



#### Contents

Introduction		Hydropave Permeable Par	ving	Kerbs & Edging	
Paving for the digital age	6	Hydropave Fusion	94	Fusion Kerb	182
75 years & counting	8	Hydropave Fusion Duo	98	Textured Kerb	186
Responsible Manufacturing	10	Hydropave Tegula	102	Fusion Radii Kerb	190
PrimeTop	12	Hydropave Shannon Duo	106	Textured Radii Kerb	194
Ef-Stop	14	Hydropave Pedesta	110	Quadrant Kerb	198
ServiceSure	16	Hydropave 240	114	Kerbstone	200
Texture & Scale	18	Hydropave Textured Flags	116	Kerb Large (KL)	204
Colour & Tone	20	Hydropave Classica Flags	118	Kerb Small (KS)	208
Featured Projects	22	Technical Information	120	Tegula Kerb Large (TKL)	210
Block Paving		Laying Patterns	125	Kerb Specials	212
Braemar	38	Paving Flags		Walling & Masonry	
Artro	46	Braemar Flags	128	Lansdowne	216
Fusion	50	Mayfair Flags	132	Kingston	220
City Pave VS5	56	Historic Flags & Circles	136	Country Stone	224
Manhattan	60	Beaufort Flags	140	Garden Stone	228
Tegula	64	Textured Flags	142	Specials	234
Tegula Setts	68	Riven Flags	146	Technical Information	236
Retro	72	Classica Flags	150	Secura Retaining Walls	
Shannon	76	Tactile Flags	154	Secura Grand	242
Pedesta	80	Technical Information	158	Secura Lite	246
Marker Block	84	Laying Patterns	159	Technical Information	250
Turfstone	86	Steps		rechinical information	200
Technical Information	88	Mayfair Step Flags with	162	AirClean Paving	
Laying Patterns	90	contrasting nosing	102	AirClean Fusion	254
		Mayfair Step Flags	166	Technical Information	256
		Step Risers	170	Instructions & Warnings	257
		Granite Step Unit	174		_0/
		Technical Information	178		

#### **Web Resources**

# 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.



#### 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.



Find out more at

tobermore.co.uk

#### **A Proud History**



## 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.



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.



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.



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%





#### **Technical Excellence**



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.

Tobemore 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



















#### **Product Performance**



#### **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



#### **Reliable Partner**

## 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.

**N**55

NBS Plus & Create



M

Design

#### 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.

16

## 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.



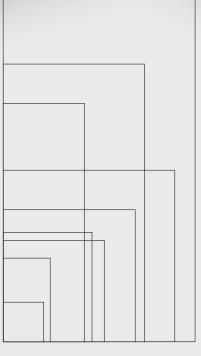


Surface solutions for all applications

#### 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

8

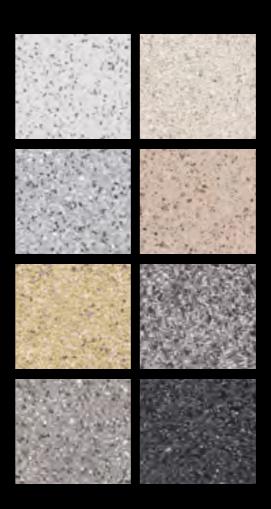


#### Colour

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**

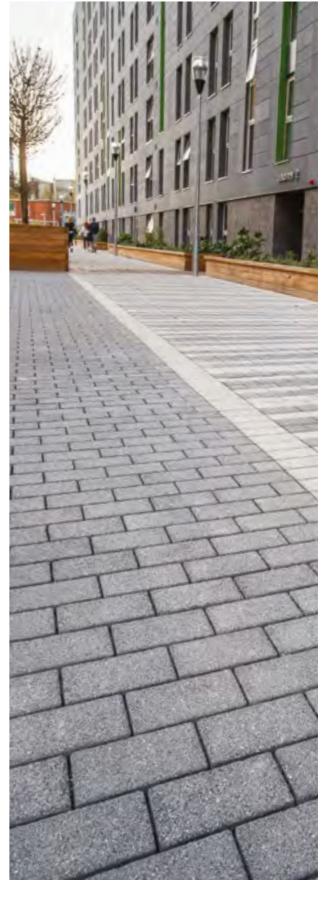
Tobermore excels in the provision of paving across a full range of applications within the Education sector, with solutions designed to retain their appearance over time, despite high traffic demands.

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:

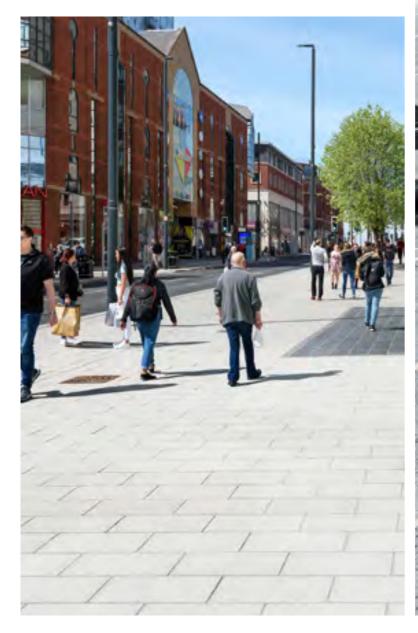
Hydropave Fusion Fusion Kerb Silver & Graphite Silver

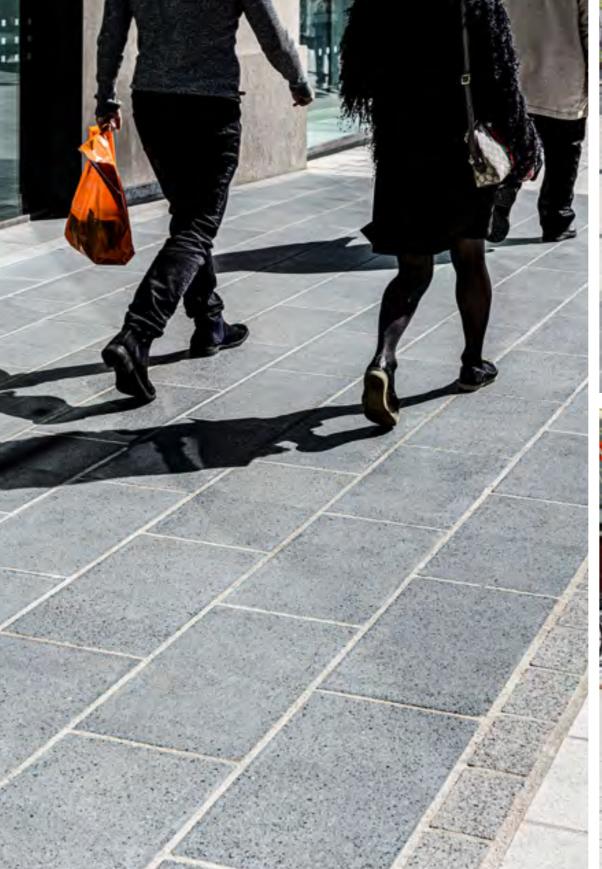
Landscape Architect Gillespies

Main Contractor Graham Construction Groundworker Gibson Paving

#### **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

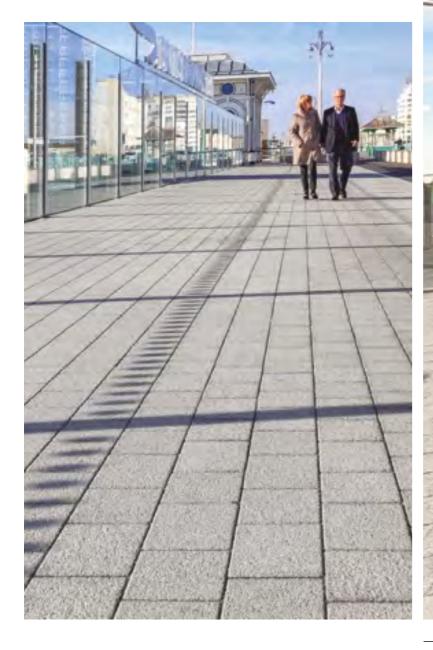
Products:
Braemar Block Paving
Alto Silver, Cara Slate & Jura Grey

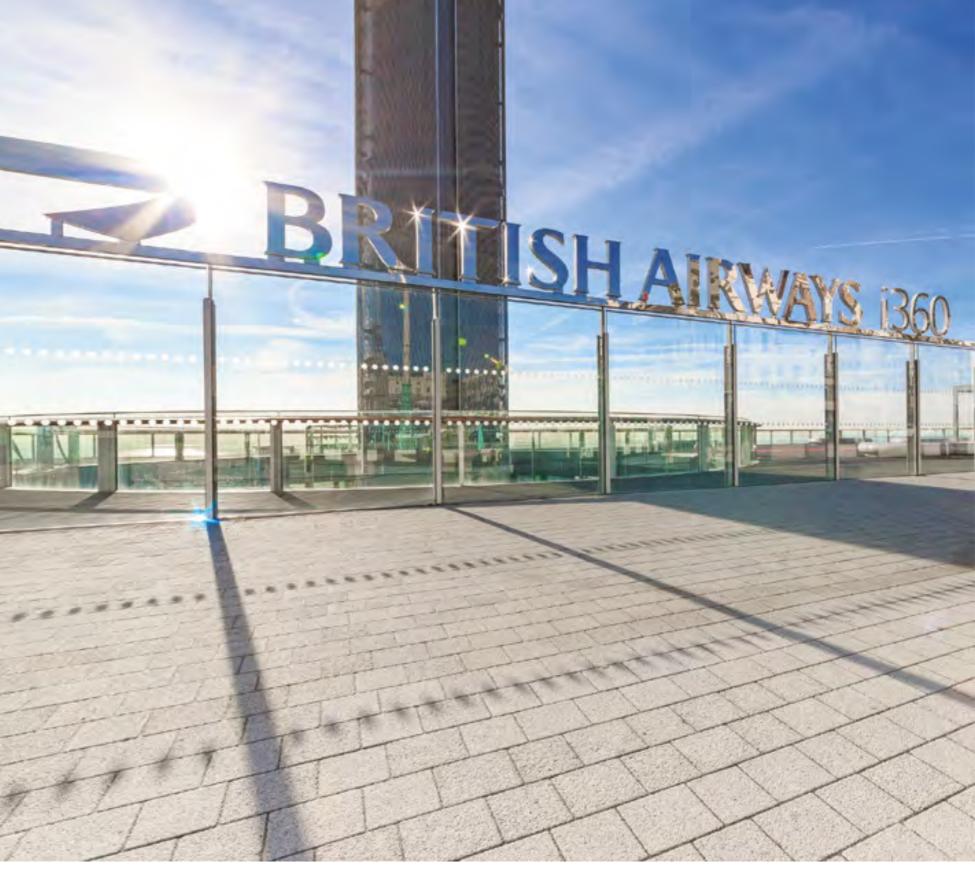
Client Leeds City Council **Architect**Capita Symonds

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 **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 Hydropave 240
Graphite & Silver 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)

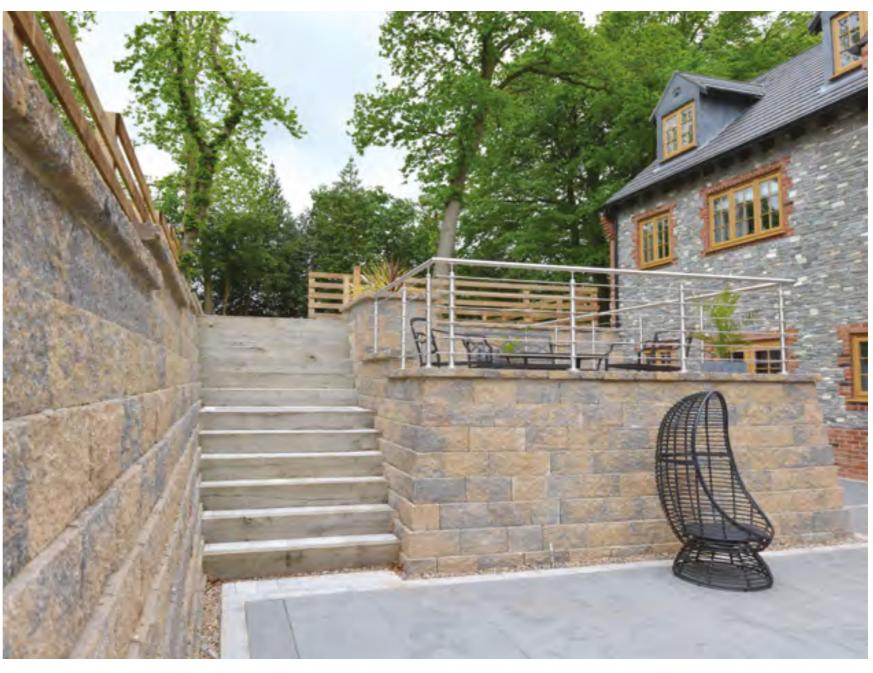
### **Retaining Walls**

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

Developer

Willmark Homes LTD



#### **Product Range**

Braemar	3
Artro	2
Fusion	5
City Pave VS5	5
Manhattan	6
Tegula	6
Tegula Setts	6
Retro	-
Shannon	7
Pedesta	8
Marker Block	8
Turfstone	8
Technical Information	8
I aving natterns	С

