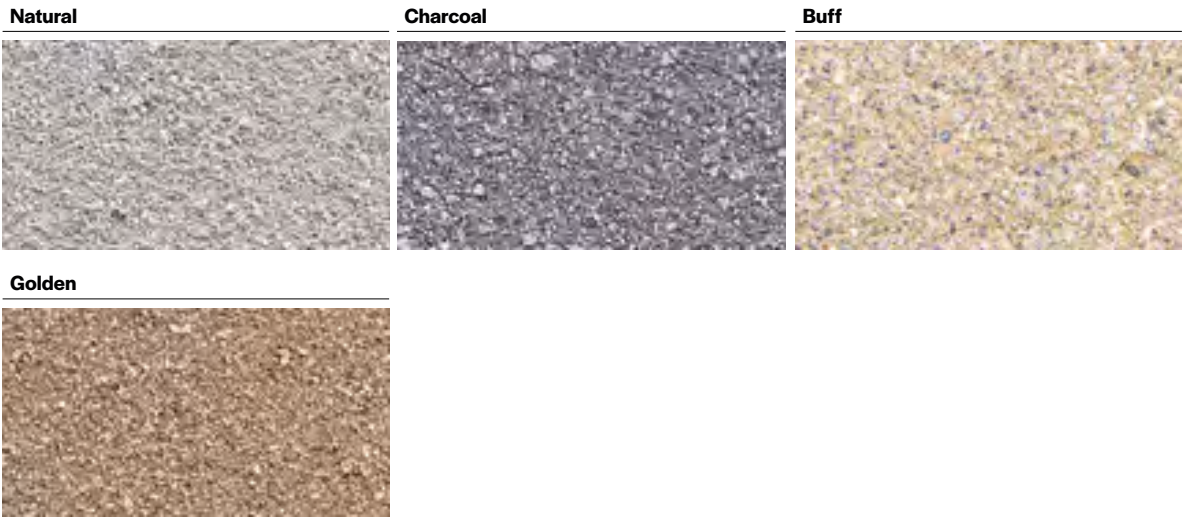
PrimeTop® Ef-Stop®

| | |
|--|--|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Less than 50mm deep Typical tensile splitting strength of >3.5MPa 50mm or greater Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| BS | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon Footprint | 600x600x50mm 22kgCo²e/m² 600x600x40mm 16kgCo²e/m² 450x450x50mm 22kgCo²e/m² 450x450x35mm 15kgCo²e/m² (Buff: 16kgCo2e/m²) 400x400x40mm 19kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. |
| Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001. | |

Stock

| product | size (mm) | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|------------------------------|----------------|-----------|---------------------------|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Textured Flags BIM | 600 x 600 x 50 | Chamfered | Buff, Charcoal, Natural | YES | 2.78 | 20 | 20 | 850 | 842 |
| | 600 x 600 x 40 | Chamfered | Buff, Charcoal, Natural | YES | 2.78 | 24 | 24 | 848 | 840 |
| | 450 x 450 x 50 | Chamfered | Buff, Charcoal, Natural | YES | 4.94 | 60 | 60 | 1490 | 1480 |
| | 450 x 450 x 35 | Chamfered | Buff, Charcoal, Natural | YES | 4.94 | 30 | 120 | 521 | 517 |
| | 400 x 400 x 40 | Chamfered | Charcoal, Golden, Natural | YES | 6.25 | 25 | 100 | 403 | 400 |
| | 400 x 400 x 32 | Chamfered | Charcoal, Golden, Natural | YES | 6.25 | 30 | 120 | 387 | 385 |

BIM This product is available to download from our website in BIM Level 2 format.





SCAN HERE

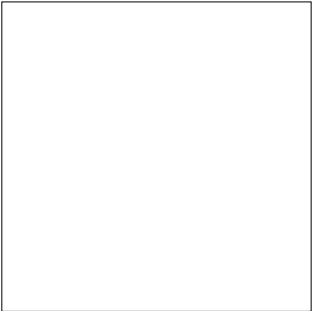
Riven Flags

Rugged riven texture.

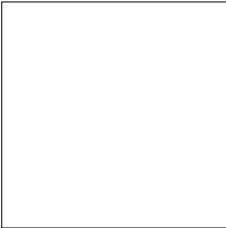
Riven Flags are engineered with a natural, rugged feel, emulating natural stone. Riven Flags are the ideal paving flags for creating a rustic look.

- Superb hard-wearing riven surface
- Vibrant long-lasting colours
- Resembles the rugged appearance of natural stone

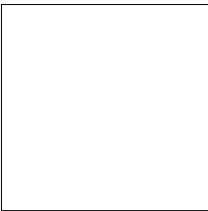
 **PrimeTop®**  **Ef-Stop®**



600 x 600mm



450 x 450mm



400 x 400mm

Sizes




32mm
35mm
40mm

Depths



Riven Flags


R
Riven
Finish

 Pedestrian Use
Refer to relevant guidance in BS7533



Specification

 PrimeTop®  Ef-Stop®

| | |
|--|--|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile strength of > 3.5MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| NS | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon Footprint | 600x600x40mm 16kgCo²e/m² 450x450x35mm 16kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
|  rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------|----------------|-----------|---------------------------|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Riven Flags | 600 x 600 x 40 | Chamfered | Buff, Charcoal, Natural | YES | 2.78 | 24 | 24 | 796 | 780 |
| | 450 x 450 x 35 | Chamfered | Buff, Charcoal, Natural | YES | 4.94 | 30 | 120 | 532 | 528 |
| | 400 x 400 x 32 | Chamfered | Charcoal, Golden, Natural | YES | 6.25 | 30 | 120 | 400 | 398 |

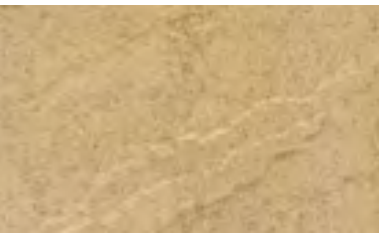
Natural



Charcoal



Buff



Golden





Classica Flags



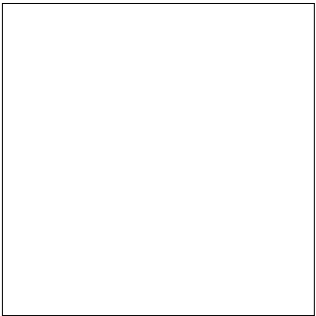
SCAN HERE

Simple & stylish.

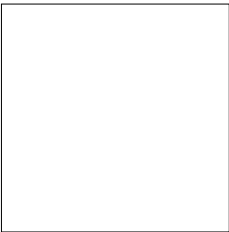
Classica Flags have a stylish, simple look. A variety of shades and size options, Classica Flags have the flexibility to blend with contemporary and traditional developments.

- Superb hard-wearing surface
- Vibrant long-lasting colours
- Cost-effective alternative

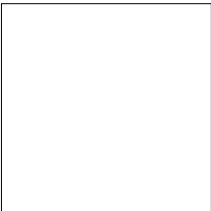
 **PrimeTop®**  **Ef-Stop®**



600 x 600mm



450 x 450mm



400 x 400mm

Sizes



- 32mm
- 35mm
- 40mm
- 50mm

Depths



Classica Flags



Specification

PrimeTop Ef-Stop

| | |
|-------------------------------|---|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m ³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Less than 50mm deep Typical tensile splitting strength of >3.5MPa 50mm or greater Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| BS | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon Footprint | 600x600x50mm 22kgCo ² e/m ² 600x600x40mm 16kgCo ² e/m ² 450x450x50mm 22kgCo ² e/m ² 450x450x35mm 15kgCo ² e/m ² (Buff: 16kgCo2e/m ²) 400x400x40mm 18kgCo ² e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breem rating | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

S
Smooth

PNS
Patio
Non-Slip

NSS
Non-Slip
Smooth

Permeable

Pedestrian
Use

Light
Traffic

Commercial
Traffic

Finish

Also available as

Refer to relevant guidance in BS 7533

BIM
Level 2

Natural

Charcoal

Buff

Golden

Stock

| product | size (mm) | edge | colours available | in stock | no. per m ² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|----------------|----------------|-----------|---------------------------|----------|------------------------|--------------|----------------|-----------------------|---------------------------|
| Classica Flags | 600 x 600 x 50 | Chamfered | Charcoal, Natural | YES | 2.78 | 20 | 20 | 850 | 842 |
| | 600 x 600 x 40 | Chamfered | Buff, Charcoal, Natural | YES | 2.78 | 24 | 24 | 848 | 840 |
| | 450 x 450 x 50 | Chamfered | Buff, Charcoal, Natural | YES | 4.94 | 60 | 60 | 1490 | 1480 |
| | 450 x 450 x 35 | Chamfered | Buff, Charcoal, Natural | YES | 4.94 | 30 | 120 | 515 | 511 |
| | 400 x 400 x 40 | Chamfered | Charcoal, Golden, Natural | YES | 6.25 | 25 | 100 | 403 | 400 |
| | 400 x 400 x 32 | Chamfered | Charcoal, Golden, Natural | YES | 6.25 | 30 | 120 | 394 | 392 |

BIM - This product is available to download from our website in BIM Level 2 format.



Tactile Flags

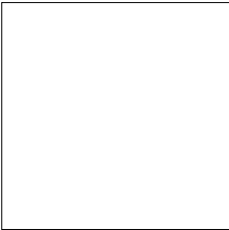


SCAN HERE

Aids the visually impaired & blind.

Tactile Flags are designed to assist pedestrians who are visually impaired or blind.

- Available in Blister finish
- Superb hard-wearing surface
- Vibrant long-lasting colours



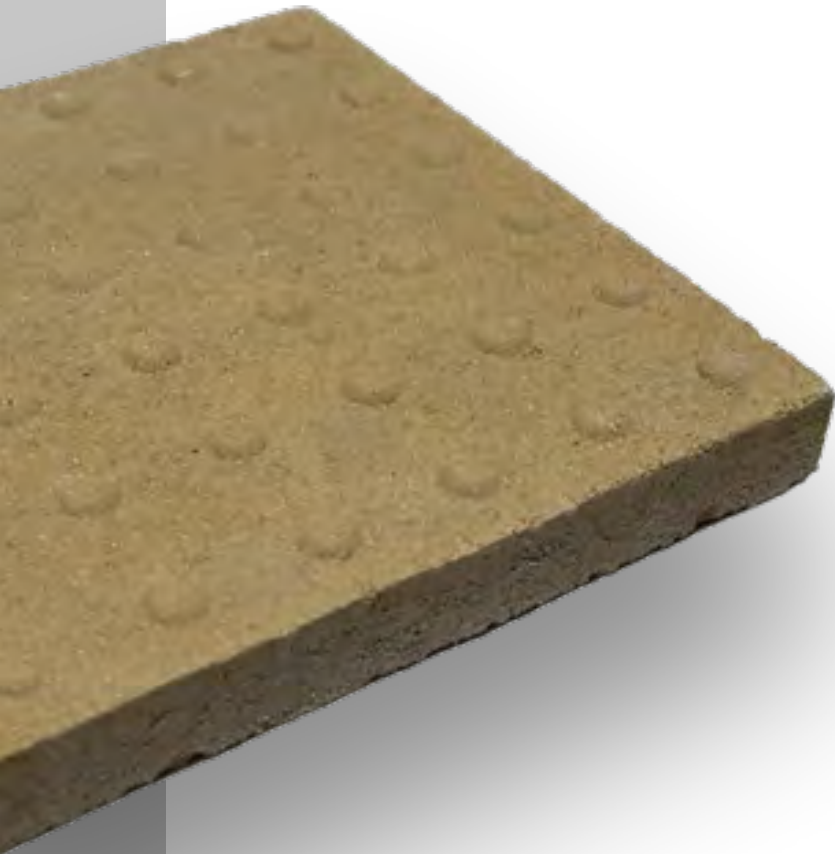
400 x 400mm

Sizes



50mm

Depths



Tactile Flags



B

Blister

Finish

Pedestrian Use

Light Traffic

Refer to relevant guidance in BS 7533



Specification



| | |
|--|---|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| BS | Plus Q25 320 Create 45-20-64/425 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.co |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon Footprint | 22kgCo2e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

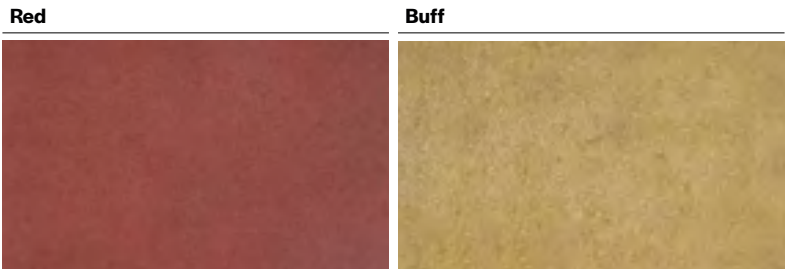
| product | size (mm) | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|---------------|----------------|--------|-------------------|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Tactile Flags | 400 x 400 x 50 | Square | Buff, Red | YES | 6.25 | 20 | 80 | 393 | 391 |



Blister

Blister flags enable the partially sighted and blind to distinguish between different types of crossing zones.

Red relates to controlled crossing zones, while Buff is available to distinguish uncontrolled crossing zones.





Technical Information

Important Information

Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it. Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

Paving Flags are now an established product in the construction industry and have a number of British Standards (BS) dedicated to the range to ensure they are professionally designed and installed. Refer to the following relevant BS guidelines for detailed information.

Note: BS guidelines are subject to change and therefore you should refer to www.bsigroup.com for the latest version.

| | |
|-----------------|--|
| BS 7533-4:2006 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of precast concrete flags or natural stone slabs. |
| BS 7533-8:2003 | Pavements constructed with clay, natural stone, or concrete pavers. Guide for the structural design of lightly trafficked pavements of precast concrete flags and natural stone flags. |
| BS 7533-11:2003 | Code of practice for the opening, maintenance and reinstatement of pavements of concrete, clay and natural stone. |
| BS 7533-12:2006 | Pavements constructed with clay, natural stone or concrete pavers. Guide to the structural design of trafficked pavements constructed on a bound base using concrete paving flags and natural stone slabs. |

Important notes

Edge restraint

All paved areas require an edge restraint to prevent lateral movement of the paved area and to restrict the loss of laying course material. Edge restraints can be existing structures, kerbs, channels or standard paving blocks bedded onto and haunched with concrete.

Paving flag Support Pads

Tobermore can provide fixed height plastic paving support pads to enable flags to be installed on roof terraces and balconies. Contact Tobermore for details.

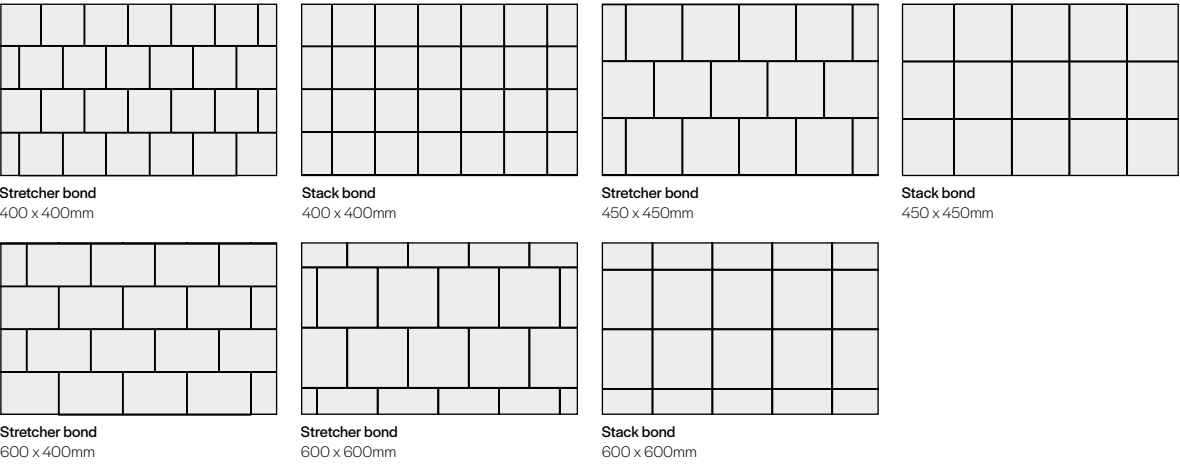
Vibrant long-lasting colours

Tobermore only use high quality Iron Oxide pigments, (which are made to BS EN 12878), to produce our strong, vibrant and deep colours. Our state-of-the-art equipment makes our products extremely dense thus ensuring that our colours remain intact for very long periods. For example when we examine products which are 10 years old we can see that the colour retention is excellent. Tobermore would recommend that to maintain the colour and quality of product a regular maintenance programme is carried out on all projects.

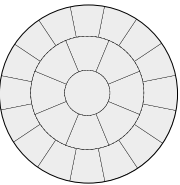
Instructions and warnings Refer to page 257

Laying Patterns

PAVING FLAGS

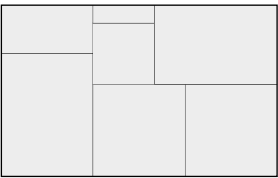


HISTORIC CIRCLE



Historic Circle
Overall diameter 2.24m

HISTORIC FLAG



Stretcher bond
300 x 300mm, 300 x 450mm 450 x 450mm
600 x 300mm, 600 x 450mm



| | |
|--|-----|
| Product Range | |
| Mayfair Step Flags with contrasting nosing | 162 |
| Mayfair Step Flags | 166 |
| Step Risers | 170 |
| Granite Step Unit | 174 |
| Technical Information | 178 |

Steps



Mayfair Step Flags

with contrasting nosing

Granite effect step flags with contrasting nosing.