## 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.







## **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<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



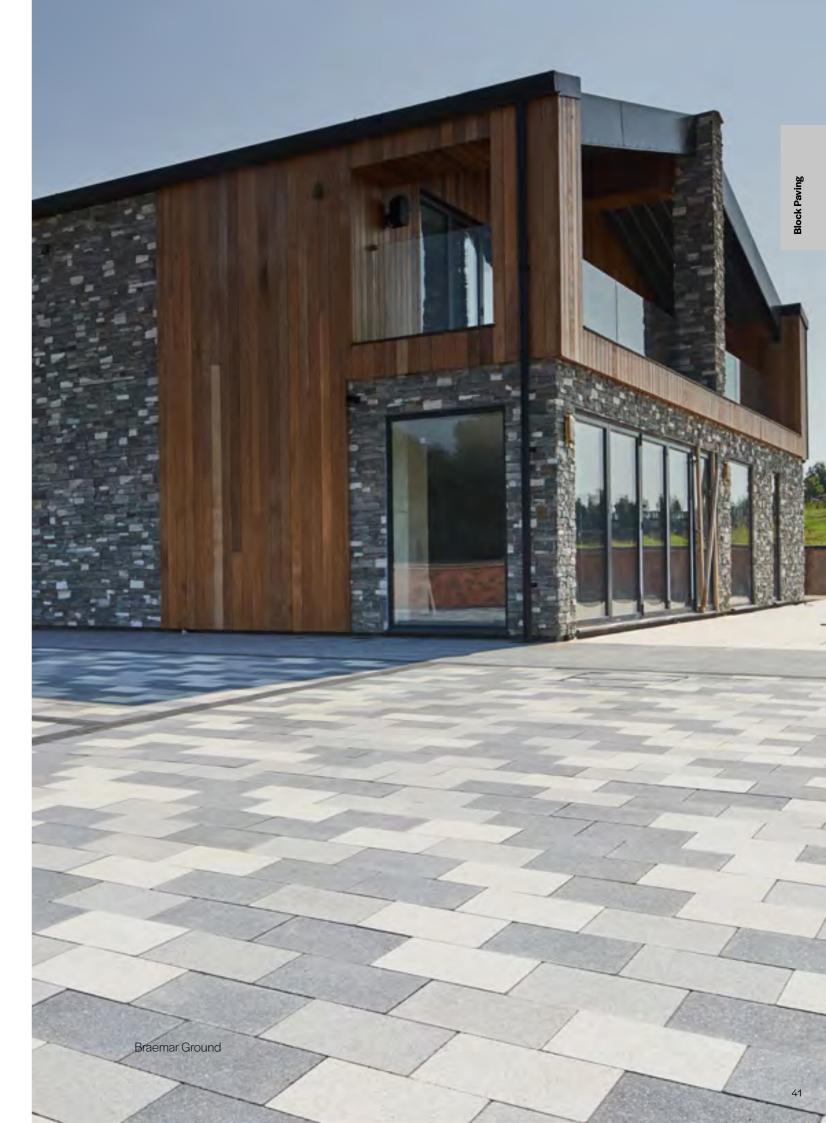








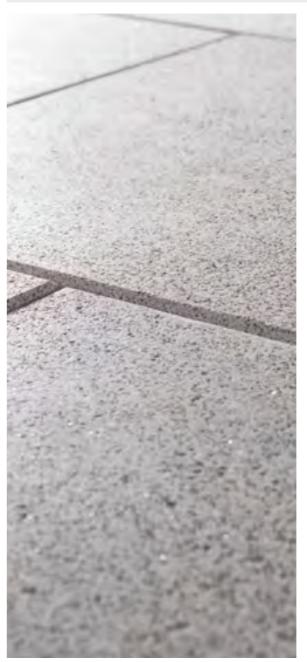






#### Surface solutions for all applications

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**

Block Paving



#### **Specification**

✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



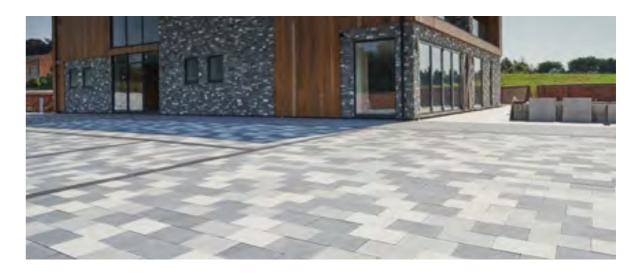
Product type		Concrete Paving Block	
Manufactured to		BS EN 1338:2003	300x200x80mm 200X100X80mm
		BS EN 1339:2003	600X300X80mm
Surface Layer		Hard-wearing surface lay	er with a minimum of 4mm and >390kgs/m³ cement
Surface Finish		Ground/Ground Textured	1
Granite Content in Surface Layer (Not less than %)	n	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 reque	est
Strength		BS EN 1338:2003	Typical tensile splitting strength of >3.6MPa
		BS EN 1339:2003	Typical tensile splitting strength of >5MPa (Class 3)
N55		Plus Q24 110 Create 45-20 64/400	200X100X80mm 300X200X80mm
		Plus Q24110 Create 45-20 64/395	600X300X80mm
Tolerances on Dir	mensions (mm)	Length ±2mm, width ±2m	nm, thickness ±3mm
Abrasion Resista	nce	Class 3	
Durability (Freeze	e-thaw)	Class 3	
External Fire Perf	ormance	Deemed to satisfy. See C	Commission Decision 2000/553/EC
Reaction to fire		Class A1	
Applications		Refer to the relevant part of Available from www.bsigro	of BS 7533 for the correct sub-base design and the most suitable product size for your application.
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		50.74kgCo <sup>2</sup> e/m <sup>2</sup> (+7%, -	0.6% depending on specific product)
Recyclable		100% of this product car	n be recycled
Manufacturing &	Delivery	From one location within	the UK
www.bre.co.uk	·		n Guide to Specification, 4th Edition 2009. <b>A</b> , can be achieved when used in conjunction with a

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.



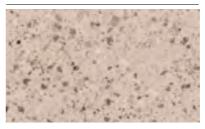
Refer to relevant guidance in BS 7533





Alto Silver <sup>†</sup>	Jura Grey <sup>†</sup>	Innis Black <sup>†</sup>
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#### 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	200 x 100 x 80	Square edge	Arran Stone, Alto Silver, Jura Grey, Innis Black	YES	9.6	1.6	50	480	1756	1746
80mm BIM	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 restablished 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

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.

<sup>†</sup> 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<sup>\*</sup> ✓ Ef-Stop<sup>\*</sup>





Donth





### **Artro**



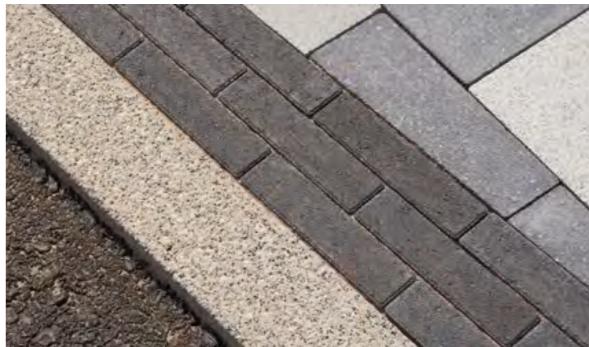




Refer to relevant guidance in BS 7533







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)	B\$7533-3-2005
กรร	Plus Q24110 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	20.22kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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 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









## **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



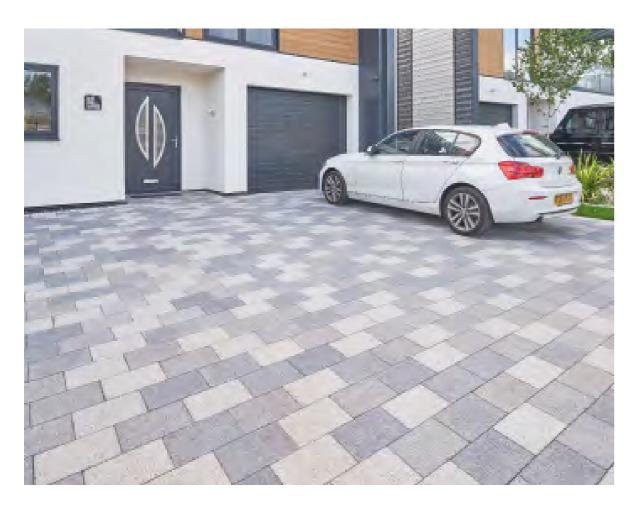


600 x 300mm

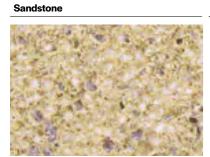




### **Fusion**



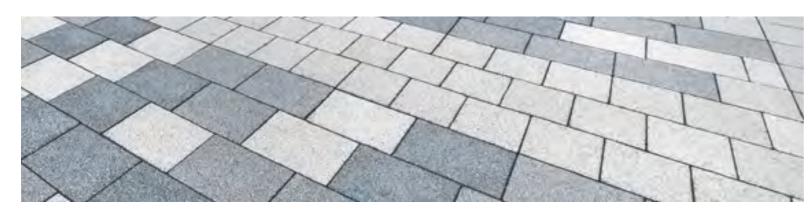




Tobermore recommend that you separate product groups using contrasting bands of colour as each product is manufactured separately and may have slight variations in colour.



### **Fusion**



#### **Specification**

PrimeTo	p° 🔽 Ef-Stop	°
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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	er with a minimum of 4mm and >	350kgs/m³ cement				
Surface Finish	Textured Granite Aggrega	nte					
Granite Content in Surface Layer	53% Graphite, Mid C 45% Sandstone						
(Not less than %)							
Efflorescence	Minimum 12 hour vapour	curing to significantly reduce the	e possibility of efflorescence				
Strength	BS EN 1338:2003	Typical tensile splitting streng	yth of >3.6MPa				
	BS EN 1339:2003	Typical tensile splitting streng	gth 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				
NSS	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 ±2n	nm, thickness ±3mm					
Abrasion Resistance	Class 3						
Durability (Freeze-thaw)	Class 3						
External Fire Performance	Deemed to satisfy. See C	Commission Decision 2000/55	3/EC				
Reaction to fire	Class A1						
Applications	Refer to the relevant part of Available from www.bsigro		ase design and the most suitable product size for your application.				
Energy used	100% renewable energy						
Water used	100% water used from ra	inwater harvesting system and g	roundwater bore hole				
Recycled content	Not less than 6%						
Carbon Footprint	_	m <sup>2</sup> (+6.6% -2.0% depending on m <sup>2</sup> (+8.4% -5.8% depending on	·				
Recyclable	100% of this product can		· · ·				
Manufacturing & Delivery	From one location within	•					
www.bre.co.uk	with a prepared recycled	sub-base. he Green Guide to Specification	n, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved when used in conjunction n, 4 <sup>th</sup> Edition 2009. <b>A</b> , can be achieved when used in conjunction with				

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.









BIM Level 2

**1** Tobermore



#### 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	100 x 100 x 60	Graphite, Silver	YES	11.52	0.96	100	1152	1630	1620
ВІМ	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	100 x 100 x 80	Graphite, Silver	YES	9.6	0.96	100	960	1756	1746
ВІМ	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.

54

## City Pave VS5



#### 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.



300 x 150mm

- maximum stability
- Granite appearance
- Manufactured with natural granite aggregates

• Shift protection on five sides of the block provides

- Superb hard-wearing surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look



**✓ VS5** 

PrimeTop\*

Ef-Stop\*







from wash out, ensuring consistent performance



## **City Pave VS5**

Block Paving



















#### **Specification**

**√ VS5** 

PrimeTop<sup>®</sup> Ef-Stop<sup>®</sup>

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, 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
กรร	Plus Q24110 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	34.90kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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	m² per pack	m² per slice	no. per m²	no. per pack	weight kg per pack GB	weight kg per pack NI/ROI
City Pave VS5	300 x 150 x 100	Graphite, Mid Grey, Silver	YES	7.2	1.8	22.2	160	1555	1555
BIM									

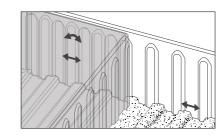
BIM - This product is available to download from our website in BIM Level 2 format.

## Mid Grey Graphite

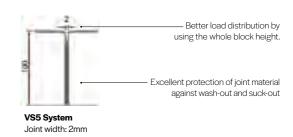
#### IMPORTANT INFORMATION

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









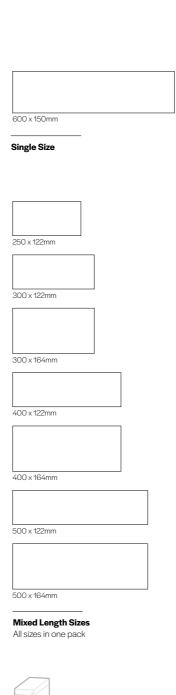
## Manhattan

#### 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.

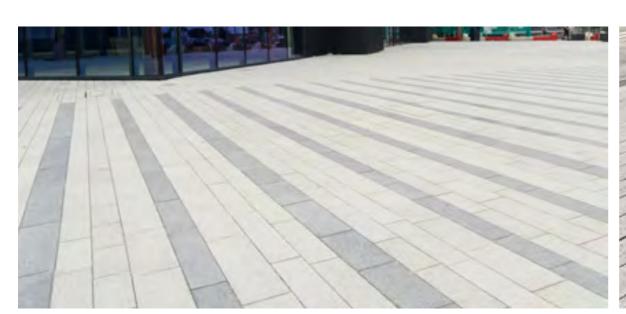
- Granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look







### **Manhattan**

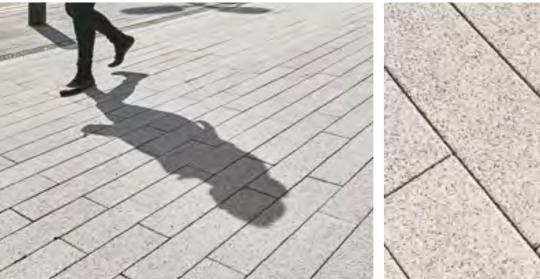






Refer to relevant guidance in BS 7533







#### 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	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	23.47kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	Refer to the Green Guide to Specification, 4th Edition 2009

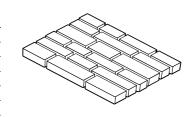
Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

#### Stock

product	size (mm)	colours available	in stock	m² per pack	m² per slice	no. per m²	no. per pack	weight kg per pack GB	weight kg per pack NI/ROI
Manhattan	600 x 150 x 80	Graphite, Mid Grey, Sandstone, Silver	YES	9	4.5	11.11	100	1646	1636
BIM	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	250 x 122 x 80	40
[Mixed length]	300 x 122 x 80	40
(all sizes in one pack)	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				
	STREET, STREET	CENTRAL PROPERTY.				
		17.8 11 20 20 20 20 20 20 20 20 20 20 20 20 20				
	TO BE BUT WATER BY					
	THE STATE OF STATE OF	ALCO PROBLEM				
THE RESERVE OF THE PERSON OF T	STATE AND IN COLUMN STATE OF					

## 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.

32



## Tegula

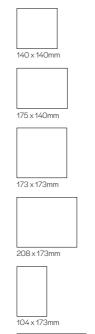
#### Traditional styling.

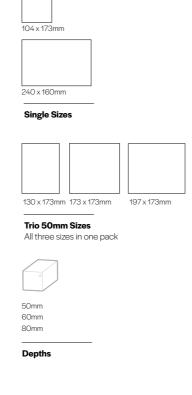
Tegula is a popular and versatile product that provides an aged appearance, reminiscent of stone setts and ideal for traditional settings. Tegula is created using an innovative aging process and comes in a wide selection of multi-tone colours.

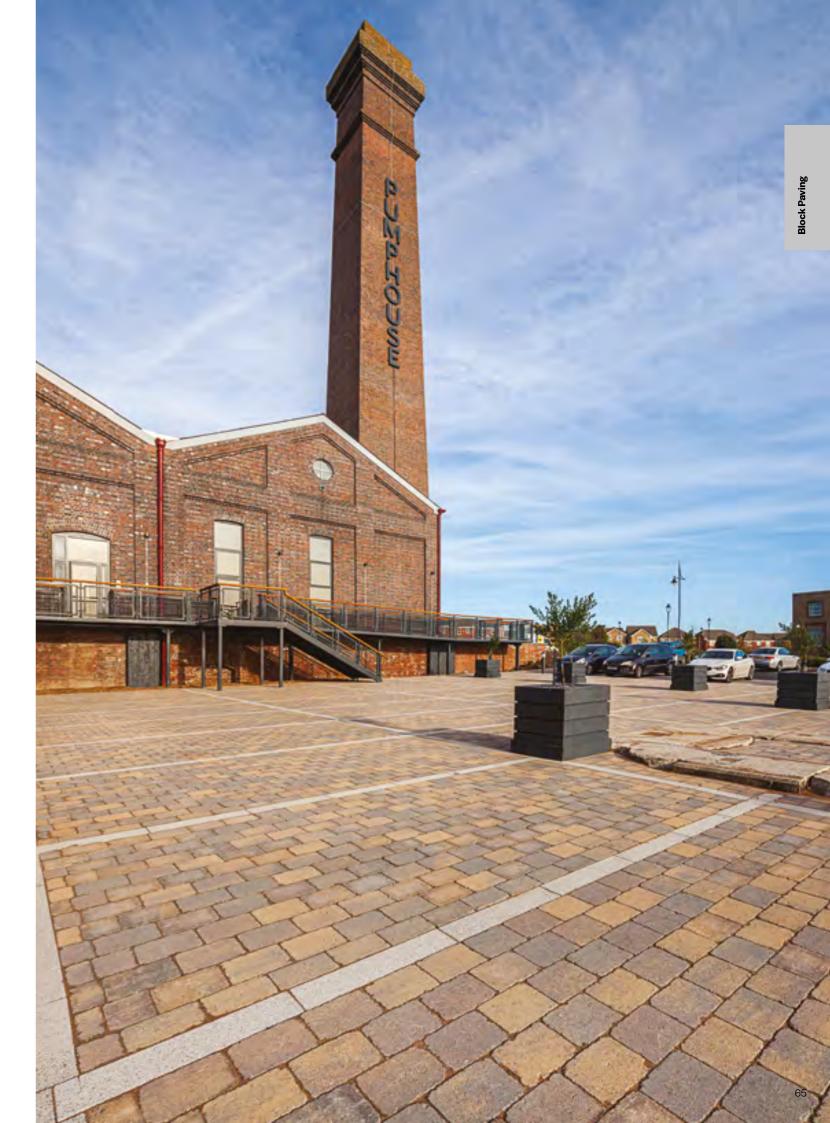
- Processed to give an aged, antique appearance
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Suitable for both modern or period properties

#### Ef-Stop\*









## **Tegula**





#### **Specification**



Specification	₩ E1-Stop
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	B\$7533-3:2005
N5S	Plus Q24110 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	140x140x50mm 12.62kgCo²e/m² 175x140x50mm 12.62kgCo²e/m² Tegula Trio 50mm 12.85kgCo²e/m² 173x173x60mm 14.88kgCo²e/m² 208x173x60mm 14.87kgCo²e/m² 104x173x80mm 20.56kgCo²e/m² 208x173x80mm 19.83kgCo²e/m² 208x173x80mm 19.83kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<ul> <li>50/60mm: A, according to the Green Guide to Specification, 4th Edition 2009. A+, can be achieved when used in conjunction with a prepared recycled sub-base.</li> <li>80mm: 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.</li> </ul>

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.













**1** Tobermore

Refer to relevant guidance in BS 7533



#### 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
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	197 x 173 x 50	Bracken, Brindle, Cedar, Charcoal,	YES	13.65	1.05	33.3	182	1530	1520
(all three sizes in one pack)	173 x 173 x 50	Golden, Heather, Slate					182		
	130 x 173 x 50						91		
Tegula 60mm	208 x 173 x 60	Bracken, Cedar, Charcoal, Heather, Natural, Slate	YES	12.95	2.16	27.79	360	1810	1800
BIM ML	173 x 173 x 60	Bracken, Cedar, Charcoal, Heather, Slate	YES	12.56	1.79	33.41	420	1743	1733
Tegula 80mm	240 x 160 x 80	Bracken, Charcoal, Heather, Slate	YES	9.6	1.92	26.03	250	1748	1738
ML	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.

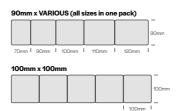


## **Tegula Setts**

#### 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.

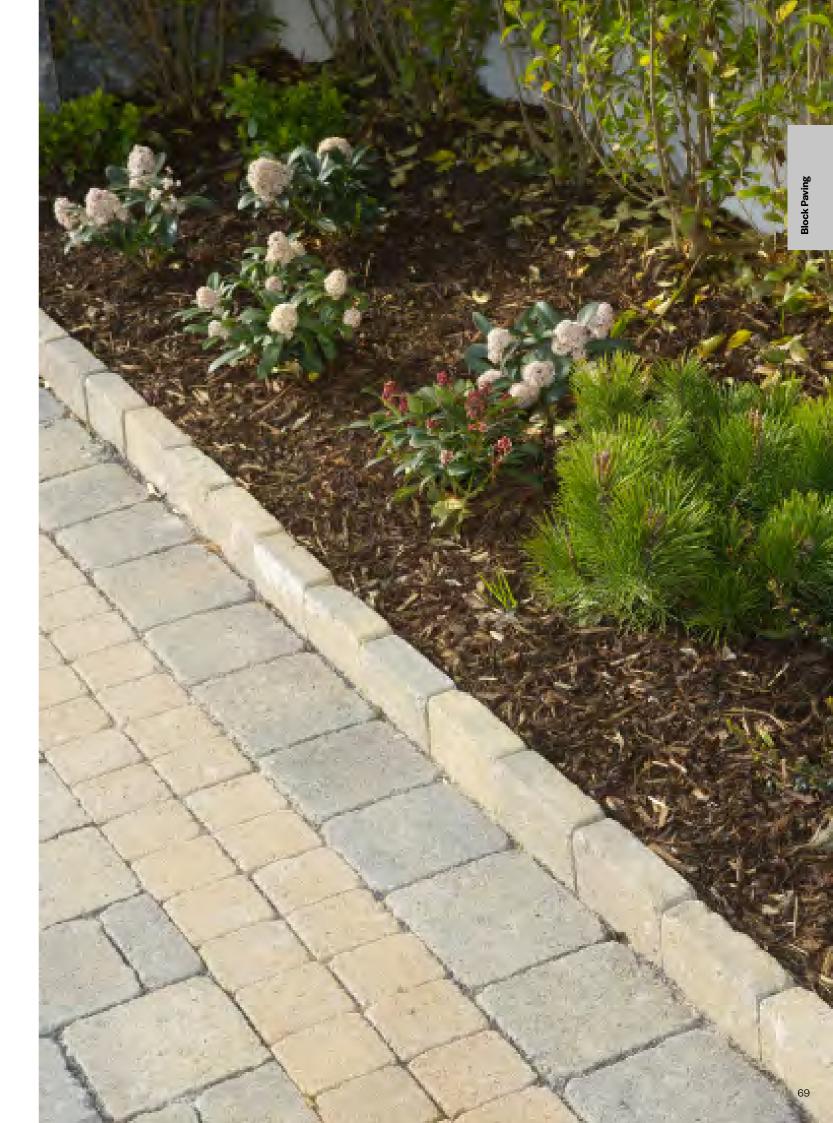
- Processed to give an aged, antique appearance
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Suitable for both modern or period properties
- Ideal for creating borders





Ef-Stop\*





## **Tegula Setts**



#### **Specification**



Opcomodion	Ma El Otop
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
กรร	Plus Q24110 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	12.35kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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.





BIM Leve

Refer to relevant guidance in BS 7533



#### 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
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

 $\textbf{BIM} \cdot \text{This product is available to download from our website in BIM Level 2 format.}$ 

## Charcoal Golden







# Retro

# 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

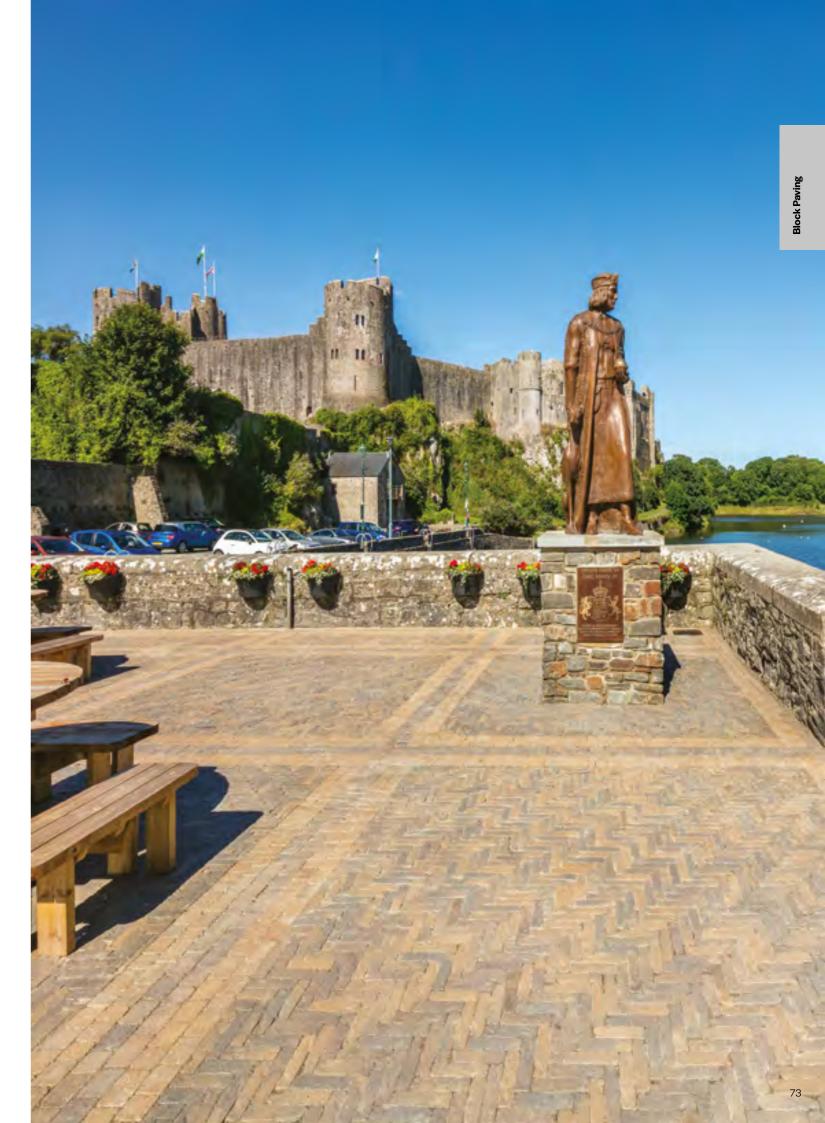


190 x 50mm



# Ef-Stop\*





# **1** Tobermore

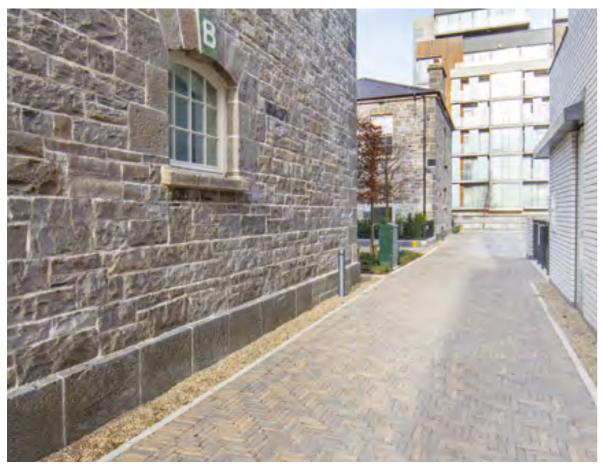
# **Retro**







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
กรร	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	16.50kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> +, 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	m² per pack	m² per slice	no. per m²	no. per pack	weight kg per pack GB	weight kg per pack NI/ROI
Retro	190 x 50 x 60	Bracken, Heather, Slate	YES	6.5	2 or 4	105.3	684	820	810

# 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.









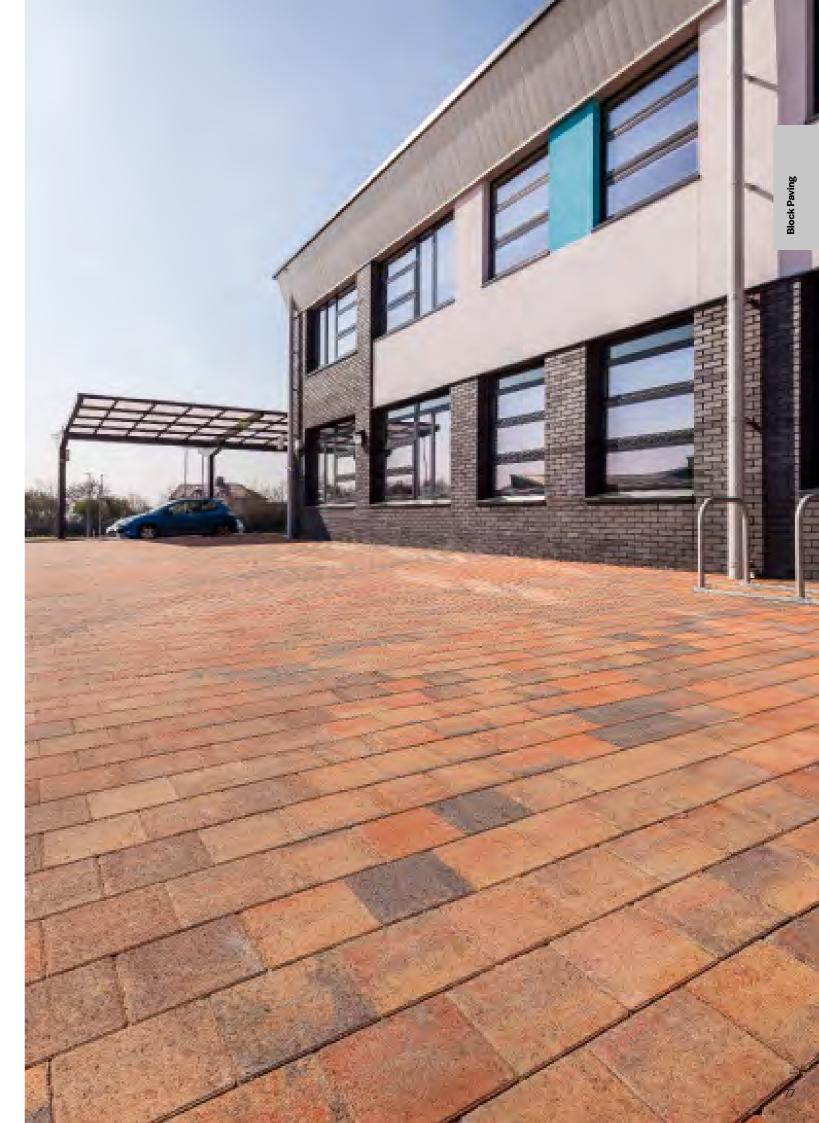


**Duo Sizes** 

Both sizes in one pack







# **1** Tobermore

# **Shannon**



















## **Specification**

# PrimeTop<sup>®</sup>



Due due tome	Concrete Devise Plant
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
กรร	Plus Q24110 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	<b>50mm</b> 11.86kgCo²e/m² <b>60mm</b> 14.40kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
breeom rating	A, according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. A+, can be achieved when used in conjunction with a prepared recycled sub-base.

# 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, Natural, 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



# 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



200 x 100mm



✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>





# **Pedesta**





## **Specification**





Specification	M Primetop M Et-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	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	BS7533-3:2005
กรร	Plus Q24110 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 11.77kgCo²e/m² 60mm 14.29kgCo²e/m² 80mm 20.22kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>50/60mm: A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved by using a recycled sub-base. <b>80mm: B</b> , in according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> , 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.











**1** Tobermore



## Stock

produ	uct	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
Pede	esta 50mm	200 x 100 x 50	Bracken, Brindle, Charcoal, Heather, Natural, Slate	YES	14.40	2.40	50	720	1626	1616
Pede BIM	esta 60mm	200 x 100 x 60	Bracken, Brindle, Charcoal, Heather, Natural	YES	13.44	2.24	50	672	1810	1800
Pede	esta 80mm	200 x 100 x 80	Bracken, Brindle, Charcoal, Heather, Natural	YES	9.6	1.6	50	480	1724	1714

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

Heather	Brindle
	<b>2000                                  </b>
THE RESERVE TO SERVE	· · · · · · · · · · · · · · · · · · ·
Natural	Charcoal
1 8 8 30 6	
	(A) (A) (A) (A)
	Natural







# Marker Block scan Here

# 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

✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



200 x 100mm









Refer to relevant guidance in BS 7533



# **Specification**

✓ PrimeTop\*

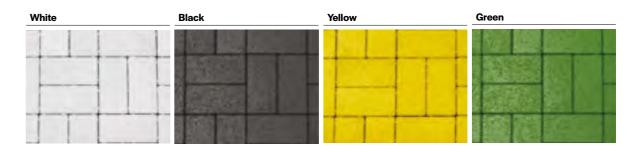
$\checkmark$	Ef-Stop	)

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	BS7533-3:2005
N55	Plus Q24110 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	21.58kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>B</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> , 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
Marker Block	200 x 100 x 80	Black, Green, White, Yellow	YES	9.6	1.6	50	480	1724	1714
	200 x 100 x 60	White	YES	13.4	2.24	50	672	1808	1798
Hydropave Marker Block	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











# **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 verge
- Environmental erosion control areas such as riverbanks and waterways
- Field entrances and farm tracks
- SuDS schemes

# ▼ Ef-Stop<sup>®</sup>





Sizes



100mm

Depths







er to relevant guidance in BS 7533



## **Specification**



**1** Tobermore

	<del>-</del>
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
NSS	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	31.43kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	Refer to the Green Guide to Specification, 4 <sup>th</sup> 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 ISO14021:1026 and 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
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.

Block Paving

#### 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".

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

BS7533-12:2006

concrete, clay and natural stone.

Pavements constructed with clay,

natural stone or concrete pavers.

Code to the design of trafficked

bound base using concrete paving flags and natural stone slabs.

pavements constructed on a

# 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.

# 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

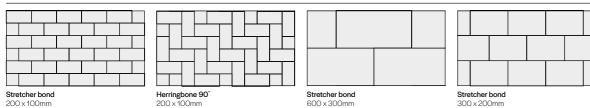
# Vibrant long-lasting colours\*

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.