With a striking granite appearance and hard-wearing surface, Mayfair Step Flags are both stylish and functional.

- Vibrant granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look
- Flags and risers

 **PrimeTop®**  **Ef-Stop®**

TGA
Textured
Granite Aggregate
Finish

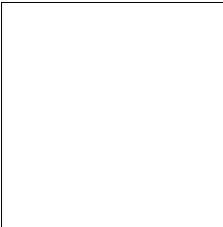

Pedestrian
Use



SCAN HERE



600 x 400mm



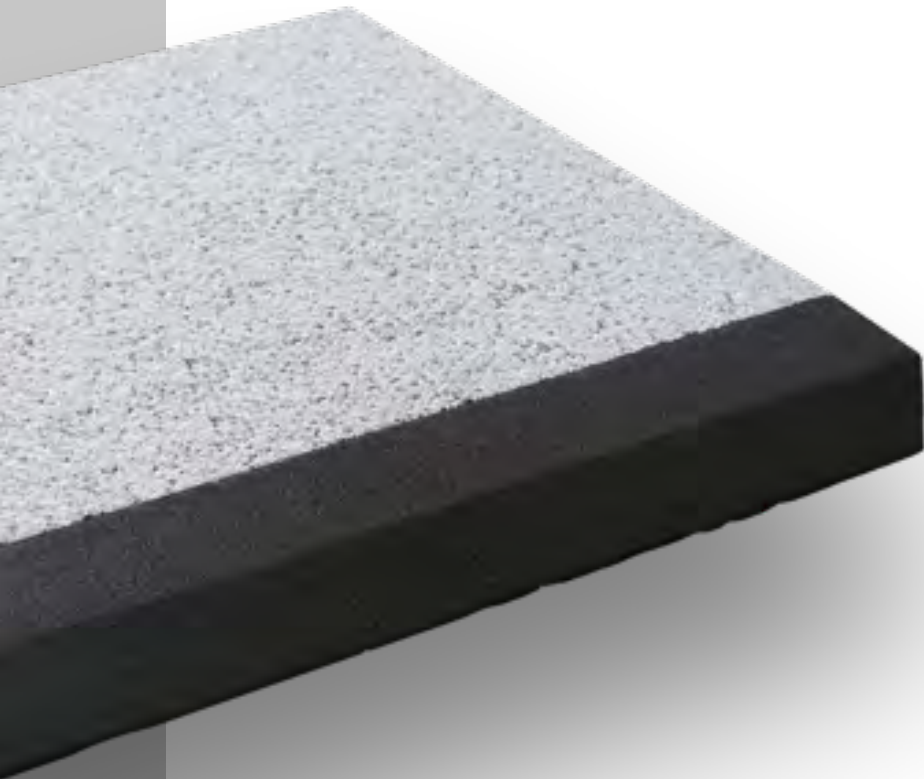
400 x 400mm

Sizes



40mm
50mm

Depths



Mayfair Step Flags

with contrasting nosing




TGA
Textured
Granite Aggregate
Finish

 Pedestrian
Use

Specification

 PrimeTop®  Ef-Stop®

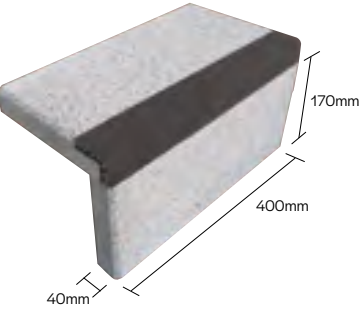
| | |
|---|--|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Granite Content | Not less than 57% of granite aggregate in surface layer for Silver. |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Less than 50mm deep Typical tensile splitting strength of >3.5MPa 50mm or greater Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| UN5 | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | This product should be designed into projects using guidance from the Building Regulations, British Standards and any other relevant documents. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | 40mm 16kgCo2e/m² 50mm 19kgCo2e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
|  rating www.bre.co.uk | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | finish | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|---|----------------|------------------|-----------|---|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Mayfair Edge Step with contrasting nosing | 600 x 400 x 50 | Granite Textured | Chamfered | Silver Flag with Contrasting Nosing 55mm x 50mm | YES | 4.16 | 20 | 40 | 589 | 584 |
| | 400 x 400 x 40 | | | Silver Flag with Contrasting Nosing 55mm x 40mm | YES | 6.25 | 25 | 100 | 403 | 401 |
| Mayfair Corner Step with contrasting nosing | 600 x 400 x 50 | Granite Textured | Chamfered | Silver Flag with Contrasting Nosing 55mm x 50mm | YES | 4.16 | 20 | 40 | 589 | 584 |
| | 400 x 400 x 40 | | | Silver Flag with Contrasting Nosing 55mm x 40mm | YES | 6.25 | 25 | 100 | 403 | 401 |
| Mayfair Step Riser | 400 x 170 x 40 | Granite Textured | Chamfered | Silver | YES | - | 25 | 100 | 195 | 192 |

Product Profile



Mayfair Step Riser Silver 400 x 170 x 40mm
Mayfair Step Flag with contrasting nosing
Note: risers may need to be cut to suit regulations

Step Example



Mayfair Corner Step 400 x 400 x 40mm with Contrasting Nosing
Mayfair Edge Step 400 x 400 x 40mm with Contrasting Nosing
Mayfair Corner Step 400 x 400 x 40mm with Contrasting Nosing



Mayfair Step Flags



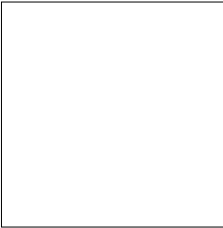
SCAN HERE

Granite effect step flags and risers.

If you're looking for superior concrete step flags with an elegant modern appearance, Mayfair Step Flags are a great choice. This product is ideal for creating a natural granite effect due to the eye-catching granite aggregate surface layer.

- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look
- Flags and risers

 PrimeTop®  Ef-Stop®



400 x 400mm

Sizes



40mm

Depths



Mayfair Step Flags



Specification

PrimeTop® Ef-Stop®

| | |
|-------------------------------|--|
| Product type | Concrete Paving Flag |
| Manufactured to | BS EN 1339:2003 |
| Surface Layer | Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement |
| Granite Content | Not less than 57% of granite aggregate in surface layer for Silver and Graphite; Not less than 46% of granite aggregate in surface layer for Sandstone. |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Less than 50mm deep Typical tensile splitting strength of >3.5MPa 50mm or greater Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-4:2006 |
| BS Plus | Plus Q25 315 Create 45-20-64/395 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | This product should be designed into projects using guidance from the Building Regulations, British Standards and any other relevant documents. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon Footprint | Edge Step 16kgCo2e/m² Corner Step 16kgCo2e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breem rating | A , according to the Green Guide to Specification, 4 th Edition 2009. A+ , can be achieved by using a recycled sub-base. www.bre.co.uk |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

TGA
Textured
Granite Aggregate
Finish

Pedestrian
Use

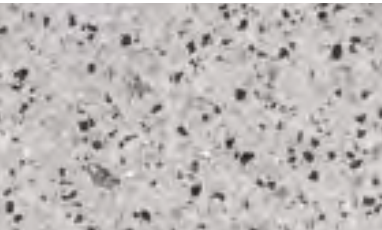
Step Example



Stock

| product | size (mm) | finish | edge | colours available | in stock | no. per m² | no. per pack | no. per pallet | weight kg per pack GB | weight kg per pack NI/ROI |
|---------------------|----------------|----------------------------------|-----------|-------------------|----------|------------|--------------|----------------|-----------------------|---------------------------|
| Mayfair Edge Step | 400 x 400 x 40 | Granite Textured (Top & 1 edge) | Chamfered | Silver | YES | 6.25 | 25 | 100 | 403 | 401 |
| Mayfair Corner Step | 400 x 400 x 40 | Granite Textured (Top & 2 edges) | Chamfered | Silver | YES | 6.25 | 25 | 100 | 403 | 401 |
| Mayfair Step Riser | 400 x 170 x 40 | Granite Textured | Chamfered | Silver | YES | - | 25 | 100 | 195 | 192 |

Silver



The colour of Mayfair Step Flags may slightly vary to the normal Mayfair Flag.



Step Risers

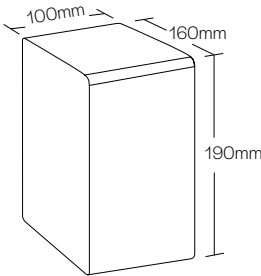
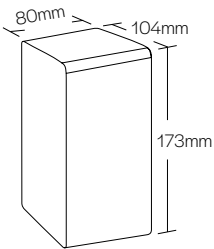


SCAN HERE

Decorative step edging.

These decorative step risers offer versatility and long-lasting colours. The smooth finish and vibrant solid and blended colours available enable the creation of distinctive step edges

- Enables the creation of distinctive and contrasting step edges
- A functional and aesthetically pleasing product
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Various Tobermore products can be used to infill the tread behind Step Risers



Sizes



Step Risers

S
Smooth
Finish


Pedestrian
Use



Specification



| | |
|---------------------------------|---|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1338:2003 |
| Surface Finish | Smooth |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-6:1999 |
| НБС | Plus Q10 150 Create 45-20-64/370 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | This product should be designed into projects using guidance from the Building Regulations, British Standards and any other relevant documents. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breedon rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per slice | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------|-----------------|----------------------------|----------|---------------|--------------|-----------------------|---------------------------|
| Step Risers | 160 x 190 x 100 | Bracken, Charcoal, Heather | YES | 40 | 240 | 1669 | 1659 |
| | 173 x 104 x 80 | Bracken, Charcoal, Heather | YES | 80 | 560 | 1865 | 1855 |

Heather



Bracken



Charcoal





Granite Step Unit

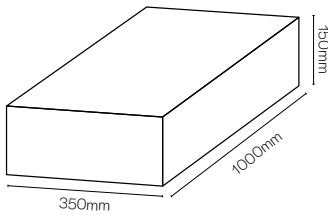
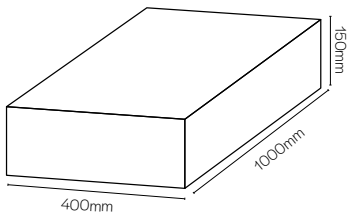


SCAN HERE

Granite aggregate steps.

Crafted with natural granite aggregates, Granite Step Units have an attractive, natural appearance and coarse textured surface, making these paving steps a stylish and practical choice for your project.

- Available with the inclusion of contrasting delineation strip
- Manufactured with natural granite aggregates
- Vibrant long-lasting colours
- Creates a striking, contemporary look



Sizes



Granite Step Unit

TGA
Textured
Granite Aggregate
Finish

Pedestrian
Use

BIM
Level 2



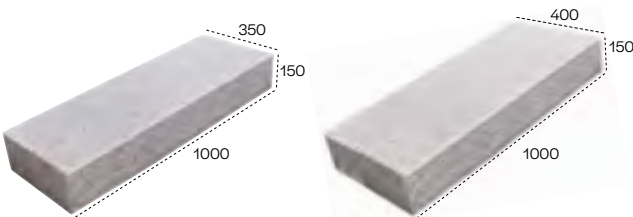
Specification



| | |
|--------------------------------|---|
| Product type | Concrete Block |
| Manufactured to | BS EN 1339:2003 |
| Granite Content | Not less than 56.4% of granite aggregate in surface layer. |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >5MPa (Class 3) |
| Slip/Skid risk | Extremely Low |
| BS EN 12424 | Plus Q24 110 Create 45-20-64/400 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | This product should be designed into projects using guidance from the Building Regulations, British Standards and any other relevant documents. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Green Building Elements rating | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Product Profile

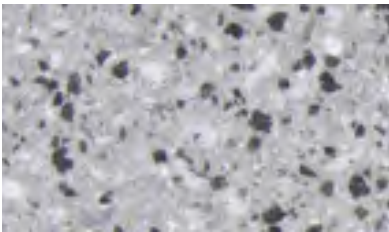


Stock

| product | size (mm) | finish | edge | colours available | in stock | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---|------------------|------------------|--------|--|----------|--------------|-----------------------|---------------------------|
| Granite Step Unit with/without contrasting nosing | 400 x 150 x 1000 | Granite Textured | Square | Granite Aggregate (can be produced with or without a black contrasting nosing 55mm x 50mm) | YES | 10 | 1370 | 1370 |
| BIM | 350 x 150 x 1000 | Granite Textured | Square | Granite Aggregate (can be produced with or without a black contrasting nosing 55mm x 50mm) | YES | 10 | 1200 | 1200 |

BIM - This product is available to download from our website in BIM Level 2 format.

Silver



Technical Information

Industry Documents

It is essential when designing stepped access to and from buildings that all relevant industry regulations and guidance documents are considered and that the information in these documents is implemented by the specifier into their project. The documents listed below give architects guidance on the regulations which are required when designing steps for external use.

Building Regulations 2010 Part M, England - Access to and use of buildings.

Building Regulations 2010 Part M, Wales - Access to and use of buildings.

Building Regulations 2010 Part K, England, Protection from falling, collision and impact.

Building Regulations Northern Ireland 2012 Part H – Stairs, ramps, guarding and protection from impact.

Building Regulations Ireland TGD M 2010, Part M- Access and use.

BS8300:2018 Design of an accessible and inclusive built environment. Part1 External environment – Code of practice.

BS9266:2013 Design of accessible and adaptable general needs housing – Code of practice.

BSI has revised BS 8300:2018 Design of an accessible and inclusive built environment.

This document provides guidance on good practice in the design of buildings and also gives some recommendations. There are examples of how to design approaches and other associated routes in the immediate vicinity of the building. This ensures that they are convenient to use by everyone including those with reduced mobility.

This British Standard should be considered alongside the building regulations and therefore whilst ensuring good practice it is not necessarily equivalent to compliance with the guidance in the Building Regulation documents.

The regulations listed here and adherence to them does not guarantee compliance as they are not exhaustive.

It is the responsibility of the designer to ensure that the products specified comply with all regulations. Tobermore recommend that compliance is sought from Building Control prior to the installation of any of its step products.

Please refer to Tobermore's Steps brochure for more comprehensive information.

Instructions and warnings

Refer to page 257

Note: BS guidelines are subject to change and therefore you should refer to www.bsigroup.com for the latest version.

It is the designers responsibility to ensure that the steps and risers specified meet the Building Regulations and British Standard requirements.



Important notes

Tactile Flags

Tobermore also supply a range of Tactile Flags.

Visually Contrasting Nosings

It is crucial when ascending or descending a flight of stairs that the user can clearly identify the individual treads and risers. The principle requirement is that the nosing of a step is clearly defined.

Tobermore step products have integral contrasting GRP nosings which have been independently tested to ensure compliance with the LRV and slip/skid requirements.

Light Reflectance Value (LRV)

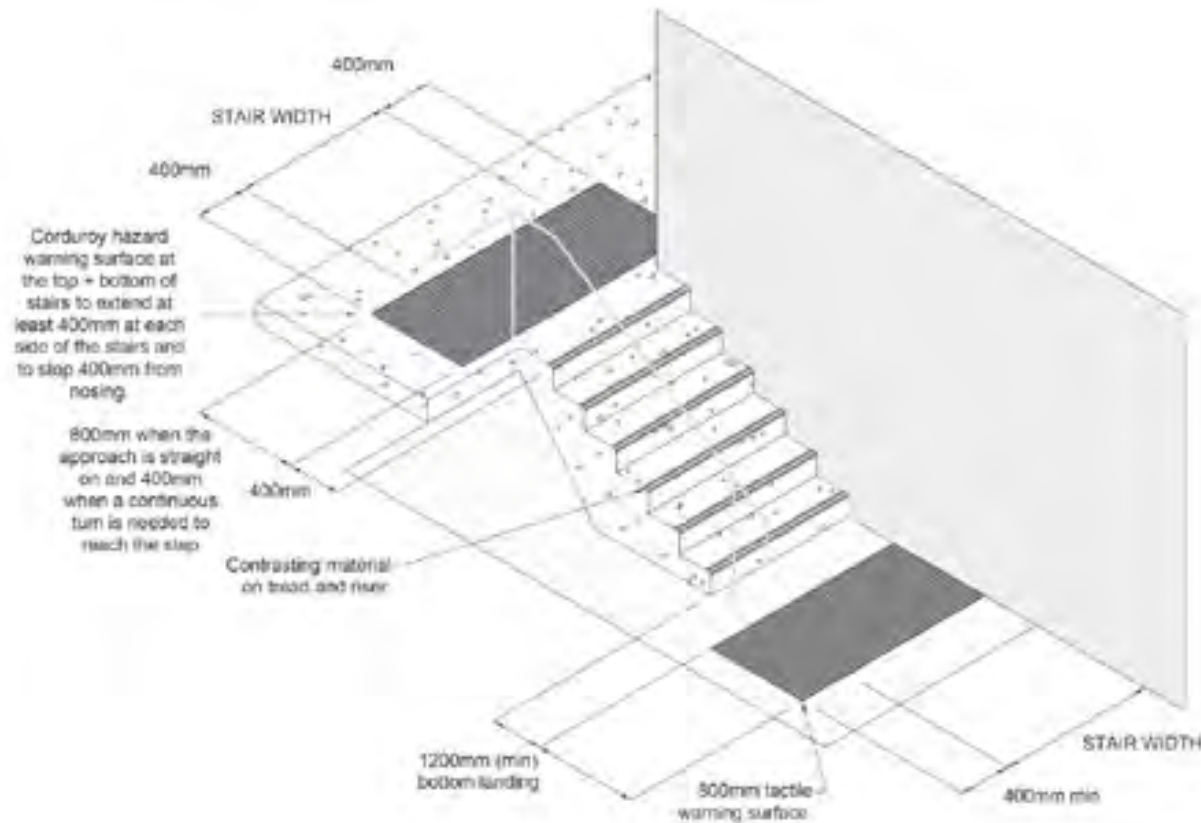
An important consideration for step access is the Light Reflective Value (LRV) of the products that are being considered for use. Products with a sufficient difference in LRV can assist blind and partially sighted people to distinguish between them. Tobermore can provide the LRV results on all products in this brochure. Contact Tobermore for further information.