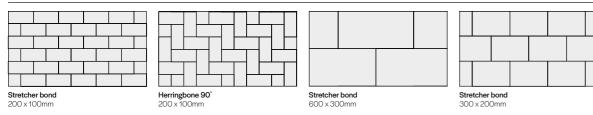


# **Laying Patterns**

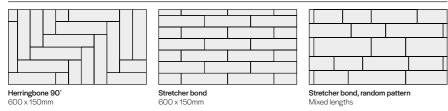
## BRAEMAR



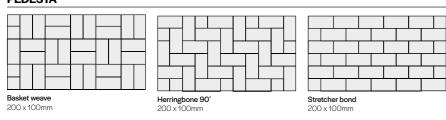
## **FUSION**



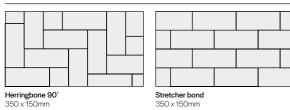
# MANHATTAN



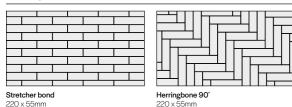
# PEDESTA



## **CITY PAVE VS5**

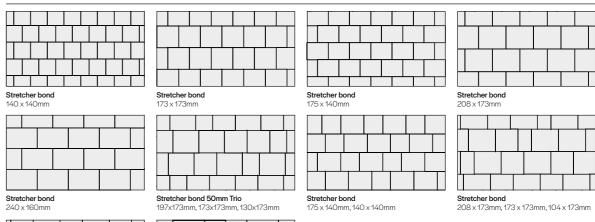


# ARTRO

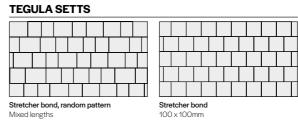




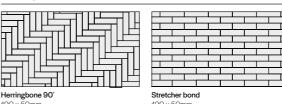
## **TEGULA**



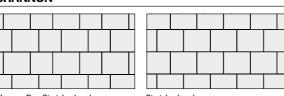
**Stretcher bond** 208 x 173mm, 173 x 173mm



## **RETRO**



### SHANNON



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

Stretcher bond

91



# **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
I aving Patterns	125

# Permeable Paving

# Hydropave Fusion



# 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

200 x 100mm



✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



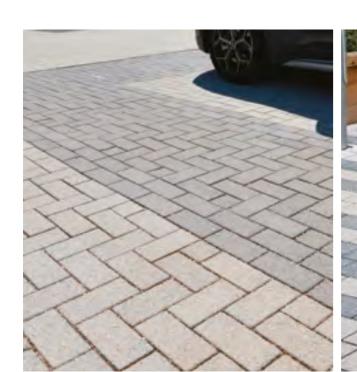




# **Hydropave Fusion**











# **Specification**

# ✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



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 in Surface Layer	53% Silver, Graphite, Mid Grey						
(Not less than %)	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						
N55	Plus Q24115 Create 45-20-64/400 Plus Q24117 Create 45-20-64/400 Plus Q24119 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	24.36kgCo²e/m²						
Recyclable	100% of this product can be recycled						
Manufacturing & Delivery	From one location within the UK						
www.bre.co.uk	<b>B</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> , 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
NEW YORK OF THE PARTY OF THE PA	<b>亚西亚马纳亚斯</b> 加斯克	
(据与1925年四次是 )放告		MAN THE THE
	<b>不是是一种的人的人的人的人的人的人的人的人的人的人的人的人的人的人的人的人的人的人的人</b>	<b>是对本系的图像的对对对对对</b>
	2.7.7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	



# Hydropave Fusion Duo



# 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









# **Hydropave Fusion Duo**











# 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	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
N55	Plus Q24115 Create 45-20-64/400 Plus Q24117 Create 45-20-64/400 Plus Q24119 Create 45-20-64/400
Tolerances on Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance	Class 3
Durability (Freeze-thaw)	Class 3
<b>External Fire Performance</b>	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	18.33kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> +, 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 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*						
Control of the second							

\*Swatches are for colour reference only.

## 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.

# Hydropave Tegula



# 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









Both sizes in one pack





₹Tobermore

# **Hydropave Tegula**







# Specification

Ef-Stop\*

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	<b>60mm</b> 5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate <b>80mm</b> 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
೧५६	Plus Q24115 Create 45-20-64/400 Plus Q24117 Create 45-20-64/400 Plus Q24119 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	<b>60mm</b> 15.42kgCo²e/m² <b>80mm</b> 21.67kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>60mm:</b> A according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. A+, can be achieved by using a recycled sub-base. <b>80mm:</b> B, according to the Green Guide to Specification, 4 <sup>th</sup> 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

Natural'

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 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.







 ${}^\star \! Swatches$  are for colour reference only.

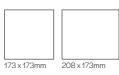
# Hydropave Shannon Duo



# 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.

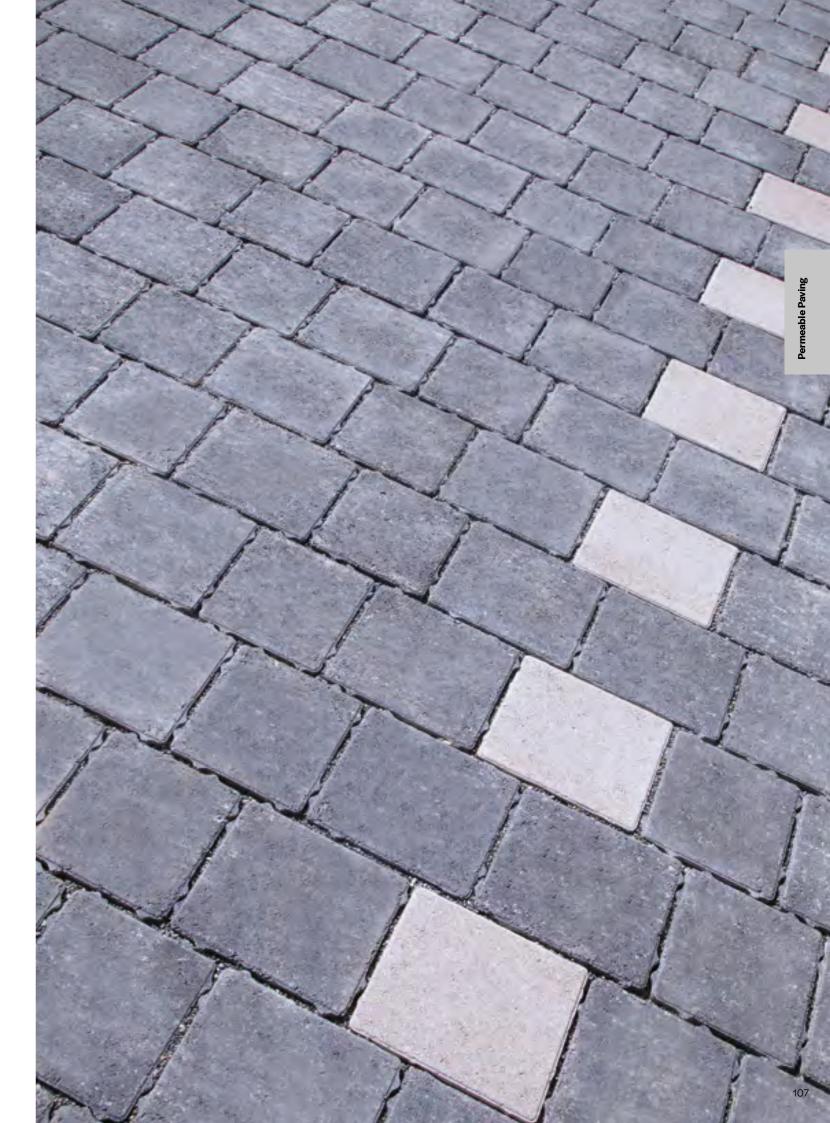
- Functions as a SuDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours





✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>





**1** Tobermore

# **Hydropave Shannon Duo**















# **Specification**

# ✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>

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
กรร	Plus Q24115 Create 45-20-64/400
	Plus Q24117 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	13.82kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> ◆, 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') SIM	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



200 x 100mm







# **1** Tobermore

# **Hydropave Pedesta**







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 layer of 4mm and >350 kgs/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	B\$7533-3:2005
NSS	Plus Q24 115 Create 45-20-64/400 Plus Q24 117 Create 45-20-64/400
	Plus Q24119 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 14.17kgCo <sup>2</sup> e/m <sup>2</sup> 80mm 15.42kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
treeom rating www.bre.co.uk	60mm:A, according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. A+, can be achieved by using a recycled sub-base.  80mm:B, according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. A, can be achieved by using a recycled sub-base.

## 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	200 x 100 x 60	Bracken, Brindle, Charcoal, Natural	YES	13.44	2.24	50	672	1808	1798
ВІМ	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



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.

Permeable Paving

# 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



240 x 120mm



✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>









**Specification** 





**1** Tobermore

<b>opoo</b> ouo	M Primetop M Et-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	BS7533-3:2005
NSS	Plus Q24115 Create 45-20-64/400 Plus Q24117 Create 45-20-64/400 Plus Q24119 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	19.83kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>B</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> , 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 <sub>вім</sub>	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





# Hydropave Textured Flags

# 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



✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>











#### **Specification**

PrimeTop\*



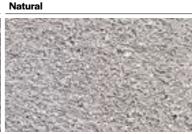
	.2 :						
Product type	Concrete Paving Flag						
Manufactured to	BS EN 1339:2003						
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement						
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence						
Frost Protection	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						
N55	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	17.20kgCo²e/m²						
Recyclable	100% of this product can be recycled						
Manufacturing & Delivery	From one location within the UK						
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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	400 x 400 x 65	Chamfered	Charcoal, Natural	YES	10.56	3.52	6.25	66	1556	1546

Charcoal	Na
STEEL ST	4







Hydropave Classica Flags

# 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







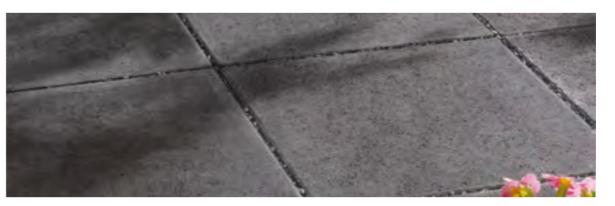












#### **Specification**

# **✓** PrimeTop®



**1** Tobermore

Specification	M Primetop M Et-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
NSS	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	16.99kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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
<b>国的复数形态数别</b>	1
"在这里,我们是一个不是一个。" 第二章	為為
The state of the s	<b>第二人</b>







# **Technical Information**

### **Important Information**

Permeable Paving

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?

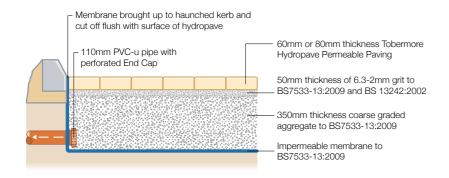
There are two common types of permeable paving systems; Attenuation and Infiltration.

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.

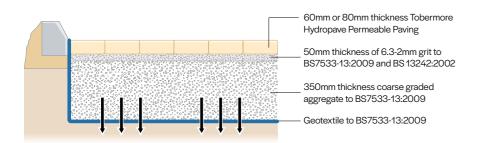
#### What system should I use?

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

# 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

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

- cording 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*

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

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

rock angular stone works

# **DFSIGN**

# 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.

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

# 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.

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 100m<sup>2</sup> of 80mm paving.

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.

Permeable Paving

#### 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> <li>Patio</li> <li>Private Drives</li> <li>Decorative Features</li> <li>Enclosed Playgrounds</li> <li>Footways with Zero overrun</li> </ul>
B/Car Parking	100	Emergency vehicles only	<ul> <li>Car parking bays and aisles</li> <li>Railway station platforms</li> <li>External car showrooms</li> <li>Sports stadium pedestrian routes</li> <li>Footways with occasional overrun</li> <li>Private drives</li> <li>Footway crossover</li> </ul>
C/Pedestrian	0.015msa	Large HGV/week	<ul> <li>Town/City pedestrian street</li> <li>Nursery access</li> <li>Parking areas to residential development</li> <li>Motel parking</li> <li>Garden centre external displays</li> <li>Cemetery/Crematorium</li> <li>Airport car park (no bus pick-up)</li> <li>Sports centre</li> </ul>
D/Shopping	0.15msa	10 large HGV/week	<ul> <li>Retail development delivery access route</li> <li>School/college access route</li> <li>Office block delivery route</li> <li>Garden centre delivery route</li> <li>Deliveries to small residential development</li> <li>Fire station yard</li> <li>Airport car park with bus to terminal</li> <li>Sports stadium access route/forecourt</li> </ul>
E/Commercial	1.5msa	100 large HGV/week	<ul> <li>Industrial premises</li> <li>Lightly trafficked public roads</li> <li>Light industrial development</li> <li>Mixed retail/industrial development</li> <li>Town Square</li> <li>Footway with regular overrun</li> <li>Airport landslide</li> </ul>
F/Heavy traffic	15msa	1000 large HGV/week	<ul> <li>Main road</li> <li>Distribution centre</li> <li>Bus station (bus every 5 minutes)</li> <li>Roundabout</li> <li>Bus lane</li> </ul>

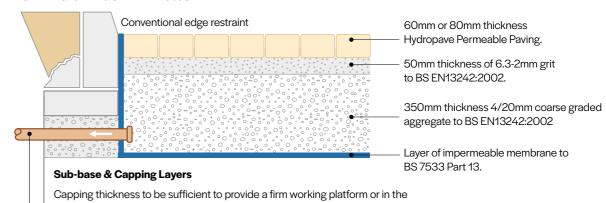
#### Sub-base & Capping Layers

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**



case of low CBR subgrade ground stabilisation may be more cost effective.

Outflow pipe - diameter according to project requirements (with perforated End Cap to

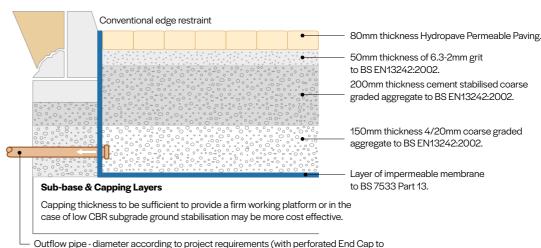
prevent blockage of the pipe and a Top Hat Seal is used to achieve a water tight connection)

Other design examples are available on request or by visiting the Hydropave section on our website.

The design sections shown should be checked and cross referenced by a qualified engineer against BS7533 Part 13.

An upper geotextile is optional on this design.

#### **LOADING CATEGORY E: 1-5%CBR**



prevent blockage of the pipe and a Top Hat Seal is used to achieve a water tight connection)

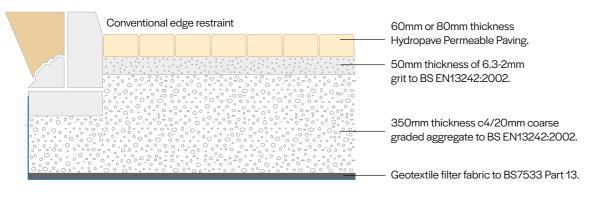
122



# **Catalogue of Designs**

# Infiltration designs

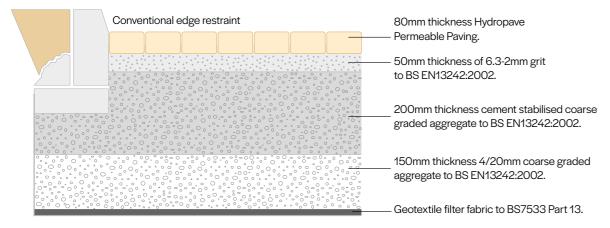
## **LOADING CATEGORY B: 5%CBR**



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.

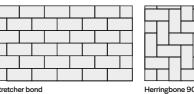
An upper geotextile is optional on this design.

# **LOADING CATEGORY E: 5%CBR**

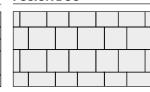


# **Laying Patterns**

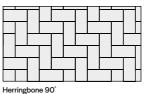
# HYDROPAVE FUSION



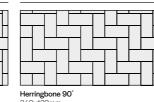
HYDROPAVE FUSION DUO



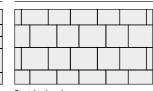
# HYDROPAVE 240



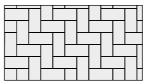
HYDROPAVE TEGULA 240



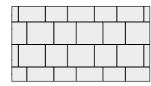
# HYDROPAVE TEGULA DUO



# HYDROPAVE PEDESTA



# HYDROPAVE SHANNON DUO







# **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
Laving Patterns	159



# **Braemar** Flags



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









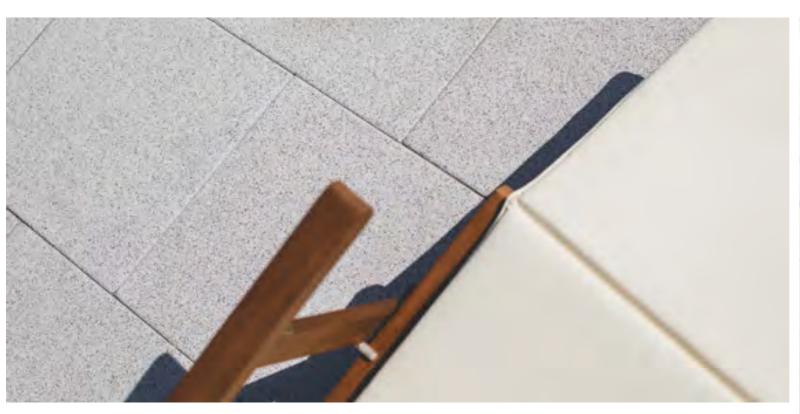


**Specification** 

# **1** Tobermore

# **Braemar Flags**

Paving Flags



-								
Product type		Concrete Paving Flag						
Manufactured t	to	BS EN 1339:2003						
Granite content	t	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)	BS7533-4:2006						
	(Internally)	Details available on request						
กรร		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 applica- tion. Available from www.bsigroup.com						
Energy used		100% renewable energy						
Water used		100% from our rainwater harvesting system and groundwater bore hole						
Recycled conte	ent	Not less than 6%						
Carbon Footprint		31.42kgCo²e/m²						
Recyclable		100% of this product can be recycled						
Manufacturing & Delivery		From one location within the UK						
www.bre.co.uk		<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved by using a recycled sub-base.						

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Finish

Refer to relevant guidance in BS 7533

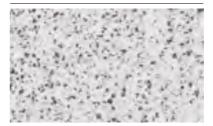


### Stock

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
ВІМ									

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

#### Alto Silve



## 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

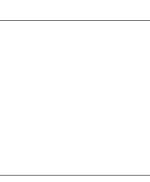


# Granite aggregate paving slabs.

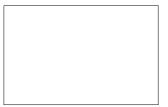
Mayfair flags have a sophisticated, modern feel. Manufactured with natural granite aggregates, Mayfair flags have a hardwearing, durable surface and come in three natural colours.

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





600 x 600mm



600 x 400mm



450 x 450mm



400 x 400mm





# ₹Tobermore

# **Mayfair Flags**















# Specification

# PrimeTop\*



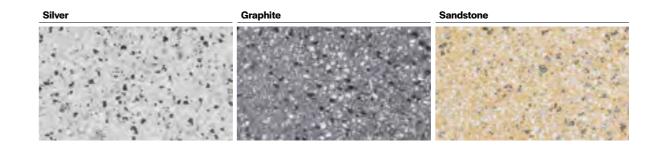
Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement
Granite content	Not less than 57% of granite aggregate in surface layer for Silver and Graphite; Not less than 46% of granite aggregate in surface layer 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	BS7533-4:2006
กรร	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 applica- tion. 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	400x400x40mm 10.43kgCo²e/m² 450x400x35mm 8.96kgCo²e/m² 450x450x50mm 12.51kgCo²e/m² 600x400x50mm 13.19kgCo²e/m² 600x600x50mm 12.54kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	A, according to the Green Guide to Specification, 4 <sup>th</sup> 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	466	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

 $\textbf{BIM} \cdot \text{This product is available to download from our website in BIM Level 2 format.}$ 





# 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



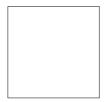




600 x 450mm



600 x 300mm



450 x 450mm



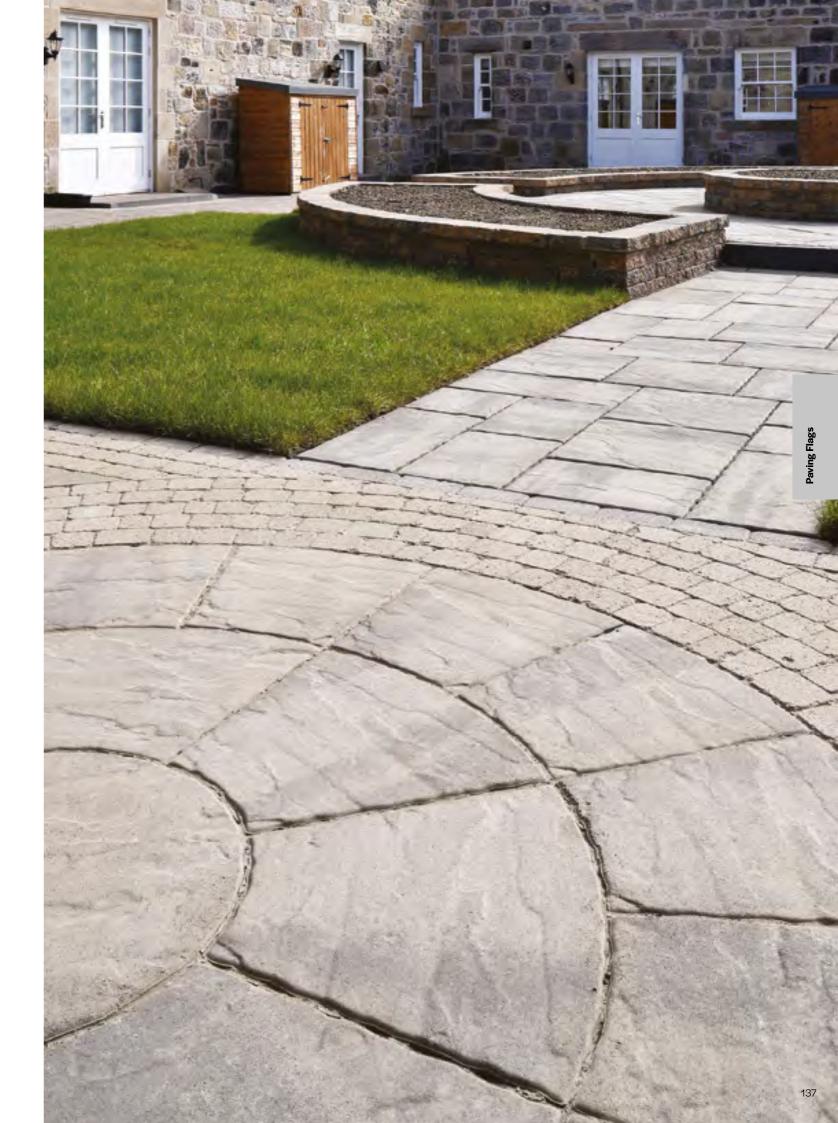
450 x 300mm



300 x 300mm

Mixed Length Sizes





# ₹Tobermore

# **Historic Flags & Circles**



PrimeTop\*

Ef-Stop\*

	M I Innerop M El-Glop							
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							
กรร	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	13.61kgCo <sup>2</sup> e/m <sup>2</sup>							
Recyclable	100% of this product can be recycled							
Manufacturing & Delivery	From one location within the UK							
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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.



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Refer to relevant guidance in BS 7533





# 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) BIM	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
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		M. Wilder D. Co.
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# **Beaufort** Flags

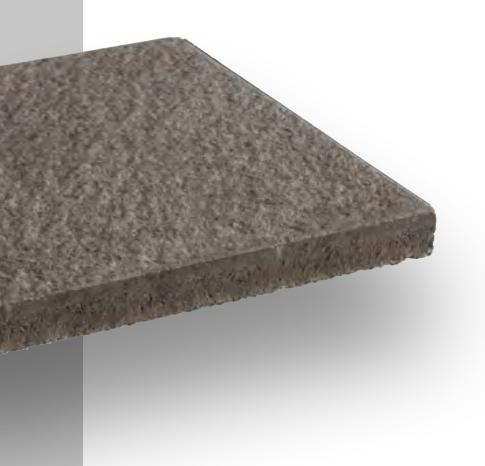


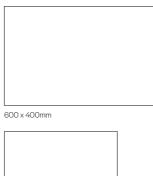
# Natural contoured appearance.

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











400 x 400mm



Refer to relevant guidance in BS 7533



## **Specification**

# ✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



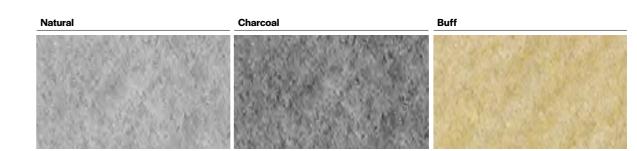
**1** Tobermore

Opcomodion	M Primetop M E1-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					
กรร	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	10.27kgCo²e/m²					
Recyclable	100% of this product can be recycled					
Manufacturing & Delivery	From one location within the UK					
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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

## 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
	450 x 450 x 35	Chamfered	Buff, Charcoal, Natural	YES	4.94	30	120	515	511
	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









600 x 600mm



450 x 450mm



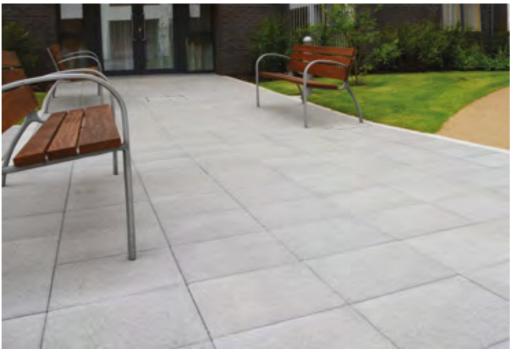
400 x 400mm





# **Textured Flags**







#### Specification

#### Ef-Stop<sup>®</sup> PrimeTop°

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
กรร	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	400x400x32mm 8.09kgCo²e/m² 400x400x40mm 9.06kgCo²e/m² 450x450x35mm 8.72kgCo²e/m² 450x450x50mm 12.08kgCo²e/m² 600x600x40mm 9.96kgCo²e/m² 600x600x50mm 12.09kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
breenm rating	A, according to the Green Guide to Specification, 4th 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	600 x 600 x 50	Chamfered	Buff, Charcoal, Natural	YES	2.78	20	20	850	842
ВІМ	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.

Natural	Charcoal	Buff







# **Riven Flags**

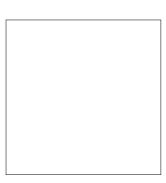
## Rugged riven texture.

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

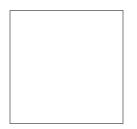
- Superb hard-wearing riven surface
- Vibrant long-lasting colours
- Resembles the rugged appearance of natural stone



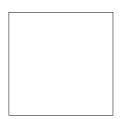




600 x 600mm



450 x 450mm



400 x 400mm







# **Riven Flags**







Refer to relevant guidance in BS 7533







#### **Specification**

### ✓ PrimeTop<sup>®</sup> ✓ Ef-Stop<sup>®</sup>



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
กรร	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	<b>400x400x32mm</b> 7.88kgCo²e/m² <b>450x450x35mm</b> 8.86kgCo²e/m² <b>600x600x40mm</b> 9.80kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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







# Classica Flags



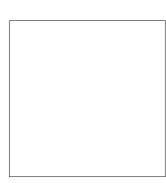
## Simple & stylish.

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<sup>®</sup> ✓ Ef-Stop<sup>®</sup>

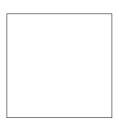




600 x 600mm



450 x 450mm



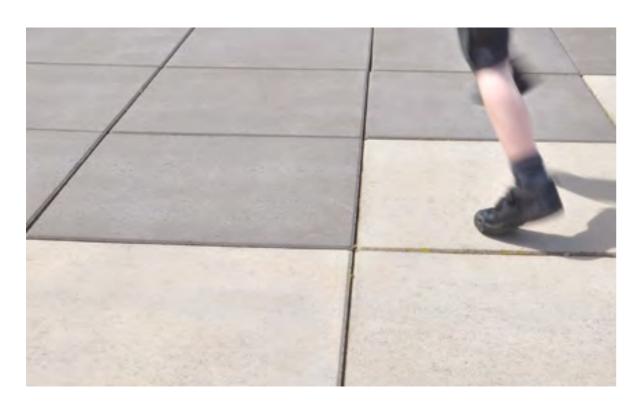
400 x 400mm





# **Classica Flags**

Paving Flags



#### **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	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	BS7533-4:2006
กรร	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	400x400x32mm 7.88kgCo²e/m² 400x400x40mm 9.63kgCo²e/m² 450x450x35mm 8.76kgCo²e/m² 450x450x50mm 11.87kgCo²e/m² 600x600x40mm 9.80kgCo²e/m² 600x600x50mm 12.46kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved by using a recycled sub-base.

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 $\Diamond$ 

# Charcoal Buff Natural

#### Golden



#### 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
Classica Flags	600 x 600 x 50	Chamfered	Charcoal, Natural	YES	2.78	20	20	850	841
DIM	600 x 600 x 40	Chamfered	Buff, Charcoal, Natural	YES	2.78	24	24	833	840
	450 x 450 x 50	Chamfered	Buff, Charcoal, Natural	YES	4.94	60	60	1404	1480
	450 x 450 x 35	Chamfered	Buff, Charcoal, Natural	YES	4.94	30	120	517	511
	400 x 400 x 40	Chamfered	Charcoal, Golden, Natural	YES	6.25	25	100	400	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.



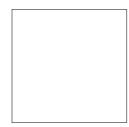
# **Tactile Flags**

## 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



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157

## **1** Tobermore

# **Tactile Flags**









Refer to relevant guidance in BS 7533



#### Stock

product	size (mm)	finish	edge	colours available	in stock	no. per m²			weight kg per pack GB	weight kg per pack NI/ROI
Tactile Flags	400 x 400 x 50	Blister	Square	Buff, Red	YES	6.25	20	80	393	391
	400 x 400 x 50	Hazard Warning	Square	Buff, Natural	YES	6.25	20	80	416	414

#### 

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
กรร	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	13.93kgCo2e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
meeom rating	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> ★, 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.







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.



#### **Hazard Warning**

This pattern of half-rod shaped bars provides warning of a hazard which requires caution e.g. at the top and bottom of a flight of stairs.

It is recommended that the surface be in contrasting colour to the surrounding area so as to assist partially sighted people.





# **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.

	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.

BS 7533-4:2006 Pavements constructed with clay, natural stone or

#### 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**

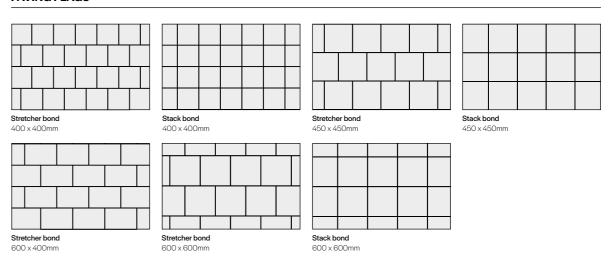
Tobermore can provide fixed height plastic paving support pads to enable flags to be installed on roof terraces and balconies. Contact Tobermore for details.

#### Vibrant long-lasting colours

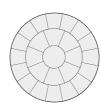
Tobermore only use high quality Iron Oxide pigments, (which are made to BS EN 12878), to produce our strong, vibrant and deep colours. Our state-of-the-art equipment makes our products extremely dense thus ensuring that our colours remain intact for very long periods. For example when we examine products 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.