Important Information

Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it.

Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

Typical Step Layout





Product Range

| | |
|-------------------------|-----|
| Fusion Kerb | 182 |
| Textured Kerb | 186 |
| Fusion Radii Kerb | 190 |
| Textured Radii Kerb | 194 |
| Quadrant Kerb | 198 |
| Kerbstone | 200 |
| Kerb Large (KL) | 204 |
| Kerb Small (KS) | 208 |
| Tegula Kerb Large (TKL) | 210 |
| Kerb Specials | 212 |

**Kerbs
& Edging**



SCAN HERE

Fusion Kerb

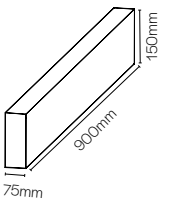
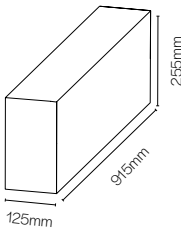
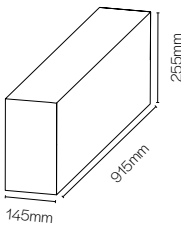
Heavy duty kerb.

Fusion Kerb has an aged appearance with a hint of sparkle. This robust, traditional kerb is available in a sparkling granite finish.

- Features an exposed granular surface
- Emulates the unique aged appearance of traditional granite kerbs
- Offers all the benefits of modern concrete kerbing
- Designed with strength and durability in mind



TGA
Textured
Granite Aggregate
Finish



Sizes



Fusion Kerb

TGA
Textured
Granite Aggregate

Finish

Pedestrian
Use
Light
Traffic
Commercial
Traffic

BIM
Level 2



Specification



| | | | |
|---------------------------------------|---|-------------|--|
| Product type | Concrete Kerb | | |
| Manufactured to | BS EN 1340: 2003 | | |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence | | |
| Strength | Typical tensile splitting strength of >3.5MPa | | |
| Slip/Skid risk | Extremely Low | | |
| Installed to | BS 7533-6:1999 | | |
| BS | Plus Q10 110 Create 45-20-64/370 Plus Q10 110 Create 45-20-64/365 | | |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com | | |
| Energy used | 100% renewable energy | | |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole | | |
| Recycled content | Not less than 5% | | |
| Carbon footprint | 125x255x915mm | 13kgCo2e/ea | |
| | 145x255x915mm | 13kgCo2e/ea | |
| | 150x75x90mm | 4kgCo2e/ea | |
| Recyclable | 100% of this product can be recycled | | |
| Manufacturing & Delivery | From one location within the UK | | |
| breeam rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. | | |

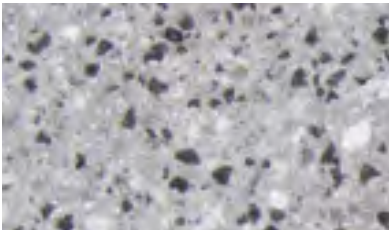
Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|----------------------|-------------------|----------|--------------|-----------------------|---------------------------|
| Fusion Kerb BIM | 125 x 255 x 915 | Silver | YES | 18 | 1251 | 1251 |
| | 145 x 255 x 915 | Silver | YES | 16 | 1282 | 1282 |
| Fusion Edge BIM | 150 x 75 x 900 | Silver | YES | 60 | 1200 | 1200 |
| Fusion Kerb Dropper (specify left or right hand dropper) | 125 x 255/150 x 915 | Silver | YES | 18 | 924 | 915 |
| | 145 x 255/150 x 915 | Silver | YES | 16 | 969 | 960 |
| Fusion Dropper Centre Kerb | 125 x 150 x 915 | Silver | YES | 36 | 1512 | 1512 |
| | 145 x 150 x 915 | Silver | YES | 32 | 1504 | 1504 |
| Fusion Corner Kerb External or Internal | 145 /125 x 255 x 915 | Silver | YES | 16 | 1282 | 1282 |

BIM - This product is available to download from our website in BIM Level 2 format.

Silver





SCAN HERE

Textured Kerb

Heavy duty kerb.

Textured Kerb offers a rustic and understated aesthetic. Textured Kerb complements all paving block & flag finishes as well as tarmac and other hard surfaces.

- Features an exposed granular surface
- Emulates the unique aged appearance of traditional kerbs
- Offers all the benefits of modern concrete kerbing
- Designed with strength and durability in mind

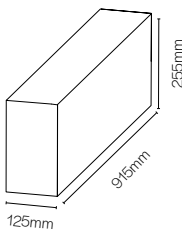
 **Ef-Stop®**

T
Textured

Finish


Pedestrian
Use


BIM
Level 2



Size



Textured Kerb

T

Textured

Finish

Pedestrian Use

Light Traffic

Commercial Traffic

BIM Level 2



Specification



| | |
|---|--|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1340: 2003 |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3-5MPa |
| Slip/Skid risk | Extremely Low |
| Installed to | BS 7533-6:1999 |
| BS | Plus Q10 110 Create 45-20-64/370 Plus Q10 110 Create 45-20-64/365 |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon footprint | 125x255x915mm 13kgCo2e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breedon rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|---------------------|-------------------|----------|--------------|-----------------------|---------------------------|
| Textured Kerb BIM | 125 x 255 x 915 | Natural | YES | 18 | 1251 | 1251 |
| Textured Kerb Dropper (specify left or right hand dropper) | 125 x 255/150 x 915 | Natural | YES | 18 | 924 | 915 |
| Textured Dropper Centre Kerb | 125 x 150 x 915 | Natural | YES | 36 | 1512 | 1512 |
| Textured Kerb Corner External or Internal Corner | 145 x 255 x 915 | Natural | YES | 16 | 1282 | 1282 |

BIM - This product is available to download from our website in BIM Level 2 format.

Natural





Fusion Radii Kerb



SCAN HERE

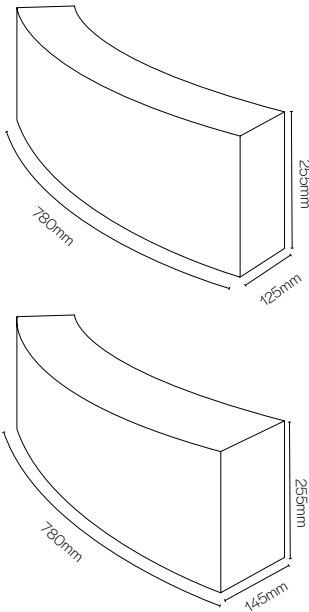
Curves & arcs.

Fusion Radii Kerbs is an extensive range including both concave and convex kerbs, so any type of bend, curve or arc can be created.

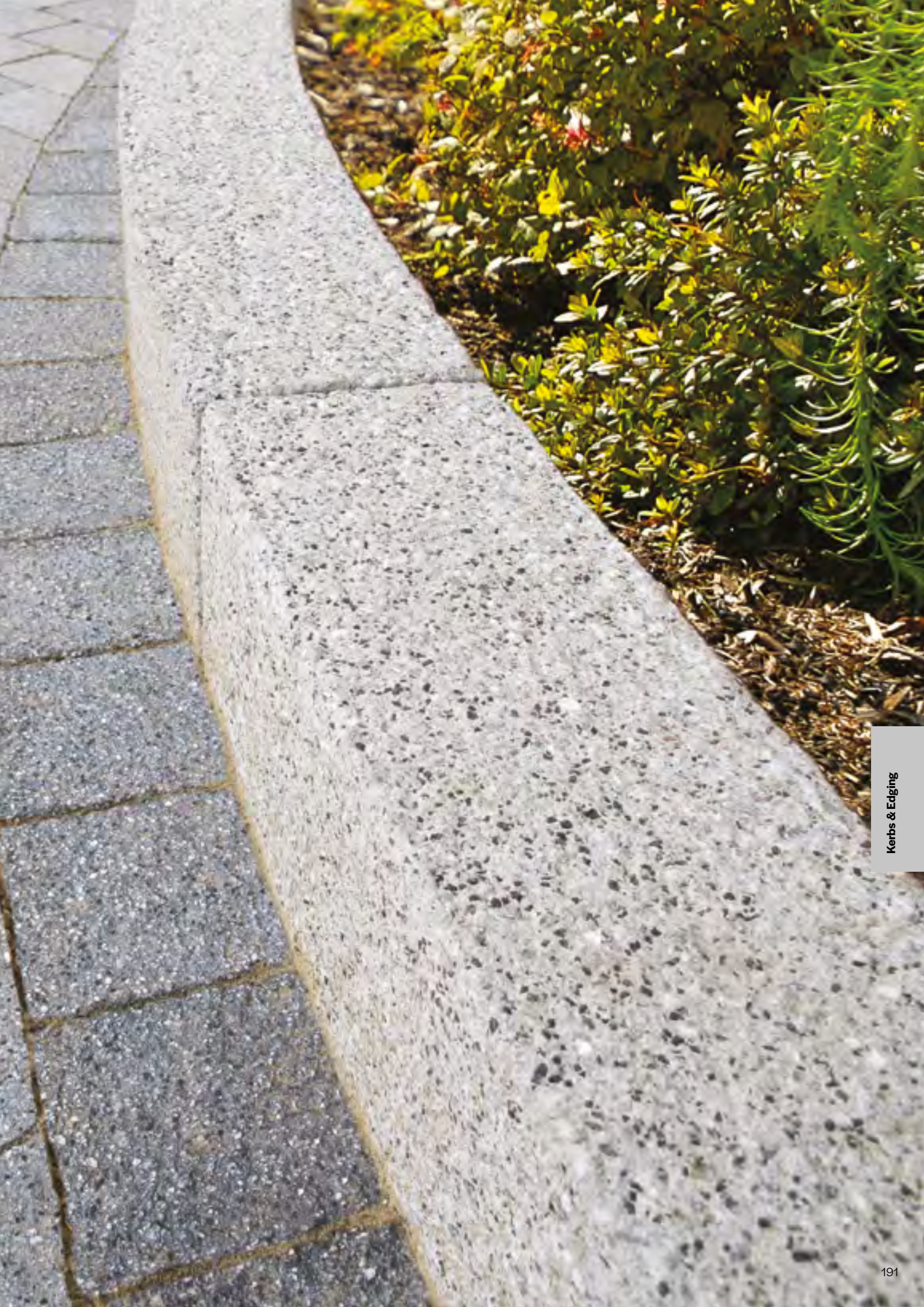
- Specially manufactured radius kerbs, either concave or convex
- Attractive granite finish
- Provides high quality detailing

 **Ef-Stop®**

TGA
Textured
Granite Aggregate
Finish



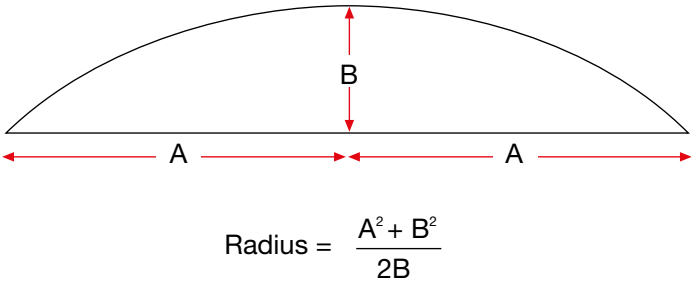
Sizes



Fusion Radii Kerb

Calculating the radius of a curve

The size of any radius can be determined by measuring the length of a chord stretched between the arc and then measuring a perpendicular to that chord at the centre. This is illustrated in the diagram below. This is a handy equation often used on site to determine the size of an unknown radius that is to be kerbed, so that the correct size of radius kerbs can be used.



The size of a radius is ALWAYS measured to the face of the kerbline, whether the radius is internal or external.

Specification

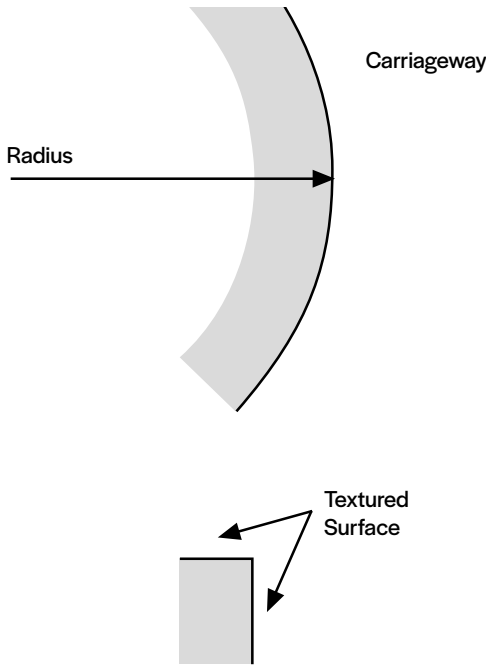


| | |
|---|---|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1340:2003 |
| Strength | Typical tensile splitting strength of >3.5MPa |
| Installed to | BS 7533-6:1999 |
| Plus | Plus Q10 110 Create 45-20-64/370 |
| Applications | As per Fusion Kerb |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon footprint | 13kgCo2e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Green rating | Refer to the Green Guide to Specification, 4th Edition 2009. |
| Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001. | |

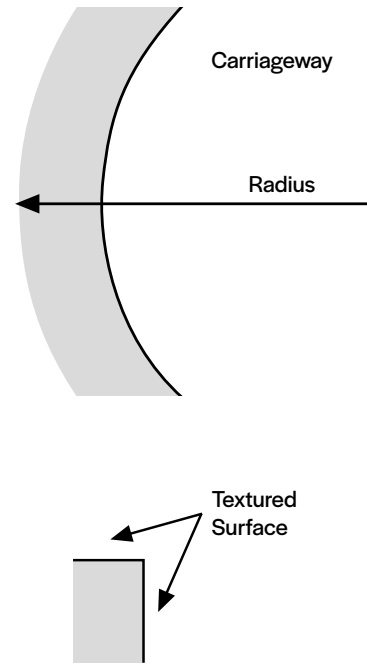
TGA
Textured
Granite Aggregate
Finish



Convex (external) Radius



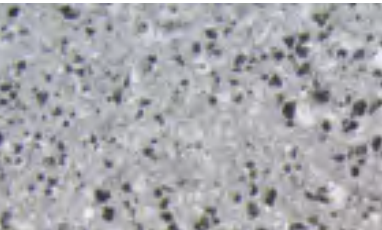
Concave (internal) Radius



Stock

| product | size (mm) | no. per quarter circle | colours available | in stock | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|-----------------------|------------------------|-------------------|----------|--------------|-----------------------|---------------------------|
| Fusion Radii Kerb 125mm (*radius of curve) | 125 x 255 x 780 (1m*) | 2 | Silver | YES | 18 | 1134 | 1134 |
| | 125 x 255 x 780 (3m*) | 6 | Silver | YES | 18 | 1026 | 1026 |
| | 125 x 255 x 780 (4m*) | 8 | Silver | YES | 18 | 1008 | 1008 |
| | 125 x 255 x 780 (5m*) | 10 | Silver | YES | 18 | 1008 | 1008 |
| | 125 x 255 x 780 (6m*) | 12 | Silver | YES | 18 | 1026 | 1026 |
| Fusion Internal or External | 125 x 255 x 780 (9m*) | 18 | Silver | YES | 18 | 1044 | 1044 |
| | 145 x 255 x 780 (1m*) | 2 | Silver | YES | 16 | 1184 | 1184 |
| | 145 x 255 x 780 (3m*) | 6 | Silver | YES | 16 | 1056 | 1056 |
| | 145 x 255 x 780 (4m*) | 8 | Silver | YES | 16 | 1088 | 1088 |
| | 145 x 255 x 780 (5m*) | 10 | Silver | YES | 16 | 1056 | 1056 |
| Fusion Internal or External | 145 x 255 x 780 (6m*) | 12 | Silver | YES | 16 | 1104 | 1104 |
| | 145 x 255 x 780 (9m*) | 18 | Silver | YES | 16 | 1088 | 1088 |

Silver





Textured Radii Kerb



SCAN HERE

Curves & arcs.

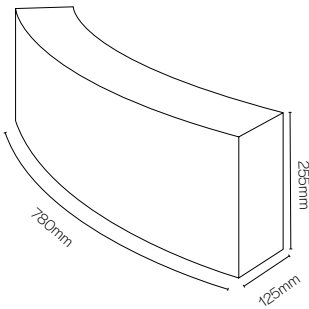
Textured Radii Kerbs is an extensive range including both concave and convex kerbs, so any type of bend, curve or arc can be created.

- Specially manufactured radius kerbs, either concave or convex
- Attractive granite finish
- Provides high quality detailing

 **Ef-Stop®**

T
Textured
Finish


Pedestrian
Use



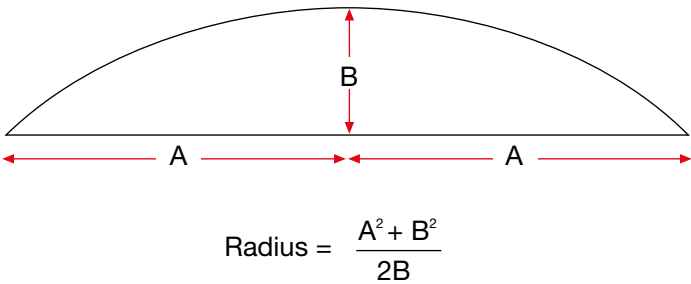
Size



Textured Radii Kerb

Calculating the radius of a curve

The size of any radius can be determined by measuring the length of a chord stretched between the arc and then measuring a perpendicular to that chord at the centre. This is illustrated in the diagram below. This is a handy equation often used on site to determine the size of an unknown radius that is to be kerbed, so that the correct size of radius kerbs can be used.