# **Laying Patterns**

#### PAVING FLAGS



#### HISTORIC CIRCLE



Historic Circle
Overall diameter 2.24

#### HISTORIC FLAG



300 x 300mm, 300 x 450mm 450 x 450mm 600 x 300mm, 600 x 450mm

Instructions and warnings Refer to page 257



#### **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



Ef-Stop<sup>®</sup>

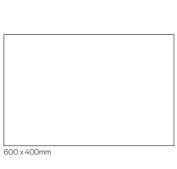






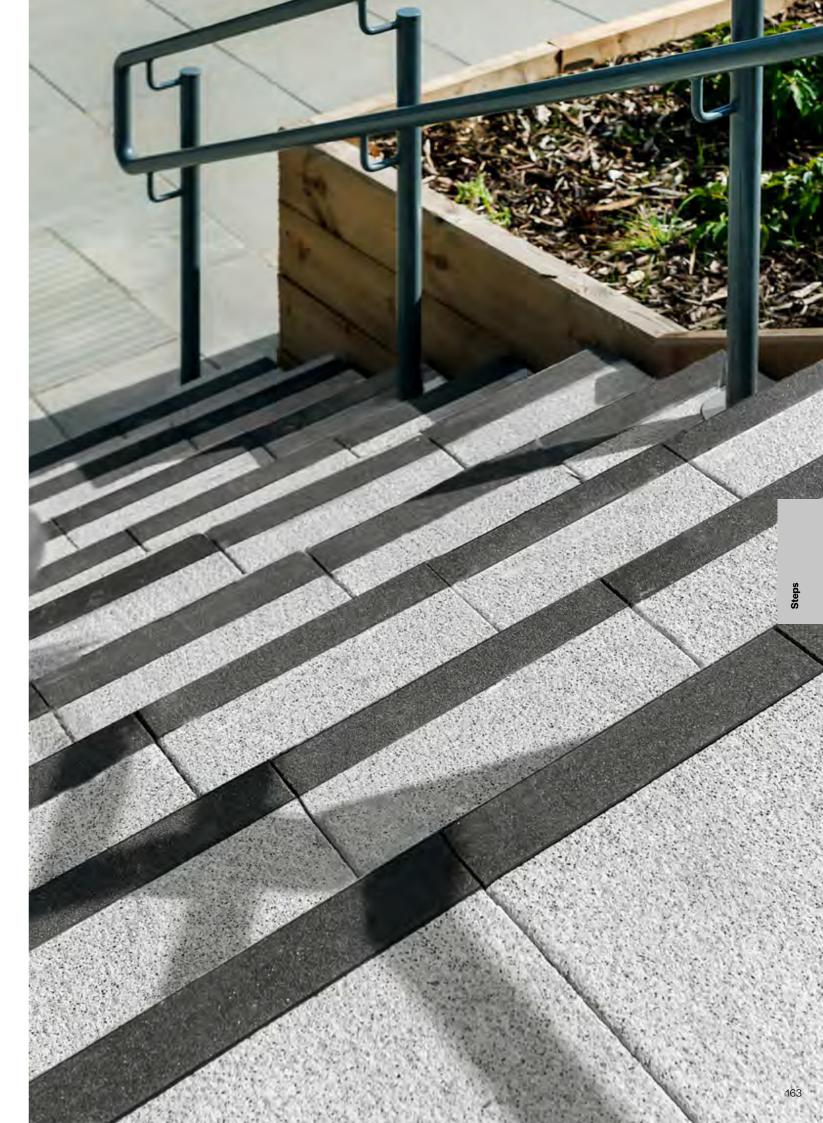






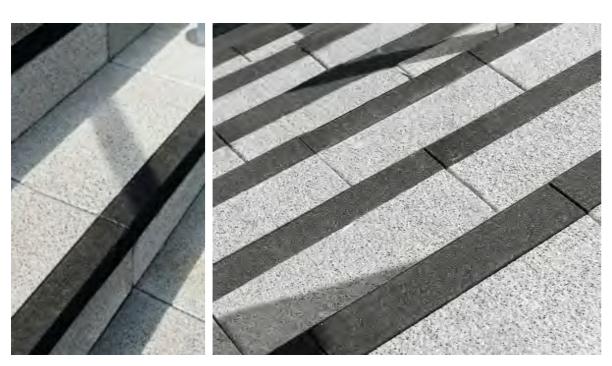






# **Mayfair Step Flags**

## with contrasting nosing







#### Specification

PrimeTop\*

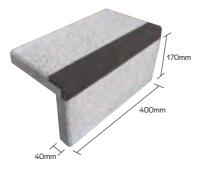


Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement
Granite Content	Not less than 57% of granite aggregate in surface layer for Silver.
Efflorescence	Minimum 12 hour vapour curing to significantly reduce 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	B\$ 7533-4:2006
กรร	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 40mm 11.43kgCo²e/m² Edge Step 60mm 14.19kgCo²e/m² Corner Step 40mm 11.93kgCo²e/m² Corner Step 40mm 14.59kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
vww.bre.co.uk	A, according to the Green Guide to Specification, 4th Edition 2009. A+, can be achieved by using a recycled sub-base.

#### 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		4.16	20	40	589	584				
	with contrasting nosing	400 x 400 x 40	-		Silver Flag with Contrasting Nosing 55mm x 40mm	YES	6.25	25	100	403	401
	Mayfair Corner Step	600 x 400 x 50	Granite Textured Chamfered Silver Flag with Contracting Noting			YES	4.16	20	40	589	584
٧	with contrasting nosing	400 x 400 x 40		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



 wayrair corner step
 wayrair coge step
 wayrair corner step

 400 x 400 x

# Mayfair Step Flags



## 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



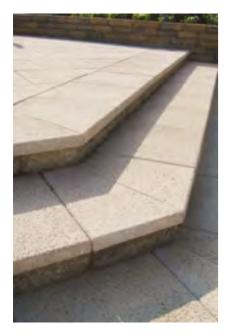
400 x 400mm







# **Mayfair Step Flags**





#### Specification PrimeTop<sup>®</sup> Ff-Stop<sup>®</sup>

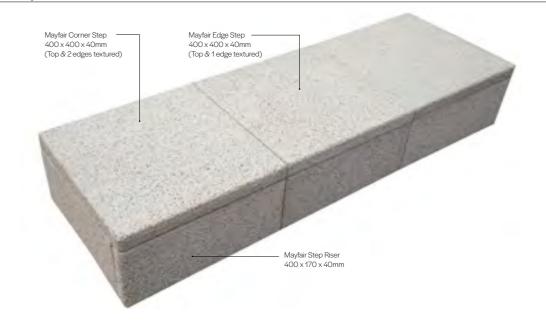
Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m³ cement
Granite Content	Not less than 57% of granite aggregate in surface layer for Silver and Graphite; Not less than 46% of granite aggregate in surface layer 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
<b>N55</b> 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 11.43kgCo <sup>2</sup> e/m <sup>2</sup> Corner Step 10.43kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
rating	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , 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.





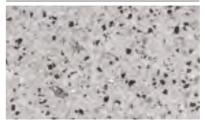
#### Step Example



#### 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.



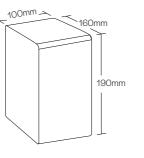
# **Step Risers**

## 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

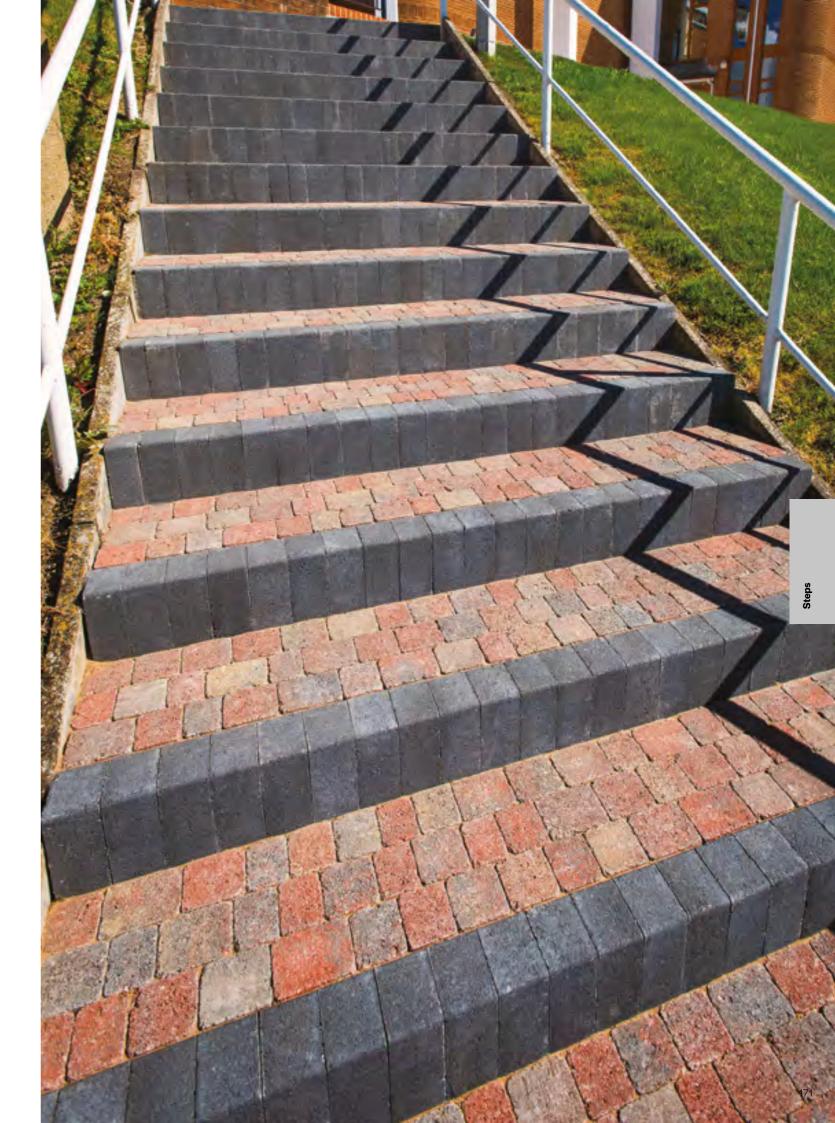




#### Ef-Stop\*







# **Step Risers**







inish



#### Specification

▼ Ef-Stop<sup>®</sup>

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	B\$ 7533-6:1999
กรร	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%
Carbon Footprint	<b>104x173x80mm</b> 0.43kgCo <sup>2</sup> e/m <sup>2</sup> <b>190x160x100mm</b> 0.89kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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



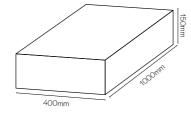


# **Granite Step Unit**



## 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.



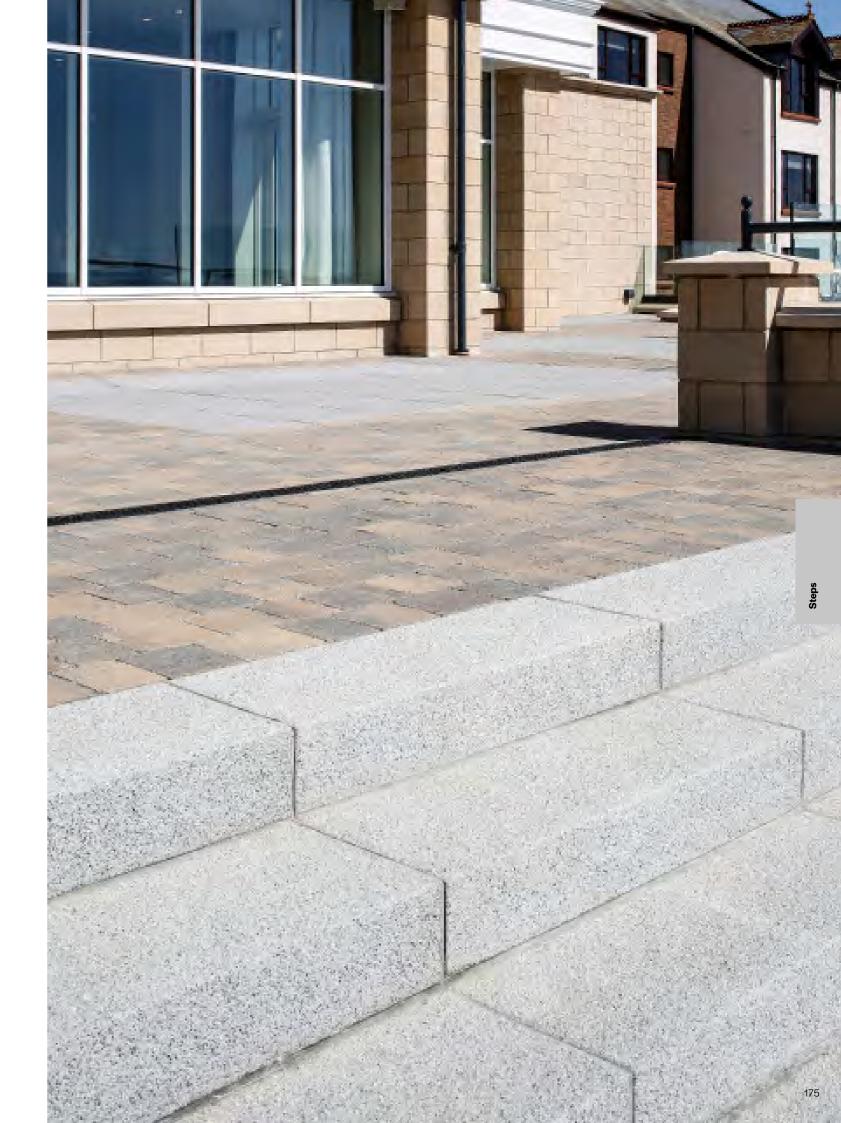
- Available with the inclusion of contrasting delineation strip
- Manufactured with natural granite aggregates
- Vibrant long-lasting colours
- Creates a striking, contemporary look



Sizes

#### Ef-Stop\*





# **Granite Step Unit**











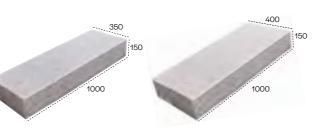
#### **Specification**

$\checkmark$	Ef-Stop <sup>®</sup>
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	-
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
กรร	Plus Q24110 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
Carbon Footprint	Without Contrasting Nosing 1000x350x150mm 18.74kgCo²e/m² Without Contrasting Nosing 1000x400x150mm 21.42kgCo²e/m² With Contrasting Nosing 1000x400x150mm 22.42kgCo²e/m²
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	Refer to the Green Guide to Specification, 4th Edition 2009.

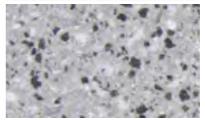
Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.





#### Stock

product	size (mm)	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
вім	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







## **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

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)

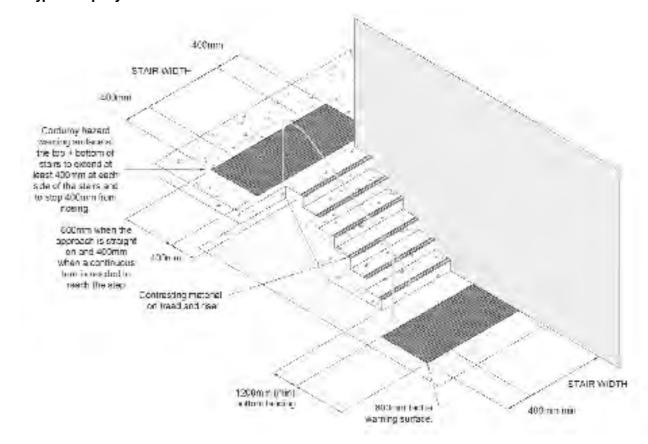
An important consideration for step access is the Light Reflective Value (LRV) of the products that are being considered for use. Products with a sufficient difference in LRV can assist blind and partially sighted people to distinguish between them. Tobermore can provide the LRV results on all products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

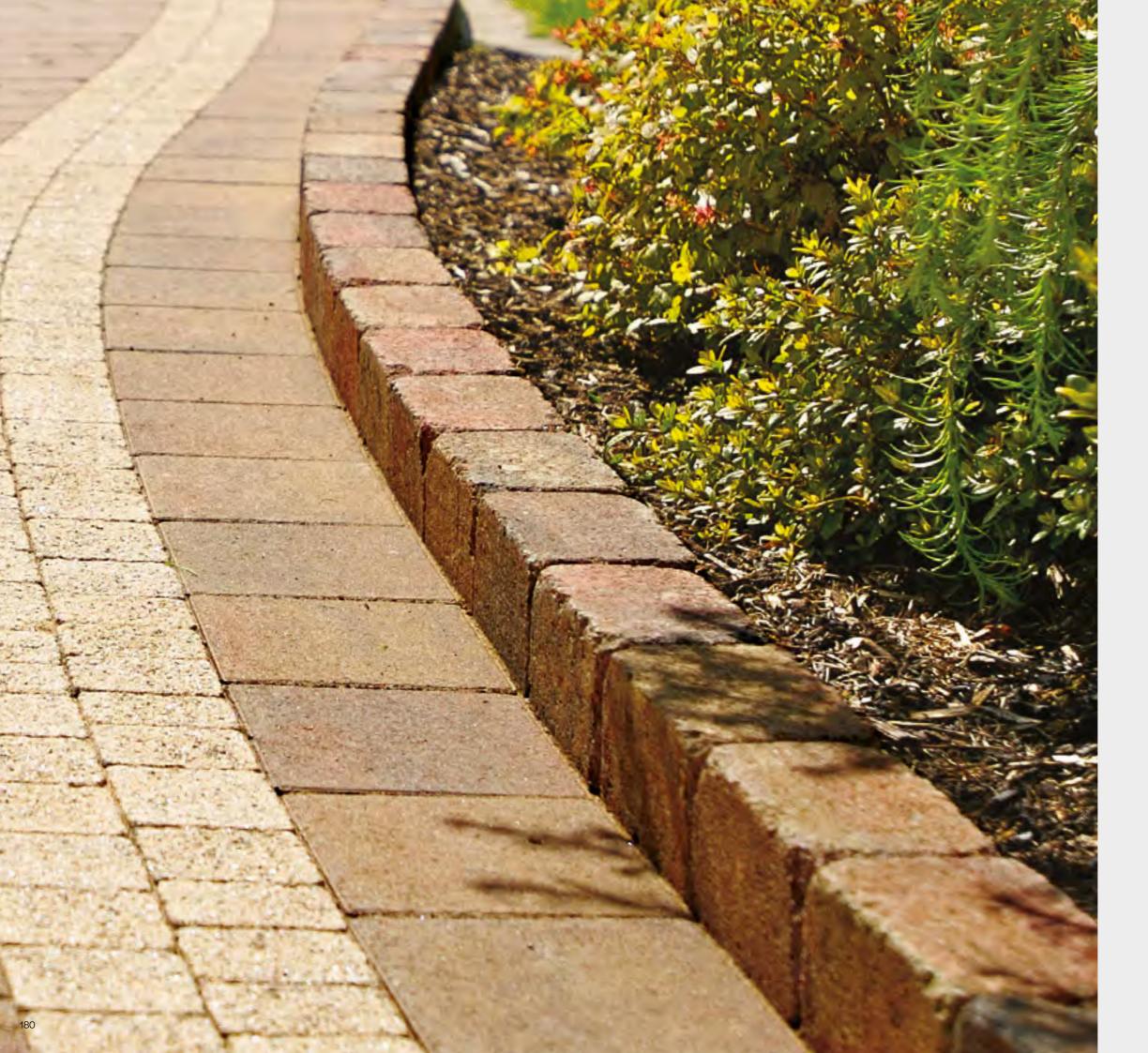
#### Important Information

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	183
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	21