The size of a radius is ALWAYS measured to the face of the kerbline, whether the radius is internal or external.

Specification



| | |
|--------------------------|---|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1340:2003 |
| Strength | Typical tensile splitting strength of >3.5MPa |
| Installed to | BS 7533-6:1999 |
| Plus | Plus Q10 110 Create 45-20-64/370 |
| Applications | As per Textured Kerb |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon footprint | 13kgCo2e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Breem rating | Refer to the Green Guide to Specification, 4th Edition 2009. |
| www.bre.co.uk | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

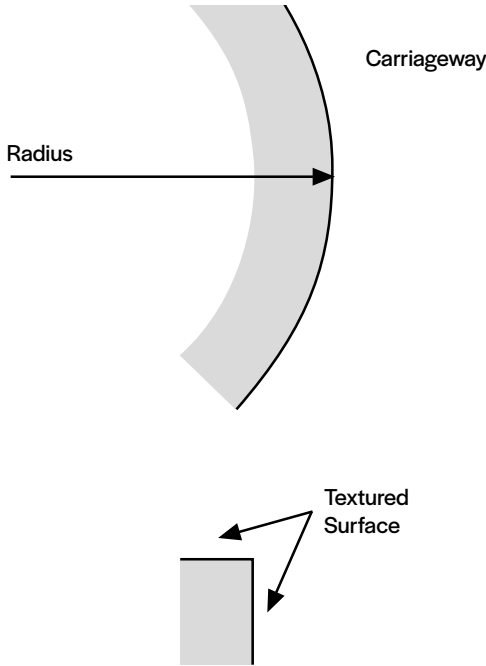
T

Textured

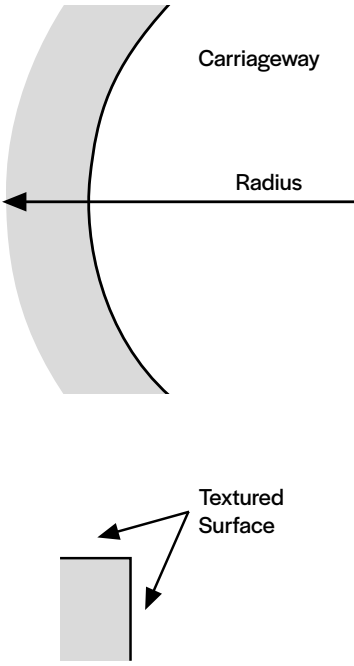
Finish



Convex (external) Radius



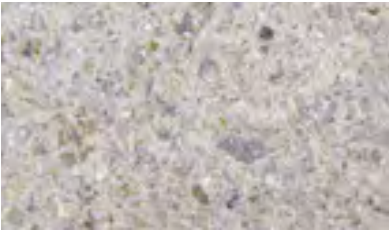
Concave (internal) Radius



Stock

| product | size (mm) | no. per quarter circle | colours available | in stock | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|-----------------------|------------------------|-------------------|----------|--------------|-----------------------|---------------------------|
| Textured Radii Kerb 125mm (*radius of curve) | 125 x 255 x 780 (1m*) | 2 | Natural | YES | 18 | 1134 | 1134 |
| | 125 x 255 x 780 (3m*) | 6 | Natural | YES | 18 | 1026 | 1026 |
| Textured Internal or External | 125 x 255 x 780 (4m*) | 8 | Natural | YES | 18 | 1008 | 1008 |
| | 125 x 255 x 780 (5m*) | 10 | Natural | YES | 18 | 1008 | 1008 |
| | 125 x 255 x 780 (6m*) | 12 | Natural | YES | 18 | 1026 | 1026 |
| | 125 x 255 x 780 (9m*) | 18 | Natural | YES | 18 | 1044 | 1044 |

Natural





Quadrant Kerb

Curved edging.

Quadrant Kerbs create a neat finish where curved edging is required. The product is manufactured to complement accompanying kerb products in; standard or granite finishes.

- Designed to form a subtle curved finish
 - Manufactured with complementary profiles and finishes
 - Solid Quadrant Kerbs or Precast Radii
- Quadrant Kerbs are available



TGA

Textured
Granite Aggregate

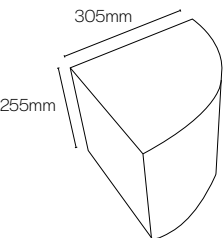
Finish

T

Textured



Pedestrian
Use



Size



SCAN HERE



SCAN HERE

TGA

Textured
Granite Aggregate

Finish

T

Textured



Pedestrian
Use



Specification



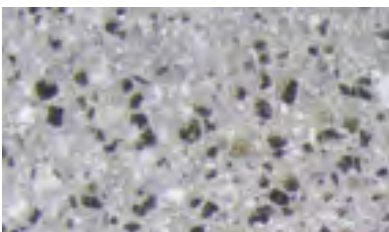
| | |
|--|--|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1340:2003 |
| Strength | Typical tensile splitting strength of >3.5MPa |
| Installed to | BS 7533-6:1999 |
| ONS | Plus Q10 110 Create 45-20-64/370 |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% (all colours except Silver) |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breeam rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------------------------------|-----------|-------------------|----------|--------------|-----------------------|---------------------------|
| Fusion Solid Quadrant Kerb | 255 x 305 | Silver | YES | 4 | 184 | 184 |
| Textured Solid Quadrant Kerb | 255 x 305 | Natural | YES | 4 | 184 | 184 |

Silver



Natural





Kerbstone

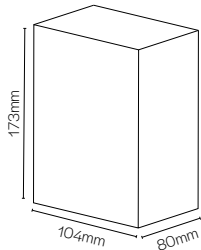
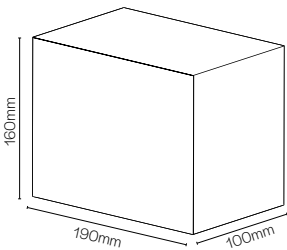
Tumbled kerb edging.

Kerbstone has an antique appearance created using our innovative tumbling process, producing a warm aged finish on all sides of the kerb. Kerbstone can be laid in any orientation.

- Tumbled to give an aged, antique appearance
- Vibrant long-lasting colours
- All sides are finished so it can be laid in any orientation



SCAN HERE



Sizes



Kerbstone

A

Aged

Finish



Pedestrian
Use



BIM
Level 2



Specification



| | |
|--|--|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1338:2003 |
| Installed to | BS 7533-6:1999 |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| BS | Plus Q10 150 Create 45-20-64/370 |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% (all colours except natural) |
| Carbon footprint | 190x160x100mm 1.2kgCo ² e/ea 104x173x80mm 0.6kgCo ² e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| brecon rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per slice | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------------------|-----------------|----------------------------|----------|---------------|--------------|-----------------------|---------------------------|
| Kerbstone BIM | 190 x 160 x 100 | Bracken, Charcoal, Heather | YES | 35 | 210 | 1460 | 1450 |
| | 104 x 173 x 80 | Bracken, Charcoal, Heather | YES | 72 | 504 | 1638 | 1628 |

BIM - This product is available to download from our website in BIM Level 2 format.

Heather



Bracken



Charcoal





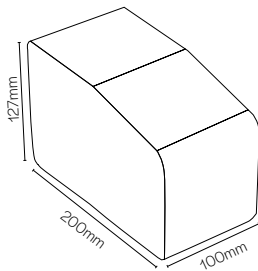
SCAN HERE

Kerb Large (KL)

Versatile, large smooth kerb.

Kerb Large has a dual-purpose profile available in a solid long-lasting colour. This versatile alternative to traditional concrete kerbs offers a variety of laying possibilities.

- Versatile alternative to traditional concrete kerbs
- Dual-purpose profile offers various laying options (splayed or bullnosed)
- Vibrant long-lasting colour
- Kerb Large Specials are available



Size



Kerb Large (KL)

S
Smooth

Finish


Pedestrian
Use



Specification



| | |
|--|--|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1338:2003 |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Installed to | BS 7533-6:1999 |
| BS | Plus Q10 150 Create 45-20-64/370 |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% |
| Carbon footprint | 11kgCo ² e/LM |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breeam rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | lm per pack | lm per slice | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------------|-----------------|-------------------|----------|-------------|--------------|--------------|-----------------------|---------------------------|
| Kerb Large | 200 x 127 x 100 | Charcoal | YES | 28.8 | 4.8 | 288 | 1549 | 1539 |

Charcoal





Kerb Small (KS)

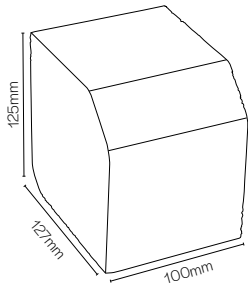


SCAN HERE

Versatile, small smooth kerb.

Kerb Small is a dual purpose profile available in a range of solid long-lasting colour. This versatile alternative to traditional concrete kerbs offers a variety of laying possibilities.

- Versatile alternative to traditional concrete kerbs
- Dual purpose profile offers various laying options (splayed or bullnosed)
- Vibrant long-lasting colour
- Kerb Small Specials are available



Size



S
Smooth
Finish



Specification



| | |
|--|--|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1338:2003 |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Installed to | BS 7533-6:1999 |
| BS | Plus Q10 150 Create 45-20-64/370 |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% |
| Carbon footprint | 11kgCo ² e/LM |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | lm per pack | lm per slice | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|------------|-----------------|-------------------|----------|-------------|--------------|--------------|-----------------------|---------------------------|
| Kerb Small | 125 x 127 x 100 | Charcoal | YES | 43.2 | 5.4 | 432 | 1505 | 1505 |

Charcoal





Tegula Kerb Large (TKL)

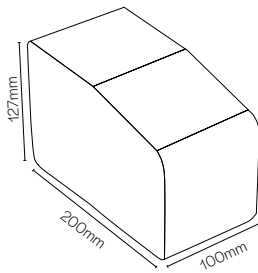


SCAN HERE

Traditional, aged effect kerbs.

Tegula Kerb Large is a dual purpose profile in a solid colour. This large kerb undergoes a tumbling process during manufacturing that produces an aged, antique appearance.

- Processed to give an aged appearance
- Versatile alternative to traditional concrete kerbs
- Dual purpose profile offers various laying options (splayed or bullnosed)
- Vibrant long-lasting colour
- Tegula Kerb Large Specials are available



Size



A
Aged
Finish

Pedestrian
Use



Specification



| | |
|--|--|
| Product type | Concrete Kerb |
| Manufactured to | BS EN 1338:2003 |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Installed to | BS 7533-6:1999 |
| UN5 | Plus Q10 150 Create 45-20-64/370 |
| Applications | Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% |
| Carbon footprint | 1.2kgCo ² e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breedon rating www.bre.co.uk | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per slice | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-------------------|-----------------|-------------------|----------|---------------|--------------|-----------------------|---------------------------|
| Tegula Kerb Large | 200 x 127 x 100 | Charcoal | YES | 48 | 288 | 1549 | 1539 |

Charcoal





Kerb Specials

Specialised, decorative edging.

- Designed to meet specialised kerbing requirements
- Various corner, transition, drop and end blocks are available
- Vibrant long-lasting colours



Kerb Large Specials (KL)



Flat 90° Angle
External



Half Battered 90°
Angle External



Bullnosed 90° Angle
External



Flat 90° Angle
Internal



Half Battered 90°
Angle Internal



Bullnosed 90° Angle
Internal

Tegula Kerb Large Specials (TKL)



Flat 90° Angle
External



Half Battered 90°
Angle External



Bullnosed 90° Angle
External



Flat 90° Angle
Internal



Half Battered 90°
Angle Internal



Bullnosed 90° Angle
Internal

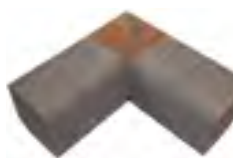
Kerb Small Specials (KS)



90° Angle
External Splayed



90° Angle
Internal Splayed



90° Angle
Internal Bullnosed



90° Angle
Internal Bullnosed



| | |
|------------------------------|-----|
| Product Range | |
| Lansdowne | 216 |
| Kingston | 220 |
| Country Stone | 224 |
| Garden Stone | 228 |
| Specials | 234 |
| Technical Information | 236 |

Walling & Masonry

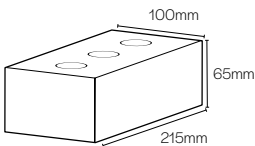


SCAN HERE

Lansdowne

Rustic effect facing brick.

Lansdowne facing brick is manufactured with a warm and aged feel. Lansdowne bricks are known for their hard-wearing capabilities and exceptional long-lasting colours.



Size

- Tumbled to give an aged, rustic appearance
- Evokes timeless warmth and elegance
- Vibrant long-lasting colours
- Suitable for both modern or period properties

 **Ef-Stop**



Lansdowne Facing Brick



Specification

| | |
|--|---|
| Product type | Concrete Facing Brick |
| Manufactured to | BS EN 771-3:2011 |
| Manufacturing process | Processed to give aged appearance |
| Brick type | Perforated (3 holes per brick) |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Compressive strength >22N/mm² |
| Shrinkage (Moisture Movement) | 0.44mm/m |
| Weight | 2.7kg per brick (average) |
| Durability (Freeze/Thaw) | F2 (Severe Exposure) |
| Tolerances | Category D1 |
| Reaction to fire | A1 |
| Water absorption by capillary | 2 g/m²s |
| Water absorption | <7% water absorption on average |
| Soluble Salts | S2 |
| Net dry density | 2220 kg/m³ |
| Gross dry density | 1930 kg/m³ |
| Shear bond strength | 0.15N/mm² |
| Thermal Conductivity | Protected 1.59W/m K Exposed 1.70 W/m K |
| Mortars & Expansion Joints | Refer to BS 5628-3:2005 |
| Bed Reinforcement | Refer to BS 5628-3:2005 |
| Specials | Range of complementary brick specials are available |
| Installed to | BS 5628-3:2005 |
| CEC | Plus F10 215 Create 45-80-50/302 |
| Applications | Please refer to Table 15 of PD 6697: 2010. For further details please refer to www.tobermore.co.uk |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% |
| Carbon footprint | 22kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| breem rating www.bre.co.uk | A+, according to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.



A

Aged

Finish

Stock

| product | size (mm) | colours available | in stock | no. per pack | no. per slice | weight kg per pack GB | weight kg per pack NI/ROI |
|-----------|----------------|---|----------|--------------|---------------|-----------------------|---------------------------|
| Lansdowne | 215 x 100 x 65 | Autumn Gold, Burren, Charcoal, Cottage Red, Heather | Yes | 480 | 96 | 1369 | 1360 |

Autumn Gold



Burren



Cottage Red



Heather



Charcoal





Kingston

Versatile, smooth facing brick.

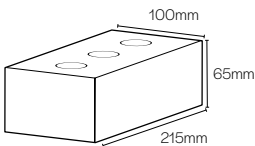
The sophisticated Kingston Facing Bricks, are manufactured with a smooth vibrant finish. With five colour options, ranging from vivid red and gold tones to understated grey and stone shades, Kingston is suitable for any type of application.

- Manufactured with a smooth, sophisticated surface
- Vibrant long-lasting colours
- Suitable for both modern or period properties

 **Ef-Stop**



SCAN HERE



Size



Kingston

S
Smooth


Finish


BIM
Level 2



Specification



| | |
|--|---|
| Product type | Concrete Facing Brick |
| Manufactured to | BS EN 771-3:2011 |
| Brick type | Perforated (3 holes per brick) |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Compressive strength >22N/mm² |
| Shrinkage (Moisture Movement) | 0.64mm/m |
| Weight | 2.7kg per brick (average) |
| Durability (Freeze/Thaw) | F2 (Severe Exposure) |
| Tolerances | Category D1 |
| Reaction to fire | A1 |
| Water absorption by capillary | 2 g/m²s |
| Water absorption | <7% water absorption on average |
| Soluble Salts | S2 |
| Net dry density | 2220 kg/m³ |
| Gross dry density | 1930 kg/m³ |
| Shear bond strength | 0.15N/mm² |
| Thermal Conductivity | Protected 1.59W/m K Exposed 1.70 W/m K |
| Mortars & Expansion Joints | Refer to BS 5628-3:2005 |
| Bed Reinforcement | Refer to BS 5628-3:2005 |
| Specials | Range of complementary brick specials are available |
| Installed to | BS 5628-3:2005 |
| CEC | Plus F10 215 Create 45-80-50/302 |
| Applications | Please refer to Table 15 of PD 6697: 2010. For further details please refer to www.tobermore.co.uk |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 8% |
| Carbon footprint | 22kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
|  rating | A+ , according to the Green Guide to Specification, 4th Edition 2009. |
| www.bre.co.uk | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | no. per pack | no. per slice | weight kg per pack GB | weight kg per pack NI/ROI |
|------------------------|----------------|--|----------|--------------|---------------|-----------------------|---------------------------|
| Kingston BIM | 215 x 100 x 65 | Autumn Gold, Burren, Charcoal, Cottage Red, Moorland | YES | 440 | 44 | 1220 | 1220 |

BIM - This product is available to download from our website in BIM Level 2 format.

Autumn Gold



Burren



Cottage Red



Moorland



Charcoal





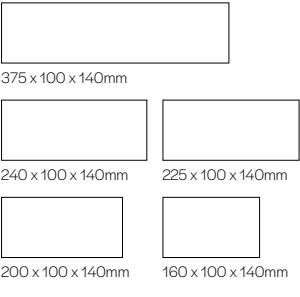
SCAN HERE

Country Stone

Rugged stone effect.

Country Stone has a nostalgic appearance, with a rugged finish emulating the distinct aesthetics of natural stone.

- Emulates natural stone
- Vibrant long-lasting colours
- Creates a classic, vintage look



Sizes (all in one pack)



Country Stone



SF
Split
Face

Finish

Specification



| | |
|------------------------------------|--|
| Product type | Concrete Block |
| Manufactured to | BS EN 771-5:2011 |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Compressive strength > 20N/mm² mean |
| Installed to | BS 5628-3:2005 |
| Shrinkage (Moisture Movement) | 0.41mm/m |
| Durability (Freeze/Thaw) | F2 (Severe Exposure) |
| Tolerances | Category D1 |
| Reaction to fire | A1 |
| Water absorption by capillary | 3g/ (m² x s) |
| Water absorption | <7% water absorption on average |
| Water vapour diffusion coefficient | 30/100 µ |
| Net dry density | 2210 kg/m³ |
| Gross dry density | 2200 kg/m³ |
| Shear bond strength | 0.15N/mm² |
| Thermal Conductivity | Protected 1.25W/m K Exposed 1.43W/m K |
| Mortars & Expansion Joints | Refer to BS 5628-3:2005 |
| Bed Reinforcement | Refer to BS 5628-3:2005 |
| CE Mark | Plus F10 295 Create 45-80-50/322 |
| Applications | Above ground, main external wall construction, boundary walls, columns and partitions. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 5% |
| Carbon footprint | 36kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Breem rating | A+, according to the Green Guide to Specification, 4th Edition 2009. |
| www.bre.co.uk | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | m² per slice | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---|---|-------------------------|----------|-------------|--------------|----------------------------|-----------------------|---------------------------|
| Country Stone (single course mixed length, all sizes in one pack) | 375 x 100 x 140 225 x 100 x 140 160 x 100 x 140 240 x 100 x 140 200 x 100 x 140 | Bracken, Heather, Slate | YES | 6.72 | 1.34 | 40 40 40 40 40 | 1560 | 1560 |
| Country Stone Coping | 208 x 300 x 80 | Bracken, Heather, Slate | YES | - | - | 128 | 1416 | 1416 |

Heather



Bracken



Slate



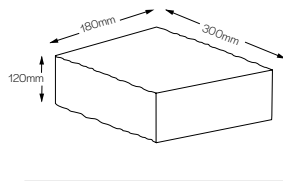


SCAN HERE

Garden Stone

Free-standing double sided wall.

Garden Stone is a tapered block and is faced on both sides which makes it ideal for creating curved features, planters or for separating areas within the garden. Garden Stone is an ideal DIY walling product which is mortar-free and therefore can be installed quickly with unskilled labour. The blocks are simply glued together and the joints do not require pointing.



Size

- Double sided
- Cost-effective
- Easily installed
- Ideal for DIY
- Simply glue together

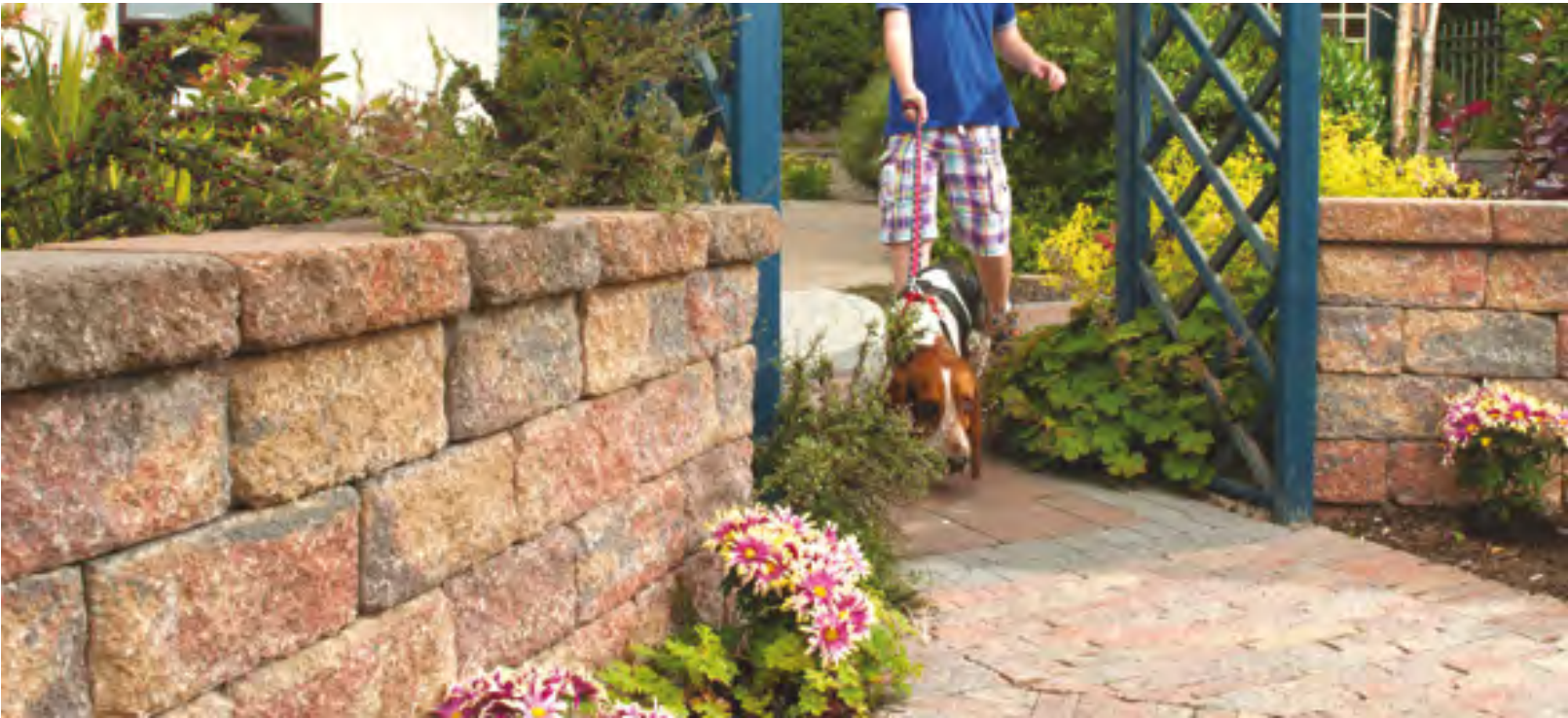


Garden Stone

A

Aged

Finish



Specification



| | |
|-------------------------------|--|
| Product type | Concrete Block |
| Manufactured to | BS EN 6073: Part 1 & 2 |
| Surface finish | Processed on both surfaces to leave aged antique appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Compressive strength >30N/mm² |
| CE Marking | Plus D41 310 Create 45-80-50/322 |
| Applications | Residential. Please consult the relevant British Standards for specific details |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon footprint | 22kgCo²e/m² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Green Building Element rating | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | LM per pack | LM per slice | no. per LM | no. per pack | weight kg per pack GB |
|----------------------|---------------------|-------------------------|----------|-------------|--------------|------------|--------------|-----------------------|
| Garden Stone | 300/260 x 180 x 120 | Bracken, Heather, Slate | YES | 35.28 | 5.88 | - | 126 | 1720 |
| Garden Stone Corners | 230/210 x 180 x 120 | Bracken, Heather, Slate | YES | - | - | - | 126 | 1720 |
| Garden Stone Coping | 310/255 x 240 x 70 | Bracken, Heather, Slate | YES | - | - | 3.5 LM | 120 | 1316 |

Bracken



Heather



Slate





Walling & Masonry Specials

Lansdowne & Kingston.

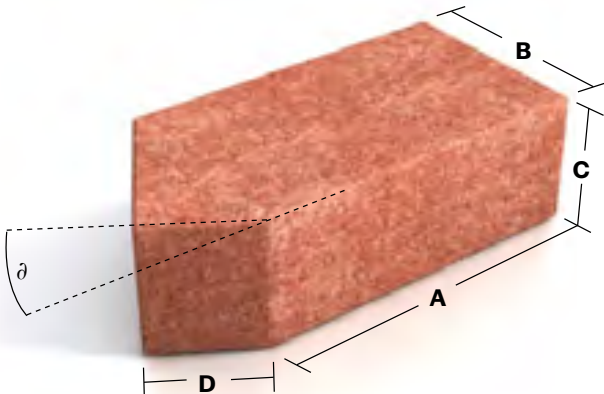
- Specials comply with the same physical tests as Tobermore's standard bricks
- Designed to co-ordinate with metric format bricks (215x100x65mm)
- Vibrant long-lasting colours



Squint L1



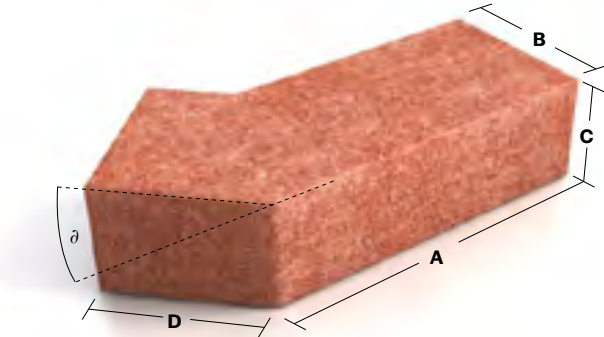
| Type | A | B | C | D | θ |
|------|-----|-----|----|----|----------|
| L1.1 | 167 | 103 | 65 | 54 | 30° |
| L1.2 | 164 | 103 | 65 | 51 | 45° |
| L1.3 | 181 | 103 | 65 | 68 | 60° |



Dog leg L2



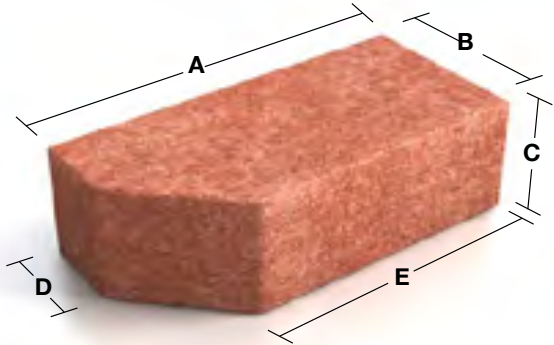
| Type | A | B | C | D | θ |
|------|-----|-----|----|-----|----------|
| L2.1 | 59 | 103 | 65 | 103 | 45° |
| L2.2 | 59 | 103 | 65 | 103 | 60° |
| L2.3 | 215 | 103 | 65 | 103 | 30° |
| L2.4 | 215 | 103 | 65 | 103 | 45° |
| L2.5 | 215 | 103 | 65 | 103 | 60° |



Single cant L3



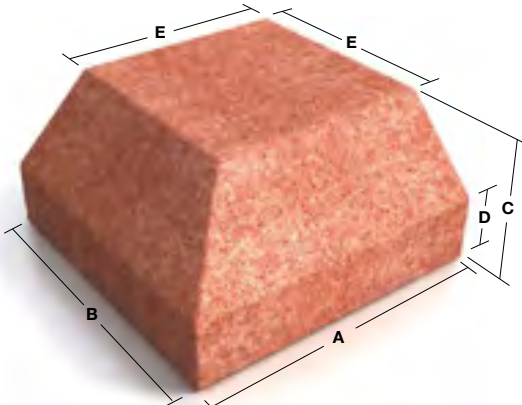
| Type | A | B | C | D | E |
|------|-----|-----|----|----|-----|
| L3.1 | 215 | 103 | 65 | 47 | 159 |
| L3.2 | 215 | 103 | 65 | 60 | 172 |



Single cant external return L4



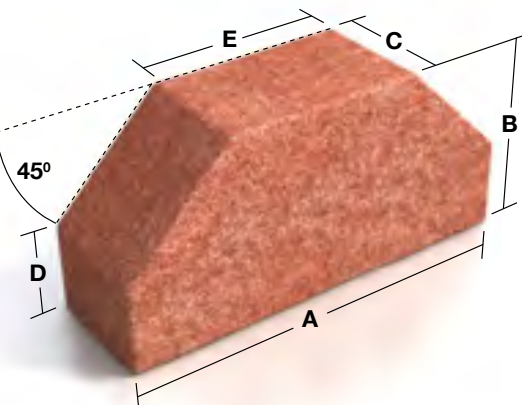
| Type | A | B | C | D | E |
|------|-----|-----|-----|----|-----|
| L4.1 | 215 | 215 | 103 | 47 | 159 |
| L4.2 | 215 | 215 | 103 | 60 | 172 |



Double cant L5




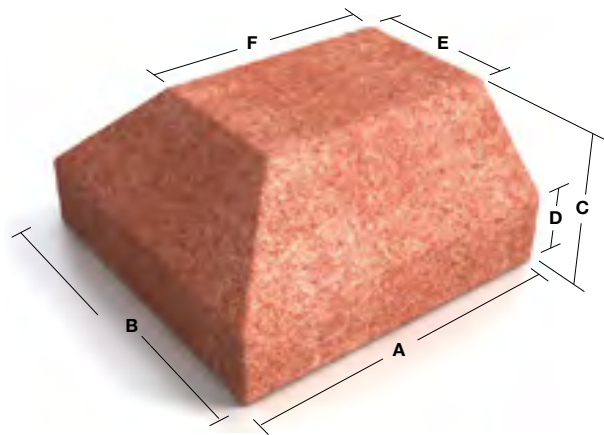
| Type | A | B | C | D | E |
|------|-----|-----|----|----|-----|
| L5.1 | 215 | 103 | 65 | 47 | 103 |
| L5.2 | 215 | 103 | 65 | 60 | 129 |



Walling & Masonry Specials


Double cant stop end L6

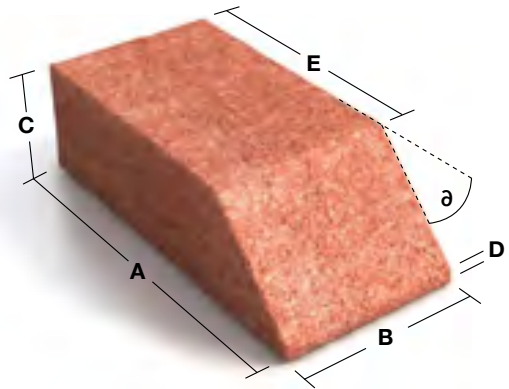




| Type | A | B | C | D | E | F |
|------|-----|-----|-----|----|-----|-----|
| L6.1 | 215 | 215 | 103 | 47 | 103 | 159 |
| L6.2 | 215 | 215 | 103 | 60 | 129 | 173 |


Plinth header L7

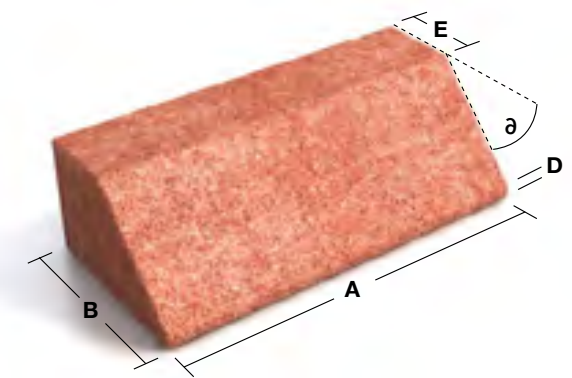




| Type | A | B | C | D | E | θ |
|------|-----|-----|----|----|-----|-----|
| L7.1 | 215 | 103 | 65 | 8 | 159 | 45° |
| L7.2 | 215 | 103 | 65 | 22 | 172 | 45° |

Plinth stretcher L8





| Type | A | B | C | D | E | θ |
|------|-----|-----|----|----|----|-----|
| L8.1 | 215 | 103 | 65 | 8 | 47 | 45° |
| L8.2 | 215 | 103 | 65 | 22 | 60 | 45° |

Brick closer/end block L9






| Type | A | B | C |
|------|-----|-----|----|
| L9.1 | 215 | 103 | 65 |

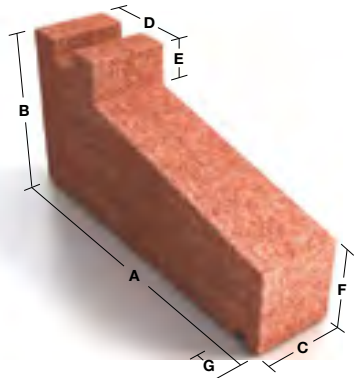
Arch radical L10

Made to suit dimensions supplied by customer.




Cill brick L11

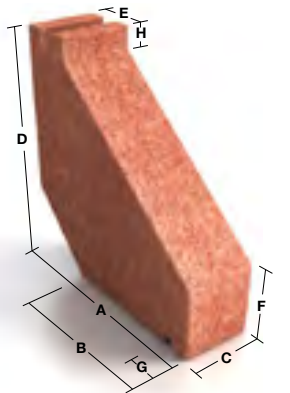




| Type | A | B | C | D | E | F | G |
|------|-----|-----|----|----|----|----|----|
| L11 | 276 | 140 | 65 | 87 | 34 | 66 | 28 |

Cill brick L12





| Type | A | B | C | D | E | F | G | H |
|------|-----|-----|----|-----|----|----|----|----|
| L12 | 215 | 148 | 65 | 215 | 53 | 65 | 28 | 20 |



Technical Information

Walling & Masonry

Important Information

Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it.

Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

BS 5628-3:2005

Code of practice for the use of masonry. Materials and components, design and workmanship.

Note

BS guidelines are subject to change and therefore you should refer to www.bsigroup.com for the latest version.