# Kerbs Rdging



# **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 surfaceEmulates the unique aged appearance of traditional
- Offers all the benefits of modern concrete kerbing
- Designed with strength and durability in mind

#### Ef-Stop<sup>®</sup>





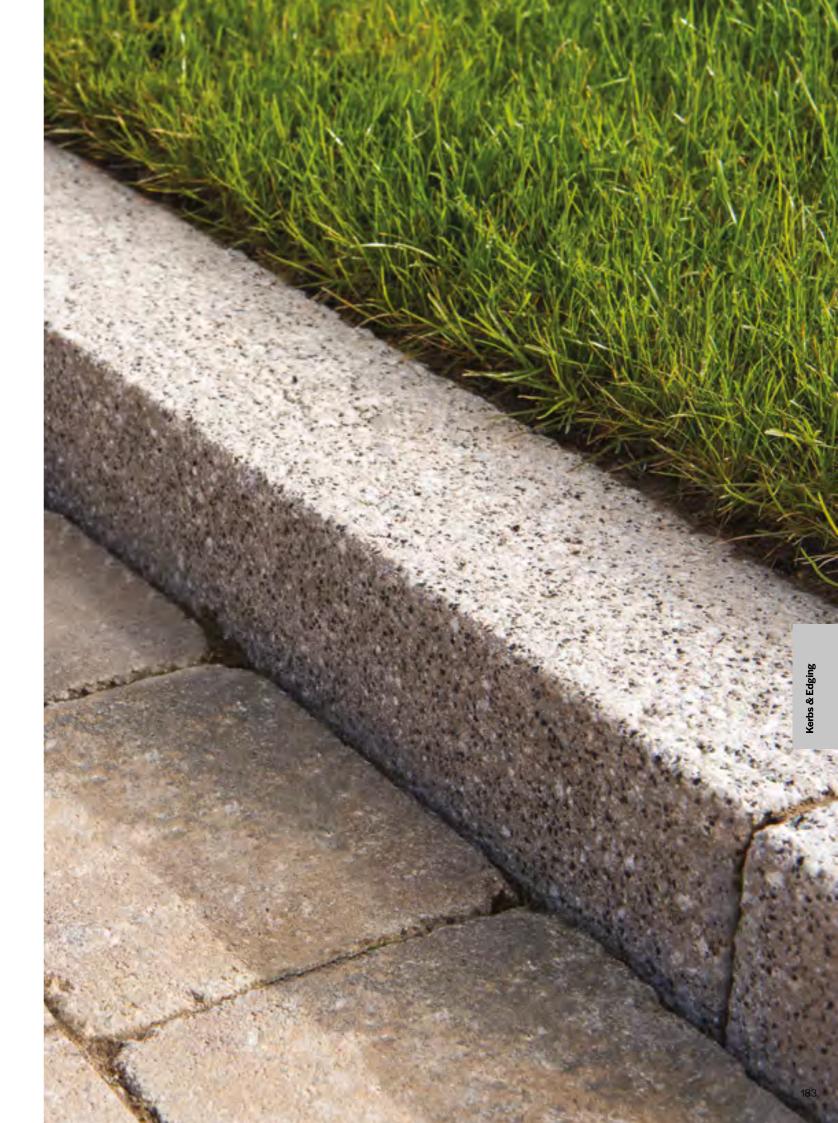












# **Fusion Kerb**













#### **Specification**

#### Ef-Stop\*

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					
UP2	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 <b>www.bsigroup.com</b>					
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	Fusion Kerb 255x125x915mm 10.86kgCo²e/LM Fusion Kerb 255x145x915mm 12.70kgCo²e/LM Fusion Centre Kerb 150x125x915mm 10.86kgCo²e/LM Fusion Centre Kerb 150x145x915mm 12.74kgCo²e/LM Fusion Edge 3.71kgCo²e/LM Fusion Kerb End Unit 255x125x915mm 10.86kgCo²e/LM Fusion Kerb End Unit 255x145x915mm 12.70kgCo²e/LM					
Recyclable	100% of this product can be recycled					
Manufacturing & Delivery	From one location within the UK					
www.bre.co.uk	Refer to the Green Guide to Specification, 4th Edition 2009.					

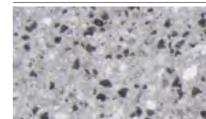
Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

#### Stock

product	size (mm)	colours available	in stock	no. per pack	weight kg per pack GB	weight kg per pack NI/ROI
Fusion Kerb	125 x 255 x 915	Silver	YES	18	1251	1251
BIM	145 x 255 x 915	Silver	YES	16	1282	1282
Fusion Edge	150 x 75 x 900	Silver	YES	60	1200	1200
Fusion Kerb Dropper	125 x 255/150 x 915	Silver	YES	18	924	915
(specify left or right hand dropper)	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
Reib	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.

#### Silve





# **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\*

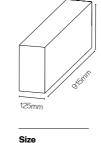


















# **Textured Kerb**











#### **Specification**

#### Ef-Stop<sup>®</sup>

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			
NSS	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 <b>www.bsigroup.com</b>		
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	8.82kgCo2e/ea		
Recyclable	100% of this product can be recycled		
Manufacturing & Delivery	From one location within the UK		
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	125 x 255 x 915	Natural	YES	18	1251	1251
<b>Textured Kerb Dropper</b> (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

 $\textbf{BIM} \cdot \text{This product is available to download from our website in BIM Level 2 format.}$ 

#### Natur



# Fusion Radii Kerb



## 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.

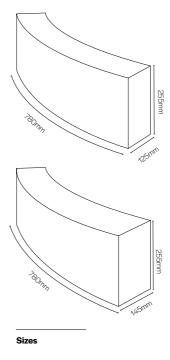
- Specially manufactured radius kerbs, either concave or convex
- Attractive granite finish
- Provides high quality detailing

#### Ef-Stop\*

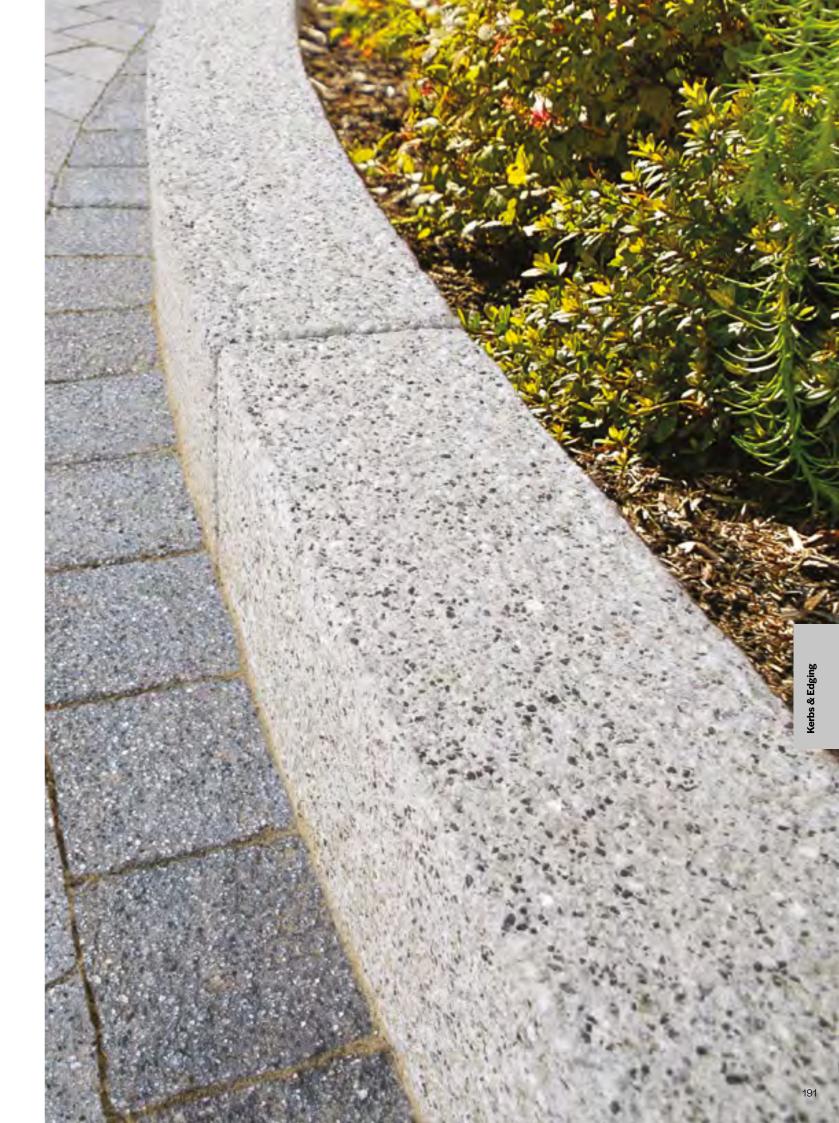
Textured
Granite Aggregate

l Aggregate





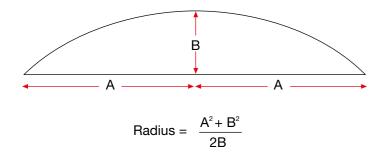




# **Fusion Radii Kerb**

#### 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 Ef-Stop\*

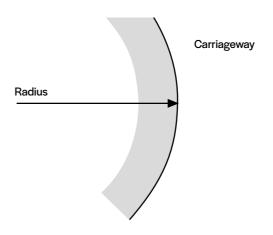
Product type	Concrete Kerb
Manufactured to	BS EN 1340:2003
Strength	Typical tensile splitting strength of >3.5MPa
Installed to	BS7533-6:1999
<b>N55</b> Plus	Plus Q10 110 Create 45-20-64/370
Applications	As per Fusion Kerb
Energy used	100% renewable energy
Water used	100% from our rainwater harvesting system and groundwater bore hole
Recycled content	Not less than 5%
Carbon footprint	125mm Radii Kerbs 10.86kgCo <sup>2</sup> e/LM 145mm Radii Kerbs 12.70kgCo <sup>2</sup> e/LM
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	Refer to the Green Guide to Specification, 4th Edition 2009.

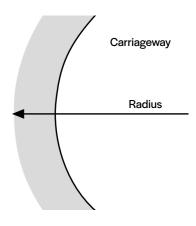
Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.



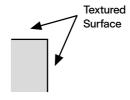


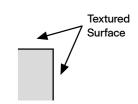
#### Convex (external) Radius





Concave (internal) Radius

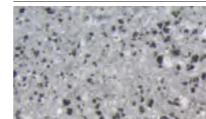




#### Stock

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	125 x 255 x 780 (1m*)	2	Silver	YES	18	1134	1134
<b>125mm</b> (*radius of curve)	125 x 255 x 780 (3m*)	6	Silver	YES	18	1026	1026
Fusion Internal or	125 x 255 x 780 (4m*)	8	Silver	YES	18	1008	1008
External	125 x 255 x 780 (5m*)	10	Silver	YES	18	1008	1008
	125 x 255 x 780 (6m*)	12	Silver	YES	18	1026	1026
	125 x 255 x 780 (9m*)	18	Silver	YES	18	1044	1044
Fusion Radii Kerb 145mm (*radius of	145 x 255 x 780 (1m*)	2	Silver	YES	16	1184	1184
curve)	145 x 255 x 780 (3m*)	6	Silver	YES	16	1056	1056
Fusion Internal or	145 x 255 x 780 (4m*)	8	Silver	YES	16	1088	1088
External	145 x 255 x 780 (5m*)	10	Silver	YES	16	1056	1056
	145 x 255 x 780 (6m*)	12	Silver	YES	16	1104	1104
	145 x 255 x 780 (9m*)	18	Silver	YES	16	1088	1088

#### Silve



# **Textured** Radii Kerb



## 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

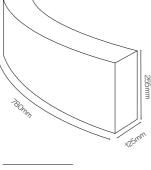
#### Ef-Stop\*















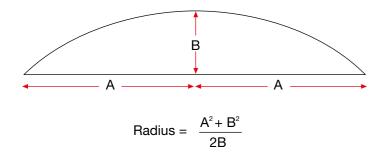
197

### **1** Tobermore

## **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.

#### 

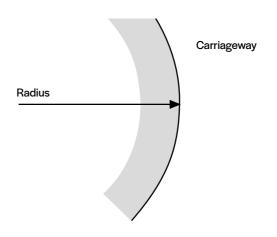
Product type	Concrete Kerb
Manufactured to	BS EN 1340:2003
Strength	Typical tensile splitting strength of >3.5MPa
Installed to	BS7533-6:1999
<b>N55</b> Plus	Plus Q10 110 Create 45-20-64/370
Applications	As per Textured Kerb
Energy used	100% renewable energy
Water used	100% from our rainwater harvesting system and groundwater bore hole
Recycled content	Not less than 5%
Carbon footprint	8.86kgCo2e/LM
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www. <b>bre</b> .co.uk	Refer to the Green Guide to Specification, 4th Edition 2009.

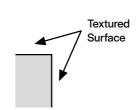
Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 quality. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.



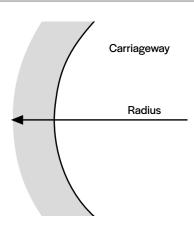


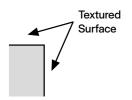
#### Convex (external) Radius





#### 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	125 x 255 x 780 (1m*)	2	Natural	YES	18	1134	1134
curve)	125 x 255 x 780 (3m*)	6	Natural	YES	18	1026	1026
Textured Internal or	125 x 255 x 780 (4m*)	8	Natural	YES	18	1008	1008
External	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

#### Natura



# Quadrant Kerb



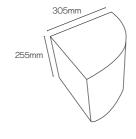
# **SCAN HERE**

## Curved edging.

Kerbs & 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



#### Ef-Stop®





#### **Specification**

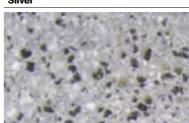


-	
roduct type	Concrete Kerb
Manufactured to	BS EN 1340:2003
trength	Typical tensile splitting strength of >3.5MPa
nstalled to	BS 7533-6:1999
155	Plus Q10 110 Create 45-20-64/370
pplications	Residential and Commercial when designed in accordance with the latest British Standard. Available from www.bsigroup.com
nergy used	100% renewable energy
Vater used	100% from our rainwater harvesting system and groundwater bore hole
ecycled content	Not less than 5% (all colours except Silver)
ecyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
rating ww. <b>bre</b> .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





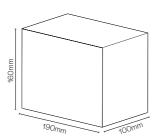


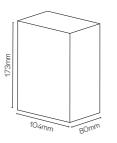
# Kerbstone

## 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





Sizes











# **Kerbstone**









#### Specification ✓ Ef-Stop\*

Product type	Concrete Kerb
Manufactured to	BS EN 1338:2003
Installed to	BS7533-6:1999
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	Typical tensile splitting strength of >3.6MPa
N55	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	<b>100mm</b> 0.80kgCo²e/ea <b>80mm</b> 0.38kgCo²e/ea
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.