Walling and masonry are established products in the construction industry and have a number of British Standards (BS) dedicated to ensure they are professionally installed. Refer to the following relevant BS guidelines for detailed information. Tobermore recommend a maximum of 6mm for movement joints when used with the correct mortar and design principles in accordance with BS5628 and PD6697

Vibrant long-lasting colours*

Tobermore only use high quality Iron Oxide pigments, (which are made to BS EN 12878), to produce our strong, vibrant and deep colours. Our state-of-the-art equipment makes our products extremely dense thus ensuring that our colours remain intact for very long periods. For example when we examine products which are 10 years old we can see that the colour retention is excellent. Tobermore would recommend that to maintain the colour and quality of product a regular maintenance programme is carried out on all projects.



Installation - All products should be installed in accordance with the latest British Standard.

FOR FACING BRICK PRODUCTS (Kingston & Lansdowne)

Installation – Facing Bricks

Concrete bricks have been an established, if small part, of the market for bricks in the UK for well over one hundred years. In 1948, George Bessey of the Building Research Station wrote “The beginnings of the concrete brick industry are vague”. They are related to those for concrete blocks which, although first patented in 1850, did not become properly established until about 1910 and expanded rapidly in the period between the wars. Concrete bricks are made from a mixture of Ordinary Portland Cement (OPC) and aggregate which is tamped or vibrated into molds and subsequently cured at ambient temperature, or in steam, at atmospheric or higher pressures.

British Standard

Concrete bricks are made to comply with BS EN 771-3: 2011 + A1: 2015 which is the Specification for Masonry Units Part 3 Aggregate Concrete Masonry Units (Dense and Lightweight Aggregates). The Specification applies to all aggregate concrete masonry units, i.e. bricks and blocks in UK terminology. Tobermore concrete bricks are nominally 215mm long, 100mm wide (thick) and 65mm high, and comply with the traditional UK definition.

Declaration of Performance

Compliance with the Specification BS EN 771-3: 2011 + A1: 2015 is demonstrated by Tobermore producing a Declaration of Performance (DoP) for each brick type. This document, which is available on the Tobermore website www.tobermore.co.uk lists the properties of the product as required by the

Specification, e.g. compressive strength, dimensions and density are all given by Tobermore in a legal declaration. The CE mark, which gives the same information, accompanies the product and signifies that the declaration has been made and consequently the bricks meet the legal requirements for sale in all of the countries in the European Single Market.

Design Guidance

The way in which the designer uses the declared information and the way the builder constructs the brickwork are covered by guidance in other relevant documents. Key to this is the European Code of Practice, Eurocode 6 - Design of Masonry Structures. This comes in the following parts:

- 1.1 General Rules for Reinforced and Unreinforced Masonry (BS EN 1996-1-1)
- 2.1 General Rules - Structural Fire Design (BS EN 1996-1-2)
- 3.1 Design Considerations, Selection of Materials and Execution of Masonry (BS EN 1996-2)

A further part, Part 3: Simplified Calculation Methods for Unreinforced Masonry Structures exists, but gives very conservative designs and its use is not encouraged in the UK. The Eurocode covers all masonry construction throughout Europe but because of the widely varying traditions, it cannot do that in detail. Consequently, a lot of the detail which is relevant to the UK is given in Published Document; Recommendations for the Design of Masonry Structures to BS EN 1996-1-1 and BS EN 1996-2, PD 6697: 2010.

Whilst there is much that is helpful in the official guidance, manufacturers’ recommendations should be followed in order to achieve successful results.

The Difference Between Concrete and Clay Facing Bricks

Tobermore facing bricks are used to provide the appearance of the building, this is generally not the case with concrete blocks, and there are important differences between concrete and clay bricks. All masonry units expand or contract to some extent due to temperature and moisture effects. Clay masonry units respond to changes in temperature, they demonstrate a small reversible movement due to wetting and drying but importantly demonstrate a long term irreversible expansion as they adsorb water from the atmosphere. On the other hand, concrete bricks shrink as they dry out. The way to deal with this in concrete brickwork is to subdivide walls into smaller panels by introducing movement joints which should be provided at intervals between 6m and 9m. The length to height ratio of panels should not exceed 3:1. It is also important to not allow concrete bricks to become excessively wet before they are laid, or for new brickwork to do so before it is adequately protected by good architectural details.

There are other differences between concrete and clay units, e.g. Tobermore facing bricks are very consistent in size and hence the brickwork has a regular, precise appearance which, although possible with some clay bricks, is not with others due to natural variability in size due to the making, drying and firing processes. The Tobermore Lansdowne range differ in that although the bricks are consistent in size, they are tumbled which gives softer edges. Concrete bricks have a density towards the top of the range of that for clay bricks and hence weight may be an issue in relation to dead load or for support by scaffolding.

Design for Movement

The provisions of the Eurocode for masonry are written as a principle followed by a series of application rules to achieve the principle. In the case of movement, the principle is:

“The possibility of masonry movement shall be allowed for in the design such that the performance of the masonry in use is not adversely affected by such movement.”

The way of achieving this situation is by the use of movement joints as described earlier to subdivide large areas of brickwork into smaller panels such that in particular shrinkage

of the brickwork does not allow sufficient tension to build up in the wall that it cracks. In particular, long low panels are to be avoided. The maximum spacing of movement joints is a national matter and the National Annex to BS EN 1996-2 recommends a value of 9m for concrete brickwork with the provision that it may be less if the length: height of the sub-panel created exceeds 3:1. In practice, movement joints are often spaced at 6m - 9m as recommended in PD6697. Tobermore recommend a maximum spacing of 6m.

The following illustrations show some situations where cracking can occur and how it can be alleviated by the introduction of movement joints.

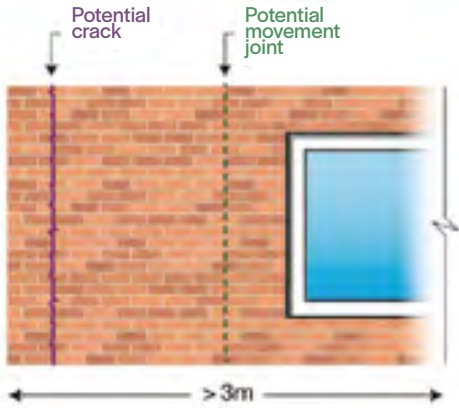


Fig.1: Corners are very stiff joints. A run of brickwork more than half the minimum allowance can lead to cracking near to the corners.

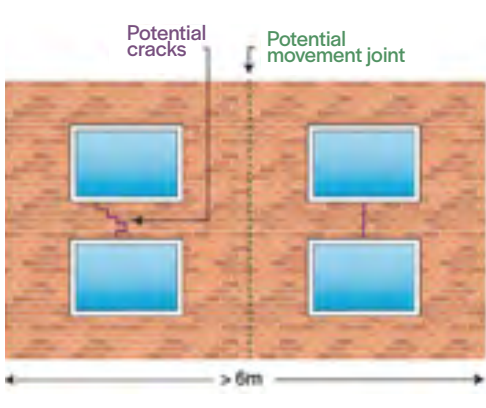


Fig.2: A long uninterrupted run of brickwork between upper and lower windows can lead to cracking at the smallest height, i.e. between the windows either as shown or from the corners of the windows. Cracks may be vertical or stepped – they follow the line of least resistance.

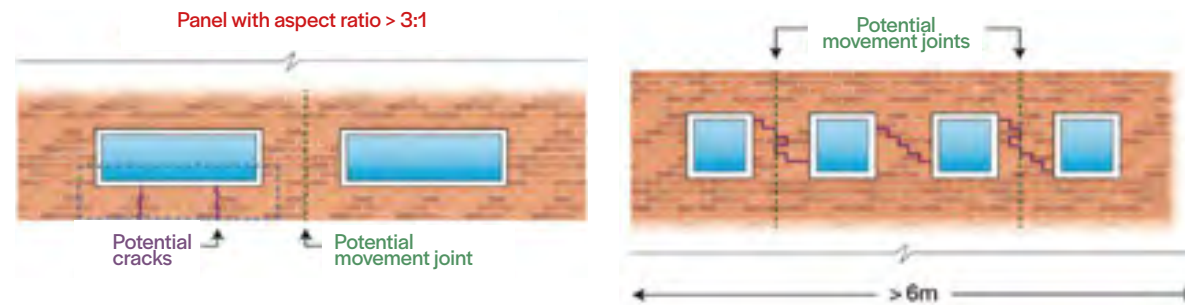


Fig.3: Long, low panels (> 3:1 ratio) should be avoided. These panels shrink between the more heavily loaded brickwork between the windows.

Fig.4: Long runs of uninterrupted brickwork, especially when vertical loading is low, can lead to diagonal cracking of narrow brickwork panels between window openings.

Current guidance focuses on ensuring movement joints are located where they are needed in relation to interaction with other structural elements, restraints, corners, etc. and is based upon experience rather than calculation. Movement joints in concrete brickwork should not be less than 10mm thickness. They must, of course, be free from mortar. Joints in clay masonry are primarily used to control expansion and

hence the compressibility of any filler is important. In concrete masonry, the principle effect is shrinkage and relatively incompressible materials such as hemp, fiberboard and cork can still be used. The joints must be sealed with a sealant that will resist rain penetration and a guide to the selection of sealants is given in BS 6213.

Durability

Although durability is covered in the Specification for Concrete Bricks (BS EN 771-3: 2011 + A1: 2015) it is rather unsatisfactory from the user point of view. The manufacturer is required to declare the freeze thaw resistance by reference to the provisions valid in the place of use until an appropriate European Standard is available. There were no requirements in the previous Standard, BS 6073-1: 1981 and durability is dealt with by Code of Practice guidance. At the European level, this is limited. Where masonry is exposed to moisture, wetting, or extreme wetting and freeze thaw cycling, but excluding exposure to external sources of significant levels of sulfates or aggressive chemicals, the bricks are required to be freeze thaw resistant. In more aggressive situations, the guidance is to consult the manufacturer. PD 6697 is more helpful and contains a table describing the various locations in buildings. For each location, the minimum compressive strength of a concrete brick that is suitable for that location, together with a minimum mortar classification is required. The only exception to this is that concrete bricks are not considered to be suitable to act as masonry DPC's.

Table 15 in PD 6697 is useful; however there are seven different minimum brick compressive strengths for the various locations. Tobermore facing bricks are declared as frost resistant. In this context, this means that Tobermore facing bricks are suitable for all locations except cappings, copings, sills, earth retaining walls without waterproofing on the retaining face, or in foul drainage. Although not covered in BS EN 771-3, concrete bricks do not contain soluble sulfates and hence the reference in the Eurocode is to sulfates from external sources. In these circumstances, the manufacturer's advice should be sought.

Resistance to Rain Penetration

The principal guidance on the design and detailing of walls is given in PD 6697. This covers the thickness of single leaf walls and cavity walling, including reference to a minimum air space and the introduction of cavity insulation.

The guidance is comprehensive and authoritative. There are no specific provisions that one would make for concrete

brickwork. Concrete and clay brickwork are dealt with in the same way.

Selection of Mortars

In general, the common guidance for the selection of mortars in most situations is to use a mortar that is no stronger than is required for structural or durability reasons. This is relevant to concrete brickwork as these are susceptible to drying shrinkage and if this were to cause cracking, it is far preferable that it is contained within the joints. It may then be viewed as negligible or relatively easy to repair by raking out and repointing.

The selection of mortars for durability is covered in table 15 of PD 6697 and for most situations in facing masonry a mortar with compressive strength class M4 is suitable. This is a mortar which would be expected to achieve a compressive strength of 4N/mm² after 28 days. A mortar prescribed by its mix of constituents by volume considered to be equivalent to an M4 mortar would be a 1:1:5-6, cement:lime:sand mortar, the range of proportions of the sand content reflecting its grading. Exceptions to the use of strength class M4 are work near to ground level or in earth retaining structures. Where concrete brickwork is being used in structural situations, the engineer will select a mortar such that the strength when used with the facing brick will achieve the compressive, flexural and shear strength in the brickwork that is required according to the provisions of Eurocode 6, BS EN 1996 1-1. Tobermore concrete facing bricks meet the minimum strength requirements for all dwellings constructed using Approved Document A of the Building Regulations and BS 8103-2: 2013 Structural Design of Low Rise Buildings, Part 2: Code of Practice for Masonry Walls for Housing. The mortars should be selected using table 15 of PD 6697 but will generally be an M4 strength class (lower classes are not permitted).

Workmanship

Good site practice for the use of Tobermore concrete bricks is no different to that for clay bricks. The only issue worthy of comment is that of adjusting the suction of concrete bricks which is better solved by using a water retentive additive in the mortar. However, the suction of Tobermore concrete bricks is low and this is unlikely to be an issue. The appearance of facing brickwork can be ruined by lack of care on site. In particular care is needed to avoid mortar adhering to the brick face and guidance on good practice is given in 'Good Practice Guide - Facing Bricks' which is available from Tobermore. Normal considerations of good practice include:

- Masonry materials should be stored in dry conditions. Polythene wrapping provides protection from the weather. If this is removed it should be replaced or alternative protection needs to be provided.
- Tobermore concrete bricks should be laid on a full bed of mortar with all cross joints filled and vertically aligned.
- No lift should exceed 1.5m in height in a single day.
- The joint profile should be finished to the specified profile.
- Newly constructed brickwork should be protected from excessive drying out, rain and frost. If new brickwork is not protected efflorescence, patchy mortar colour and staining can occur.
- Tobermore concrete brickwork should not be built in temperatures below 3C and frozen materials should not be used. Facing bricks should be constructed in areas that are greater than 10m away from de-icing salts.

Additional guidance can be found in BS EN 1996-2 and PD 6697. Manufacturers' recommendations should always be followed and further more detailed guidance is available from Tobermore on request.

FOR COUNTRY STONE PRODUCTS

Installation - Country Stone

Tobermore's Country Stone products are designed to recreate traditional stone sizes and to co-ordinate with standard cavity wall construction. When used in housing projects, a clear cavity must be retained.

All work must be protected during construction and must be designed and built in accordance with accepted industry standards and practice. Builders familiar with conventional brickwork will find that similar installation principles apply.

Joints can be finished flush or tooled depending on the overall effect required. Raked joints are not recommended. It is vital that all horizontal and vertical joints between Country Stone blocks must be compacted and free from voids. Shell bedding should not be used.

Movement Joints and Mortar Guidance

- NHBC recommends that walls constructed of concrete facing bricks should have vertical movement joints included every 6m to allow for drying/shrinkage, see PD6697:2010 section 6.2.6.3.4, maximum ratio for brickwork panels is to be 3:1 length : height. PD6697:2010 section 6.2.6.4 gives advice on joint positions, the benefit of brickwork reinforcement at window openings is covered in section 6.2.6.7 of the same document. Movement joints should be planned prior to commencing any construction to enable them to be concealed behind down pipes etc. and ensure the aesthetic of the building is maintained.
- It is important to ensure that the mortar specified for the construction is suitable for the contract, see table 15 of PD6697:2010 - class M4 is the maximum recommended for normal external facing brick walls. This should not be

exceeded when using Tobermore Concrete facing bricks

- We would recommend that you discuss this guidance with all parties involved in the design, construction and installation of this scheme. We also recommend that you refer to BS EN 1996-1-1 and PD6697:2010.
- Specific professional advice should be obtained at all times before commencing building work.

Maintenance

Routine cleaning and maintenance is required to keep the overall appearance of products in pristine condition.

Good Practice during Construction

- If mortar dries on the surface of the bricks it will stain the product and may not be removed.
- Mortar extruding from joints should be removed when the mortar is wet and during the process of laying.
- Any mortar smears on the brick surface should be removed by dry or wet brushing.
- Scaffolding should be installed as per regulatory instructions. Please note that mortar can drop and hit the scaffolding and then also go onto the wall. You should inspect the work area at all times to ensure the brick surface remains mortar free.
- When it rains be careful that any wet mortar on the scaffolding does not get 'splashed' onto the wall.
- When work stops or is interrupted by inclement weather conditions, brickwork should be protected immediately with polythene sheeting that is held in place with a suitable fixing. If new brickwork is not protected efflorescence, patchy mortar colour, patchy brickwork and staining can occur.
- Bricks should always be covered with polythene sheets to avoid getting damp or dirty when not being used.

General Cleaning Advice

- It is always important to keep bricks as clean as possible while laying and tooling. See Good Practice above.
- If mortar has been allowed to dry on the surface of the bricks the options you have to clean it off are as follows; Each process should be tested first and should ensure the facing bricks are not damaged - **a.** Dry brushing **b.** Wet brushing **c.** Using a 'like coloured' brick to rub the stained brick **d.** Pressure washing - should only be used as a last resort as it will damage the surface and the mortar joint if not completed correctly (this method cannot be attempted until the area has been allowed to set for a minimum of 7 days)
- Acid cleaning should be avoided



Instructions and warnings

Refer to page 257



| | |
|------------------------------|-----|
| Product Range | |
| Secura Grand | 242 |
| Secura Lite | 246 |
| Technical Information | 250 |

Retaining Walls



Secura Grand

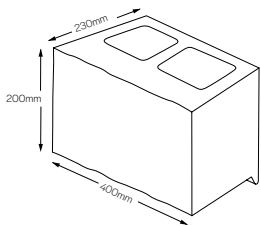


SCAN HERE

Mortar-free retaining wall.

Secura Grand Retaining wall blocks have a smart, heritage feel. Classic and textured in appearance, these retaining wall blocks evoke the elegance of walled gardens and heritage architecture and will bring character to any project.

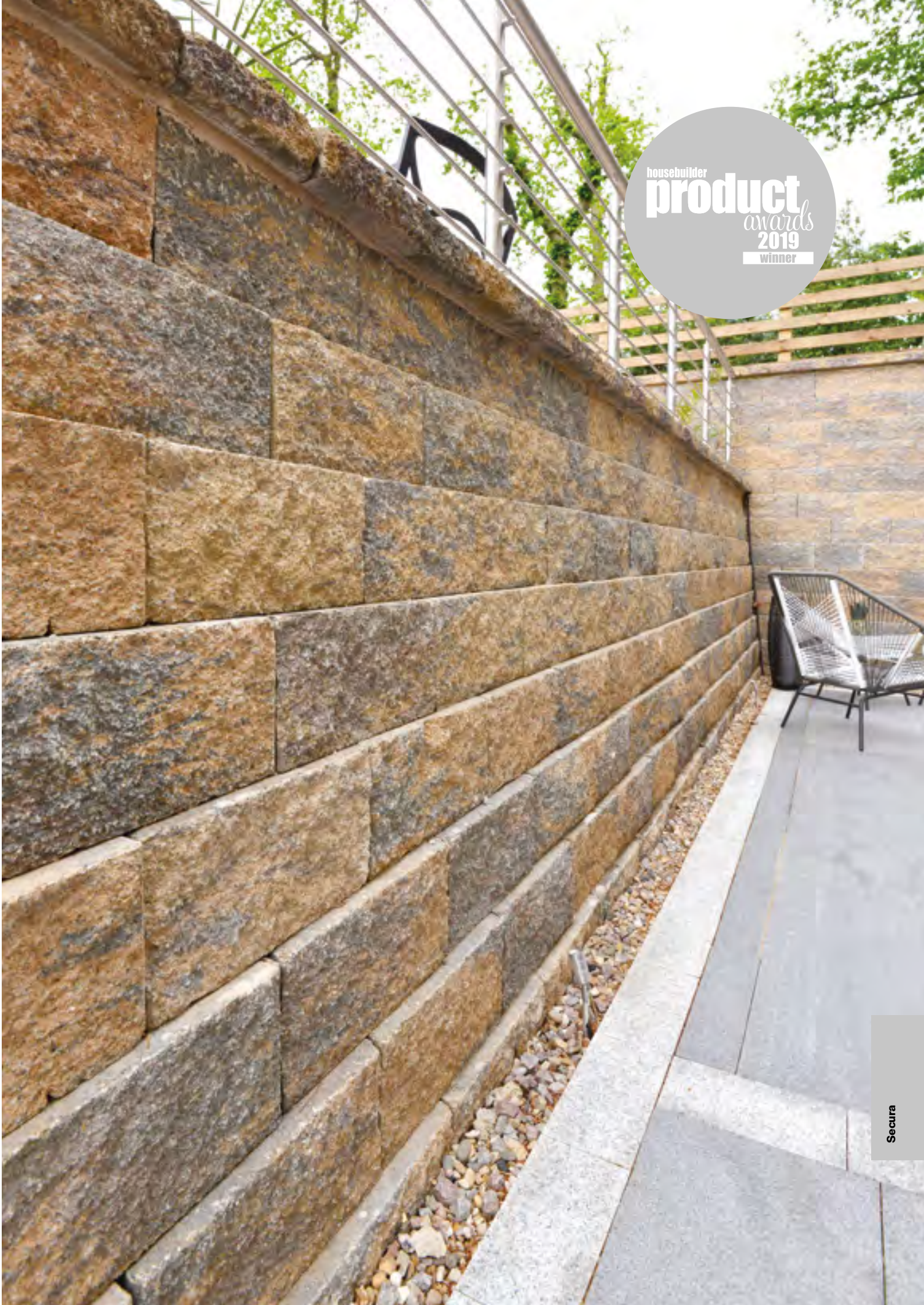
- Cost-effective
- Fast to build
- Mortar-free installation
- Builds up to 9m retained height
- Engineered for strength
- Attractive stone finish
- Full design and technical support available
- Can be combined with Geogrid to form reinforced soil walls for retaining structures



Size



HAPAS



Secura Grand

A

Aged

Finish



Specification



| | |
|----------------------------|---|
| Product type | Concrete Block |
| Manufactured to | BS EN 771-3:2011 |
| Surface finish | Processed to give aged appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Compressive strength >30N/mm² |
| Design and Installation to | BS 8002:2015 |
| CE Marking | Plus D41 310 Create 45-25-66/320 |
| Applications | Can be built as a gravity, engineered reinforced or concrete backfilled retaining wall. Please refer to Tobermore's Secura Grand installation guidelines or consult with Tobermore for design advice. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 10% |
| Carbon footprint | 5kgCo²e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Breem rating | Refer to the Green Guide to Specification, 4th Edition 2009. |
| www.bre.co.uk | |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m² per pack | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|---|-------------------------------------|-------------------------|----------|-------------|------------|--------------|-----------------------|---------------------------|
| Secura Grand | 400 x 230 x 200 | Bracken, Heather, Slate | YES | 3.84 | 12.5 | 48 | 1340 | 1340 |
| Secura Grand Double-Sided End Block | 400 x 230 x 200 | Bracken, Heather, Slate | YES | - | - | 32 | 1165 | 1165 |
| Secura Grand Corners | 430 x 230 x 200 | Bracken, Heather, Slate | YES | - | - | 48 | 1464 | 1464 |
| Secura Coping | 300/235 x 330 x 70 (tapered coping) | Bracken, Heather, Slate | YES | - | 3.77LM | 99 | 1415 | 1403 |
| Secura Coping 90 degree Internal/ External Kit <small>(4 copings cut from corner coping)</small> | - | Bracken, Heather, Slate | YES | - | - | - | 105 | 105 |

Heather



Bracken



Slate





Secura Lite

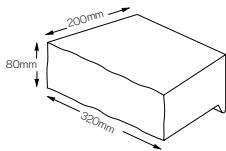
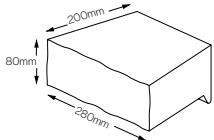
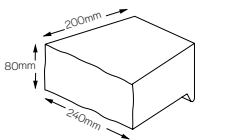
Mortar-free retaining wall.

Secura Lite has an antique feel, and a warm aged finish. The combination of block widths available, produce a traditional, random stone appearance.

- Easy to build
- Used mainly in domestic applications
- Features a unique aged finish
- Available in a combination of three block widths
- Creates a random stone appearance
- Vibrant long-lasting colours



SCAN HERE



Sizes
All three sizes in one pack



Secura Lite

SF
Split
Face

Finish



Specification



| | |
|----------------------------|--|
| Product type | Concrete Block |
| Manufactured to | BS EN 771-3:2011 |
| Surface finish | Processed to give aged appearance |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Compressive strength >30N/mm² |
| Design and Installation to | BS 8002:2015 |
| CE Marking | Plus D41 310 Create 45-25-66/320 |
| Applications | Low height gravity retaining wall solution for walls up to a maximum of 960mm high. Please refer to Tobermore's Secura Lite installation guidelines. |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon footprint | 1.6kgCo²e/ea |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| Green rating | Refer to the Green Guide to Specification, 4th Edition 2009. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | LM per pack | m² per slice | no. per m² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|--|--|-------------------------|----------|-------------|--------------|------------|----------------|-----------------------|---------------------------|
| Secura Lite (all three sizes in one pack) | 320 x 200 x 80 280 x 200 x 80 240 x 200 x 80 | Bracken, Heather, Slate | YES | 33.6 | 0.84 | 44.64 | 40 40 40 | 1121 | 1121 |
| Secura Lite Coping | 310/255 x 240 x 70 (tapered coping) | Bracken, Heather, Slate | YES | - | - | 3.5LM | 120 | 1316 | 1316 |

Heather



Bracken



Slate





Technical Information

Secura Retaining Walls

Important Information

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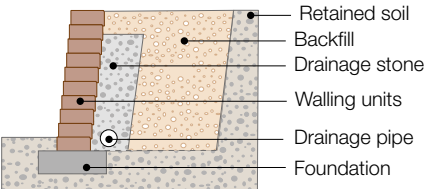
Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

Methods of Construction

There are 3 common types of retaining wall systems; gravity, reinforced and concrete backfill.

Gravity Retaining Walls

A gravity retaining wall relies on the weight and setback of the blocks to withstand the pressure being exerted on it from the soil behind. Gravity walls are ideal for low height retaining walls. Guidelines available on our website.



Suitable Secura products

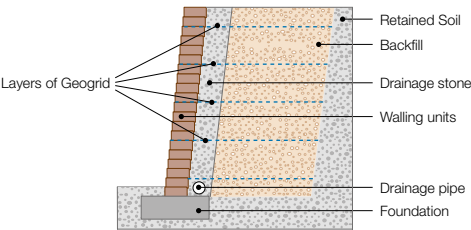
Secura Lite (maximum gravity wall height 960mm)
Secura Grand (maximum gravity wall height 1.2m)

Geogrid

A geogrid reinforced retaining wall uses layers of geogrid which are placed between the backfill material to create a soil mass behind the wall. These types of walls are generally used in taller walls and are designed by a qualified engineer. Guidelines available on our website www.tobermore.co.uk.

Note

For geogrid reinforced retaining walls please use the correct strength of geogrid as specified on the design. For geogrid reinforced retaining walls designed for Road and Bridge projects in accordance with the BBA requirements Huesker Fortac geogrids must be used. No substitutes are allowed. These are available from Tobermore.



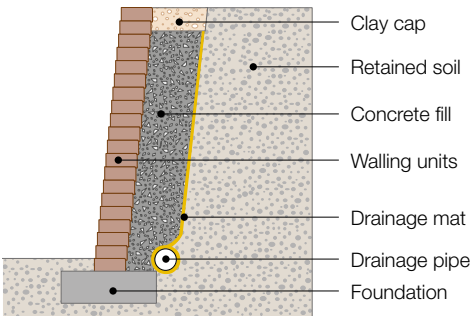
Suitable Secura products

Secura Grand

Concrete Backfill

Where there is insufficient space behind the wall to construct a geogrid reinforced retaining wall the preferred solution is to construct a concrete backfilled retaining wall. This method involves filling the voids in the blocks and the area behind the blocks and the excavated earth with structural backfill material (concrete).

The concrete backfill creates a large structural mass behind the wall and connects to the Secura blocks. This method of construction greatly reduces the amount of excavation required on site and also facilitates the drainage. Guidelines available on our website www.tobermore.co.uk.



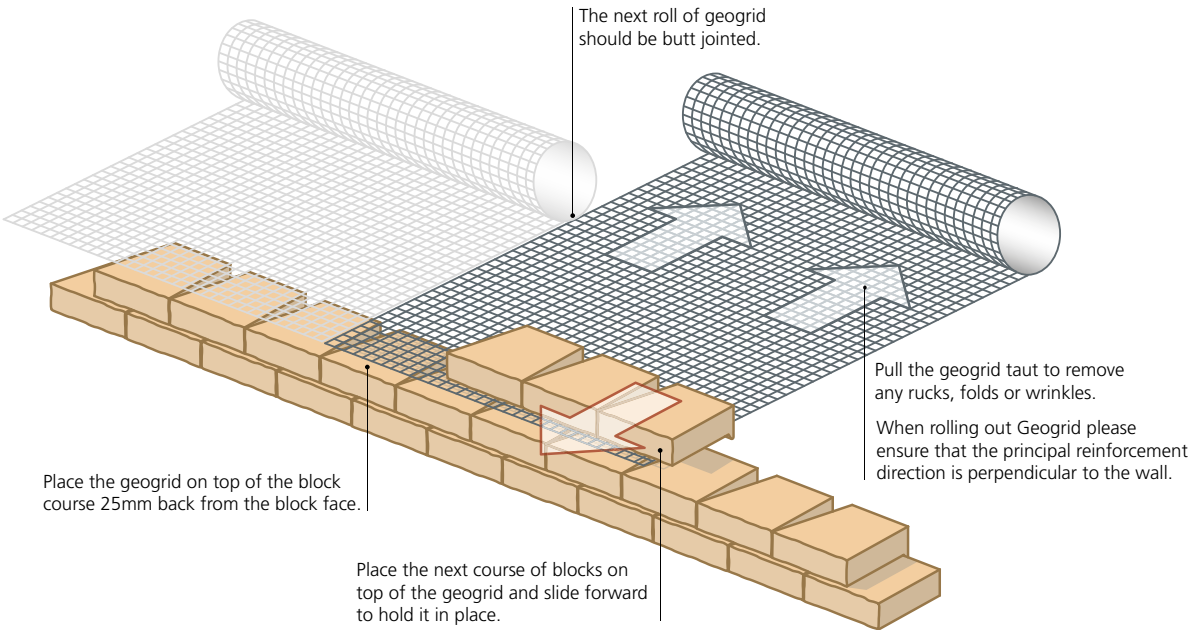
Suitable Secura products

Secura Grand

Drainage, Geogrid & Backfill Guidelines

Drainage

1. Lay a drainage pipe at the back of the wall and cover with drainage aggregate, maximum stone size 20mm.



Geogrid

1. Place the Geogrid on top of the block at the specified course ensuring that the edge is 25mm back from the front of the block.
2. Roll out Geogrid ensuring that the principal reinforcement direction is perpendicular to the wall. Also ensure that the Geogrid is butt jointed and never overlapping. Cut geogrid to required length.
3. Place the next course of blocks on top of the Geogrid and slide forward to hold in place.
4. Further courses of blocks may be placed in position up to the next specified Geogrid course.
5. Lay the Geogrid on top of the compacted backfill, ensuring that it is lying flat on the backfill. Pull the Geogrid taut to remove any rucks, folds or wrinkles.
6. Continue building the wall, placing the Geogrid and compacting the backfill as above to the required height

Backfilling

1. Place the supplementary backfill on the Geogrid and spread it out away from the wall, leaving a gap of 150mm - 300mm between the wall and the supplementary backfill.
2. Fill the gap between the wall and the compacted layer with drainage aggregate, maximum stone size 20mm.
3. Compact the supplementary backfill in 250mm layers, working from the wall towards the rear of the Geogrid.
4. Compaction by plate vibrator is recommended. Vibrating or static rollers should not be used within 1 metre from the back of the wall. Compacting specifications can be obtained from Tobermore.

Notes:

The above diagram illustrates the construction of straight walls using Geogrid. (For the construction of curved walls contact Tobermore)

Instructions and warnings Refer to page 257



AirClean paving utilises revolutionary technology to oxidise and breakdown Nitrogen Dioxide. The photocatalytic concrete uses nanotechnology and sunlight to transform harmful NO₂ into harmless nitrates that are washed away by the rain.

Product Range

AirClean Fusion 254

Technical Information 256

AirClean Paving



AirClean Fusion



SCAN HERE

Modular granite paving with AirClean.

Produced with a striking granite aggregate surface layer, this modular granite paving opens up endless possibilities for creative paving patterns and designs, so you can achieve exactly the right look for your project while benefiting the environment.

- Improves air quality by reducing harmful NO₂
- Transforms NO₂ into harmless nitrates
- Tried and tested photocatalytic technology
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colour
- Creates a striking, contemporary look



200 x 100mm



300 x 200mm



600 x 300mm

Sizes



80mm

Depths



TGA

Textured
Granite Aggregate

Finish

Pedestrian
Use

Light
Traffic

Commercial
Traffic

Refer to relevant guidance in BS 7533

Specification

PrimeTop® Ef-Stop®

| | |
|---|--|
| AirClean | Up to 16% NO ₂ reduction (average 4% -16% reduction) |
| Product type | Concrete Paving Block |
| Manufactured to | BS EN 1338:2003 |
| Surface layer | Hard wearing surface layer with a minimum of 4mm and >350kgs/m ³ cement |
| Surface finish | Textured Granite Aggregate |
| Granite content | Not less than 53% of granite aggregate in surface layer |
| Efflorescence | Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence |
| Strength | Typical tensile splitting strength of >3.6MPa |
| Slip/skid risk | Extremely Low |
| Installed to | BS 7533-3:2005 |
| NS Plus | Plus D41 310 Create 45-80-50/322 |
| Tolerances on Dimensions (mm) | Length ±2mm, width ±2mm, thickness ±3mm |
| Abrasion Resistance | Class 3 |
| Durability (Freeze-thaw) | Class 3 |
| External Fire Performance | Deemed to satisfy. See Commission Decision 2000/553/EC |
| Reaction to fire | Class A1 |
| Applications | Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com |
| Energy used | 100% renewable energy |
| Water used | 100% from our rainwater harvesting system and groundwater bore hole |
| Recycled content | Not less than 6% |
| Carbon footprint | 34kgCo ₂ e/m ² |
| Recyclable | 100% of this product can be recycled |
| Manufacturing & Delivery | From one location within the UK |
| brecon rating www.bre.co.uk | B , according to the Green Guide to Specification, 4th Edition 2009. A , can be achieved when used in conjunction with a prepared recycled sub-base. |

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

| product | size (mm) | colours available | in stock | m ² per pack | m ² per slice | no. per m ² | no. per pack | weight kg per pack GB | weight kg per pack NI/ROI |
|-----------------|----------------|-------------------|----------|-------------------------|--------------------------|------------------------|--------------|-----------------------|---------------------------|
| AirClean Fusion | 200 x 100 x 80 | Silver | YES | 9.60 | 1.6 | 50 | 480 | 1756 | 1746 |
| | 300 x 200 x 80 | Silver | YES | 9.60 | 2.4 | 16.66 | 160 | 1756 | 1746 |
| | 600 x 300 x 80 | Silver | YES | 7.20 | 3.6 | 5.55 | 40 | 1319 | 1309 |

Silver



IMPORTANT INFORMATION

Tobermore recommend that you separate product groups using contrasting bands of colour as each product is manufactured separately and may have slight variations in colour.



Technical Information

Important Information

Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it. Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

Block paving is now an established product in the construction industry and have a number of British Standards (BS) dedicated to the range to ensure they are professionally installed. Refer to the following relevant BS guidelines for detailed information.

Important notes

Edge restraint
It is essential that the paved area is restrained at the edges to prevent movement. The edge restraints prevent rotation of the blocks under load, reducing the possible loss of laying course material at boundaries and resists lateral movement.

Laying course
If grit is used as the laying course, then fine sand must not be used for jointing as the fine sand can percolate into the bedding layer causing pavement failure.

Jointing sand
Block paving is capable of supporting substantial loads because the presence of sand in the joints generates significant friction between adjacent blocks and there by distributes loads horizontally across the surface of the pavement from block to block. Jointing sand is available from Tobermore. Sand is purchased separately from paving. **Very fine jointing sand is not suitable for heavily trafficked areas.** Refer to BS7533-3 for all jointing sand specifications. (It’s worth pointing out that

the vast majority of contractors apply the jointing sand before consolidation. This is found to give better results and does not conflict with BS 7533:3). Block paving can also be installed with a rigid joint. Please refer to BS 7533-10:2010.

Instructions and warnings

Refer to page 257

| | |
|------------------------|---|
| BS 7533-1:2001 | Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of heavy duty pavements constructed of clay or concrete pavers. |
| BS 7533-2:2001 | Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of lightly trafficked pavements constructed of clay pavers or precast concrete paving blocks. |
| BS 7533-3:2005+A1:2009 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements. |
| BS 7533-4:2006 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of precast concrete flags or natural stone slabs. |
| BS 7533-7:2010 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of natural stone paving units and cobbles, and rigid construction with concrete block paving. |
| BS 7533-8:2003 | Pavements constructed with clay, natural stone, or concrete pavers. Guide for the structural design of lightly trafficked pavements of precast concrete flags and natural stone flags. |
| BS 7533-10:2010 | Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of trafficked pavements constructed of natural stone setts and bound construction with concrete paving blocks. |
| BS 7533-11:2003 | Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the opening, maintenance and reinstatement of pavements of concrete, clay and natural stone. |
| BS7533-12:2006 | Pavements constructed with clay, natural stone or concrete pavers. Code to the design of trafficked pavements constructed on a bound base using concrete paving flags and natural stone slabs. |

Note BS guidelines are subject to change and therefore you should refer to www.bsigroup.com for the latest version.

We do not recommend the use of paving sealer as this will reduce the effectiveness of AirClean paving. Other important references include - British Port Association heavy duty pavement design manual: “The structural design of heavy duty pavements for ports and other industries”.



Instructions & Warnings

As referred to in Tobermore’s Conditions of Sale

CORE TERMS (PAVING & WALLING)
Product
All products should be carefully inspected for defects or damage upon delivery and prior to being laid or fitted.

Product Information
Within Tobermore, design and development of products is a continuing process, and product information is subject to change without notice. Accordingly, please check with Tobermore to ensure that the product information you have represents the most up-to-date product information.

Delivery
Tobermore will ship your products as soon as they are ready, due to yard storage restrictions all products must be delivered within 28 days of the material being ready for delivery.

Prior to Installation
It is good practice to sort products to ensure consistency of colour, texture and dimensional tolerance. Any defects must be reported without delay. If products are installed with any form of defect which was clearly apparent prior to installation the installer will be responsible for all costs incurred to rectify the issue.

Installation
All products should be installed in accordance with the latest British Standard.

Colour/Shade & Texture
Tobermore produces paving and walling products with excellent density and durability. All products are manufactured in batches using naturally extracted raw materials including aggregates, pigments and cement etc. Products such Braemar, Sienna, Fusion, Mayfair Flags, Manhattan, City Pave and Fusion Kerbs are manufactured using premium naturally occurring granite aggregates. To achieve their final appearance some products undergo secondary processes, this involves shot blasting or grinding the surface of the product. Whilst we have several factory procedures in place to help control shade, colour and texture within and between batches we cannot guarantee consistency. This is due to the natural materials and secondary processes. Therefore, slight variations in the finished products is normal between and within batches. These variations actually enhance the character and natural beauty of the products. Taking delivery of orders within 28 days can reduce the likelihood of variations. To achieve the best possible finish we recommend the following advice is followed to evenly distribute any slight variations in shade, colour and texture over a large area. When the circumstances allow complete one area of paving, one retaining wall or one house / building by using products taken from the same batch. This is achieved by checking the batch code label displayed on the packs. Always, thoroughly mix products from a minimum of three packs. Where products are supplied in packs with vertical slices always take them “vertically slice by slice” this ensures that colours are distributed evenly. When the circumstances do not allow the use of products from the same batch then it is extremely important to minimise possible colour banding /shading by always, thoroughly mixing products from a minimum of three packs concurrently with some overlap between deliveries / batches. Mixing thoroughly from a minimum of three packs is of particular importance when installing single colours such as Golden, Buff, Natural, Charcoal, Graphite, Silver, Mid-Grey, Sandstone, Alto Silver, Aaron Stone, Jura Grey and Innis Black. We would always recommend that when purchasing products, especially in larger quantities, that they are all ordered at the same time. Please note that the colour of new products will inevitably vary compared to those that have been installed for a period of time as weathering does take place. All colour illustrations are as accurate as the printing process will allow. For a more accurate colour match please refer to actual product samples, which can be provided. Colours and textures illustrated are representations and therefore should not be expected to be an exact match.

Tegula
Tegula is manufactured using a secondary process that distresses the edges and corners of the blocks to give the desired aged antique appearance. The process randomly distresses the blocks, therefore some blocks will be more distressed than others will, this is completely normal and does not affect the product performance.

Staining
Some chemicals that are commonly used in gardens such as lawn feed containing Ferrous Sulphate can stain concrete products. Any chemicals that are split must be removed immediately by rinsing away with clean water. Please check the information on the instruction label of the container holding the chemical.

Moisture
Occasionally, after installation, some units may show variations in shade and have a patchy appearance. This is due to the varying amounts of moisture within the concrete and the ground. The drying out process of concrete continues in-situ after installation. Some units may also retain more moisture than neighbouring units and

take longer to dry out. This is caused by the variations in density of the naturally extracted aggregates used in the manufacturing process. Given time and natural weathering, the capillaries within the surface of the concrete will gradually close and any patches or moisture retention will dissipate as the product matures. This does not affect long-term performance.

Efflorescence
Efflorescence is a crystalline deposit that occurs naturally on the surface of concrete materials. It usually appears as white deposit but can also be brown or yellow in appearance. Tobermore use market-leading technology to significantly suppress the occurrence of efflorescence, however, if it occurs, it may mask the colour of the product for a period of time, but tends to be washed away gradually by rain. Tobermore do not replace products with efflorescence. Packs of products which have had packaging removed should always be re-covered with appropriate packaging to prevent the occurrence of secondary efflorescence.

Surface Scratches
Minor scuffs or bruises may occur during delivery, movement onsite, and installation (for example, during any plate vibrating process). In Tobermore’s experience, these marks usually weather off through time. To reduce the risk of surface scratches we strongly recommend the use of a vibrating plate with a rubber protective mat.

Ordering
To avoid waste, please ensure that your contractor accurately measures the area on site before ordering products. In Tobermore’s experience, dimensions taken from a project plan can vary significantly from the final layout. Depending on the layout of the project, we recommend ordering an additional 2 - 5% of material to allow for cutting, detailing and wastage.

Manufacturing & Quality Systems
Tobermore is a BS EN ISO 9001, BS EN ISO 14001 and BES 6001 registered company. Tobermore uses an integrated management system to manage all health & safety and environmental issues.

Product Maintenance
Routine cleaning and maintenance is required to keep the overall appearance of products in pristine condition. All concrete products can develop algae, lichen, and moss growths due to environmental conditions and may require cleaning. Areas adjacent to plant borders and trees may discolour from transfer of plant-life. Tobermore cannot accept responsibility for any of these conditions.

Queries & Complaints
Please contact one of Tobermore’s Paving & Walling Centres or offices (contact details at www.tobermore.co.uk) with any queries or complaints. Any complaints must be notified to Tobermore without delay.

CORE TERMS (PAVING ONLY)

Paving installed unbound should have a close joint width of 2-5mm to allow for the dimensional tolerances of products and to create a gap to allow the brushing in of kiln dried jointing sand. The straightness of lines will be dependent on workmanship and product tolerances. String lines must be used to help achieve straight lines. Tobermore do not recommend Butt jointing as this will make achieving straight lines more difficult.

Product Maintenance
Light coloured paving blocks and flags emphasise tyre marks and oil spills on the driveway. Please note that these products will need more maintenance if overall appearance is to be maintained.

Initial Cleaning
When an area has just been paved, allow it to settle for a few days. After this, you may wish to lightly hose down the paving to remove any excess sand or dirt. The area should then be treated with a weed killer suppressant 2-3 times per year as required.

General Cleaning
Paving requires regular maintenance, including regular sweeping to prevent the build up of detritus. Tobermore recommends that paving is cleaned 2-3 times per year. For general cleaning of dirt and algae, vigorous brushing with a stiff yard brush with plenty of hot detergent solution (washing up liquid or non-bio washing powder), thoroughly rinsed with clean water, should suffice. Repeated treatment may be required for paved areas sited beneath trees or in permanent/near permanent shade. A light power hose at medium pressure is generally all that is required to clean general dirt and grime. Any jointing material which is removed must be replaced. Do not use high pressure powerwashers as aggressive power-washing can damage the product surface. A trial area should be tested before large scale powerwashing takes place.

Moss, Lichen and Algae

Thick growths of moss or lichen must be removed first by scraping out the joints and then treating the area with a moss killer such as anti-moss paving cleaner. Anti-moss is designed to remove moss, lichens and algae. It is best applied in dry weather. After being applied it will take a few days to be fully effective. Once the moss and lichens have been killed, they can easily be brushed off. Anti-moss also leaves a residue in the sand joint which will help reduce the likelihood of re-growth. The manufacturer's instructions should always be followed when using any cleaning agent.

Weeds

Large weeds should be removed by hand and then the area treated with a weed killer (available from any good garden centre). Smaller weeds can then be treated directly with weed killer and these weeds should start to die within days. The manufacturer's instructions should always be followed when using any weed killing agent.

Block Paving Sealer

It is possible to seal block paving with a resin material which combats staining and weed growth and which also enhances colour and appearance. The acrylic sealer is sprayed onto the block paving and forms a 'skin' on top of the paving and the jointing material giving an easily maintained finish. The manufacturer's instructions should always be followed when using any sealing agent.

FOR HYDROPAVE PRODUCTS

Installation - Hydropave

Tobermore recommends that its Hydropave products be installed in conjunction with a BS EN 7533-13:2009 designed permeable paving system.

Note: A permeable paving design relies heavily on using the correct aggregates. Prior to installation, we would ask you to test both the 4/20mm coarse graded aggregate and also the 6.3-2mm bedding and jointing grit as per the relevant British Standard specification (BS EN 13242:2002). In particular, the material should be categorised as LA20 according to Table 9, SZ18 according to Table 10 and MDE15 according to Table 11 within this standard. The grit should be insoluble in dilute hydrochloric acid and should be naturally occurring material. In our experience, incorrect use of aggregates is one of the most common reasons for failure of a permeable paving system.

Joint Filling

All joints must be filled to the top with 6.3 – 2mm grit to prevent movement and spalling of the blocks. We recommend that after a few weeks use, any joints which have settled and are not full, are topped up with grit. Joints should be kept filled at all times. You will need approximately one tonne of grit for every 100m² of 80mm paving.

Note: Care should be taken that the permeable joints do not become contaminated as work on the scheme is completed. Special care needs to be taken when soft landscaping is carried out so that soil does not enter the joints. When this type of work is being carried out, the surface of the permeable paving should be protected by an appropriate cover to protect the joints from being contaminated.

Hydropave Maintenance

Please refer to Tobermore's detailed 'Permeable Paving Maintenance Guidelines' available on our website: www.tobermore.co.uk

FOR EASYCLEAN PRODUCTS

Handling & Installation

During installation, the surface should be protected at all times from scratching and abrasion.

Once the protective glue dot has been removed do not stack flags directly on top of each other.

Use a plate vibrator with a rubber mat.

Do not scratch the surface with tools. (Spade, trowel etc.)

User advice

Do not drag garden furniture across the surface of the flags.

Do not pressure wash.

Do not use chemical cleaning products (e.g. solvents/acids).

FOR FACING BRICK & COUNTRY STONE PRODUCTS

Important Note:

Where the circumstances allow, it is beneficial to complete one building / structure using bricks taken from one batch and mixed on site from a minimum of 3 packs to avoid colour banding / shading. If the circumstances do not allow for this then it is important to minimise the possibility of banding / shading by always mixing bricks from 3 packs concurrently with some overlap between deliveries.

Where the site conditions allow, it will also be beneficial to take receipt of as many bricks as possible at an early stage to maximise colour consistency throughout the site.

Installation – Facing Bricks

Please refer to Tobermore's detailed 'Guide to the use of Tobermore Concrete Bricks' available on our website: www.tobermore.co.uk

Installation – Country Stone

Tobermore's Country Stone products are designed to recreate traditional stone sizes and to co-ordinate with standard cavity wall construction. When used in housing projects, a clear cavity must be retained.

All work must be protected during construction and must be designed and built in accordance with accepted industry standards and practice. Builders familiar with conventional brickwork will find that similar installation principles apply.

Joints can be finished flush or tooled depending on the overall effect required. Raked joints are not recommended. It is vital that all horizontal and vertical joints between Country Stone blocks must be compacted and free from voids. Shell bedding should not be used.

Good Practice during Construction - Facing Bricks & Country Stone

- If mortar dry's on the surface of the bricks it will stain the product and may not be removed.
- Mortar extruding from joints should be removed when the mortar is wet and during the process of laying.
- Any mortar smears on the brick surface should be removed by dry or wet brushing.
- Scaffolding should be installed as per regulatory instructions. Please note that mortar can drop and hit the scaffolding and then also go onto the wall. You should inspect the work area at all times to ensure the brick surface remains mortar free.
- When it rains be careful that any wet mortar on the scaffolding does not get 'splashed' onto the wall.
- When work stops or is interrupted by inclement weather conditions, brickwork should be protected immediately with polythene sheeting that is held in place with a suitable fixing. If new brickwork is not protected efflorescence, patchy mortar colour, patchy brickwork and staining can occur.
- Bricks should always be covered with polythene sheets to avoid getting damp or dirty when not being used.

General Cleaning Advice - Facing Bricks & Country Stone

- It is always important to keep bricks as clean as possible while laying and tooling. See Good Practice above.
- If mortar has been allowed to dry on the surface of the bricks the options you have to clean it off are as follows; Each process should be tested first and should ensure the facing bricks are not damaged - Dry brushing b. Wet brushing c. Using a 'like coloured' brick to rub the stained brick d. Pressure washing - should only be used as a last resort as it will damage the surface and the mortar joint if not completed correctly (this method cannot be attempted until the area has been allowed to set for a minimum of 7 days).
- Acid cleaning should be avoided.

Movement Joints and Mortar Guidance - Facing Bricks & Country Stone

1. NHBC recommends that walls constructed of concrete facing bricks should have vertical movement joints included every 6m to allow for drying/shrinkage, see PD6697:2010 section 6.2.6.3.4, maximum ratio for brickwork panels is to be 3:1 length : height. PD6697:2010 section 6.2.6.4 gives advice on joint positions, the benefit of brickwork reinforcement at window openings is covered in section 6.2.6.7 of the same document. Movement joints should be planned prior to commencing any construction to enable them to be concealed behind down pipes etc. and ensure the aesthetic of the building is maintained.
2. It is important to ensure that the mortar specified for the construction is suitable for the contract, see table 15 of PD6697:2010 - class M4 is the maximum recommended for normal external facing brick walls. This should not be exceeded when using Tobermore Concrete facing bricks.
3. We would recommend that you discuss this guidance with all parties involved in the design, construction and installation of this scheme. We also recommend that you refer to BS EN 1996-1-1 and PD6697:2010.
4. Specific professional advice should be obtained at all times before commencing building work.

Important Guidance Information: Tobermore Concrete Facing

1. Professional advice, specific to the project, should be sought before commencement of the building work.
2. Tobermore Facing Bricks have different properties to clay bricks especially in relation to moisture movement. Please refer to 'Guide to the Use of Tobermore Concrete Facing Bricks', which is available on request or at www.tobermore.co.uk
3. Tobermore recommends that vertical movement joints be spaced at no more than 6m apart. Panels of brickwork where the length: height ratio exceeds 3 are particularly vulnerable to cracking; if they cannot be avoided they should include movement joints at closer centres.
4. Movement joints should be planned prior to any construction so that they can be concealed behind drainpipes etc. Further guidance on moisture movement is available in the 'Guide to the Use of Tobermore Concrete Facing Bricks' and BSI documents BS EN 1996 (Eurocode 6) and PD 6697 (Recommendations for Design).
5. It is important to ensure that the mortar specified is suitable for the construction, see Table 15 of PD 6697. Mortar of strength class M4 will generally be suitable. Please refer to 'Guide to the use of Tobermore concrete facing bricks', which is available on request.
6. When building with dissimilar materials allowances should be made for differential movement. Design guidance from a structural engineer should be sought when combining dissimilar materials such as clay and concrete facing bricks. Examples of using dissimilar materials would be where a clay brick is used to build up to the dpc level and then Tobermore concrete facing bricks are used above the dpc. In some circumstances the dpc acts as a slip plane to separate the two materials which helps to dissipate tensile stress. However expert guidance should always be sought as to ensure structural stability as further slip planes or bed reinforcement may need to be incorporated into the design.
7. It is recommended that this guidance is discussed with all persons involved in the design and construction of the building work.

FOR SECURA PRODUCTS

Installation - Secura

All Secura products should be installed in accordance with British Standard BS8002. When constructing a retaining wall, ensure that you follow the design provided by the scheme engineer.

Contact Us

GB: 0844 800 5736

NI: 028 7964 2411

ROI: 048 7964 2411

Email

technical@tobermore.co.uk

sales@tobermore.co.uk

tobermore.co.uk