#### 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	190 x 160 x 100	Bracken, Charcoal, Heather	YES	35	210	1460	1450
<b>BIM</b> 1	104 x 173 x 80	Bracken, Charcoal, Heather	YES	72	504	1638	1628

 $\textbf{BIM} \cdot \text{This product is available to download from our website in BIM Level 2 format.}$ 

Heather	Bracken	Charcoal

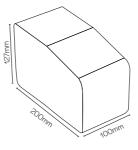


# Kerb Large (KL)

## 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.

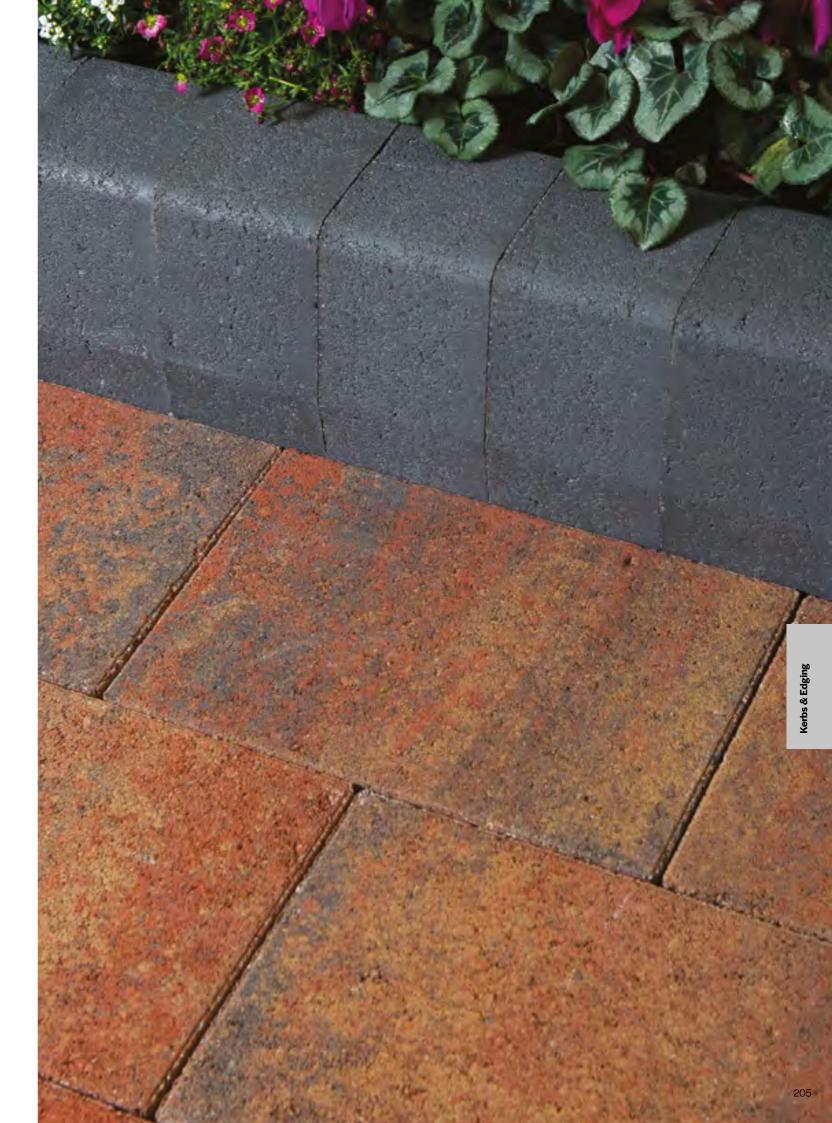
- Versatile alternative to traditional concrete kerbs
- Dual-purpose profile offers various laying options (splayed or bullnosed)
- Vibrant long-lasting colour
- Kerb Large Specials are available



\_\_\_

#### Ef-Stop\*







# Kerb Large (KL)









#### Specification

#### Ef-Stop\*

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	BS7533-6:1999
N55	Plus Q10 150 Create 45-20-64/370
Applications	Residential and Commercial when designed in accordance with the latest British Standard.  Available from <b>www.bsigroup.com</b>
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	Kerb Large 0.66kgCo²e/ea Kerb Large External/Internal 90 Degree 0.66kgCo²e/ea Kerb Large HB External/Internal 90 Degree Flat 1.74kgCo²e/ea Kerb Large Bullnose External/Internal 90 Degree 0.66kgCo²e/ea
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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	Im 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





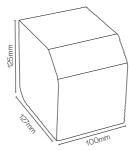


# Kerb Small (KS)

## Versatile, small smooth kerb.

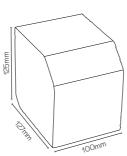
Kerb Small is a dual purpose profile available in a range of solid long-lasting colour. This versatile alternative to traditional concrete kerbs offers a variety of laying possibilities.

- 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



#### Ef-Stop®







#### **Specification**



	<u> </u>			
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			
กรร	Plus Q10 150 Create 45-20-64/370			
Applications	Residential and Commercial when designed in accordance with the latest British Standard. Available from <b>www.bsigroup.com</b>			
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	0.46gCo <sup>2</sup> e/ea			
Recyclable	100% of this product can be recycled			
Manufacturing & Delivery	From one location within the UK			
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	Im per slice	no. per pack	weight kg per pack GB	weight kg pe pack NI/RO
Ī	Kerb Small	125 x 127 x 100	Charcoal	YES	43.2	5.4	432	1505	1505

#### Charcoal







# Tegula Kerb Large (TKL)



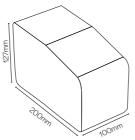
## Traditional, aged effect kerbs.

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

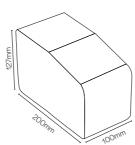
Kerbs & Edging

• Tegula Kerb Large Specials are available













#### **Specification**

	M Li Glop
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
N55	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	0.80kgCo <sup>2</sup> e/ea
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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





# **Kerb Specials**

## Specialised, decorative edging.

Ef-Stop°

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

Kerbs & Edging

#### **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

#### **Tegula Kerb Large Specials (TKL)**



Flat 90° Angle External

Flat 90° Angle

Internal



Half Battered 90° Angle External



Half Battered 90° Angle Internal



Bullnosed 90° Angle External



Bullnosed 90° Angle

#### **Kerb Small Specials (KS)**



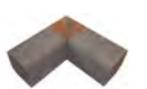
90° Angle External Splayed



90° Angle Internal Splayed



90° Angle Internal Bullnosed



90° Angle Internal Bullnosed



#### **Product Range**

Technical Information	236
Specials	234
Garden Stone	228
Country Stone	224
Kingston	220
Lansdowne	216

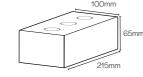
# Walling & Masonry



## Lansdowne

#### Rustic effect facing brick.

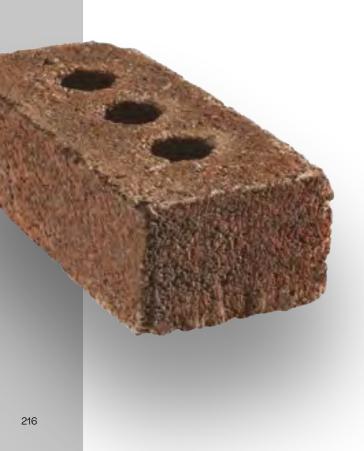
Lansdowne facing brick is manufactured with a warm and aged feel. Lansdowne bricks are known for their hard-wearing capabilities and exceptional long-lasting colours.



Size

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









## **Lansdowne Facing Brick**









#### **Specification**

Ef-Stop<sup>®</sup>

	M El-Stob
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	\$2
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
กรร	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	0.31kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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.

#### Stock

product	size (mm)	colours available	in stock		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, Slate	Yes	480	96	1369	1360

Autumn Gold	Burren	Cottage Red
-		
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Heather	Charcoal	Slate

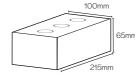


## Kingston

#### 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



Siz

#### ▼ Ef-Stop<sup>®</sup>







## **Kingston**







Specification	Ef-Stop*
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	<del>-</del>
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	y 2g/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
กรร	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	0.32kgCo <sup>2</sup> e/m <sup>2</sup>
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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.

#### 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, Slate	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
	S COMPANY OF THE PARTY OF THE P	MANAGE TO SERVICE TO S
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	The second second second	
Moorland	Charcoal	Slate
Moorland	Charcoal	Slate
Moorland		Slate
Moorland	Charcoal	Slate

## 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

375 x 100 x 140mm	
240 x 100 x 140mm	225 x 100 x 140mm
200 x 100 x 140mm	160 x 100 x 140mm

Sizes (all in one pack)

Ef-Stop\*







## **Country Stone**









_		_		
Sn	ecif	ica	tio	n

Ef-Stop\*

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/mm <sup>2</sup>
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
กรร	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	Country Stone 29.17kgCo²e/m² Country Stone Coping 1.52kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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.

#### 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

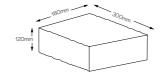


226

## Garden Stone Scan Here

#### 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.

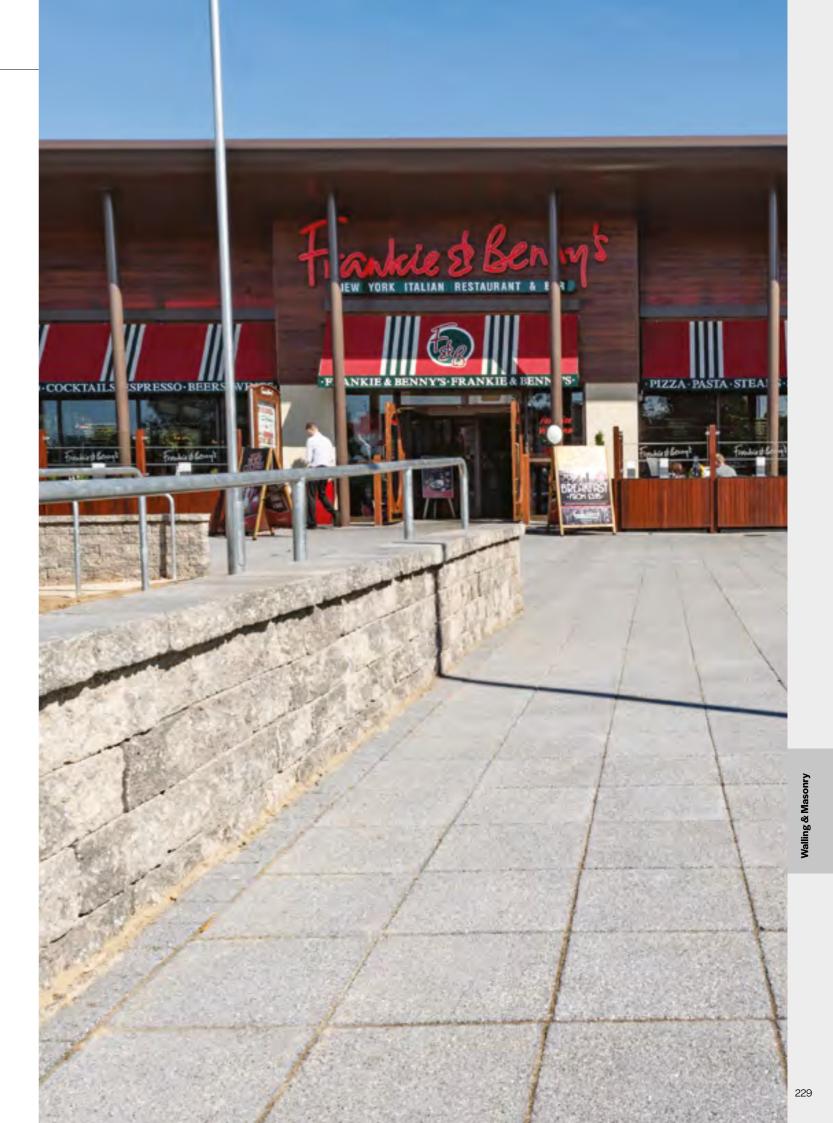


\_\_\_

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

Ef-Stop\*







## **Garden Stone**







#### **Specification**

Ef-Stop\*

	<u> </u>					
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					
กรร	Plus D41 310 Create 45-80-50/322					
Applications	pplications Residental. Please consult the relevant Brotish 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					
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	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





33O



## **Walling & Masonry Specials**

#### Lansdowne & Kingston.

Walling & Masonry

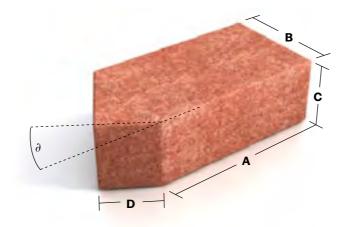
- Specials comply with the same physical tests as Tobermore's standard bricks
- Designed to co-ordinate with metric format bricks (215x100x65mm)
- Vibrant long-lasting colours

#### Ef-Stop<sup>®</sup>

#### Squint L1



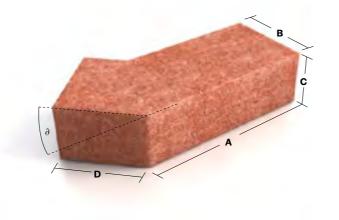
Туре	Α	В	С	D	д
L1.1	167	103	65	54	30°
L1.2	164	103	65	51	45°
L1.3	181	103	65	68	60°



#### Dog leg L2



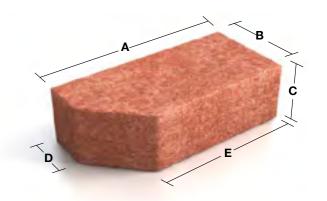
Туре	Α	В	С	D	д
L2.1	59	103	65	103	45°
L2.2	59	103	65	103	60°
L2.3	215	103	65	103	30°
L2.4	215	103	65	103	45°
L2.5	215	103	65	103	60°



#### Single cant L3



Туре	Α	В	С	D	E	
L3.1	215	103	65	47	159	
L3.2	215	103	65	60	172	

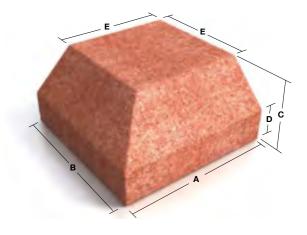


**1** Tobermore

#### Single cant external return L4



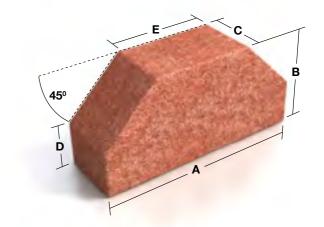
Туре	A	В	С	D	E
L4.1	215	215	103	47	159
L4.2	215	215	103	60	172



#### **Double cant** L5



Туре	Α	В	С	D	E	
L5.1	215	103	65	47	103	
L5.2	215	103	65	60	129	



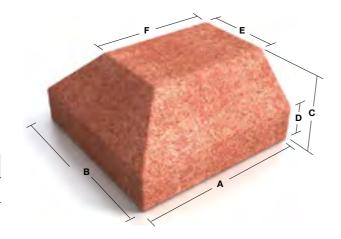
#### **∜**Tobermore

## **Walling & Masonry Specials**

#### **Double cant stop end** L6



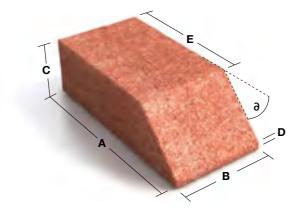
Туре	Α	В	С	D	E	F
L6.1	215	215	103	47	103	159
162	215	215	103	60	129	173



#### **Plinth header** L7



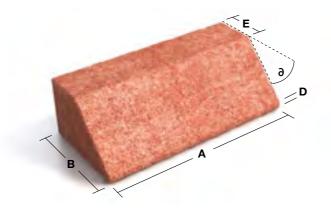
Туре	Α	В	С	D	E	д	
L7.1	215	103	65	8	159	45°	
L7.2	215	103	65	22	172	45°	



#### Plinth stretcher L8

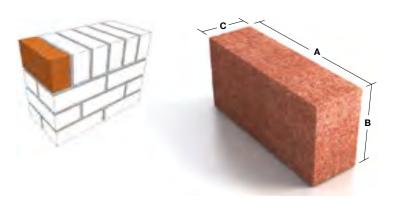


Туре	Α	В	С	D	E	д
L8.1	215	103	65	8	47	45°
L8.2	215	103	65	22	60	45°



#### Brick closer/end block L9

Туре	Α	В	С		
L9.1	215	103	65		



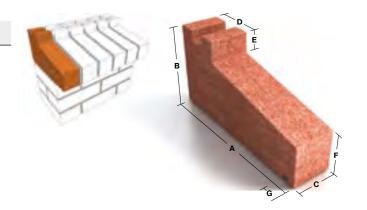
#### **Arch radical** L10

Made to suit dimensions supplied by customer.



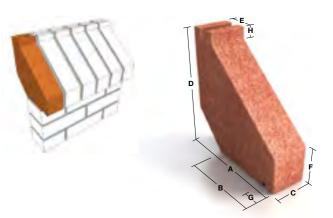
#### Cill brick L11

Туре	Α	В	С	D	E	F	G
L11	276	140	65	87	34	66	28



#### Cill brick L12

Туре	Α	В	С	D	E	F	G	н
112	215	1/18	65	215	53	65	28	20



237





### **Technical Information**

#### Walling & Masonry

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

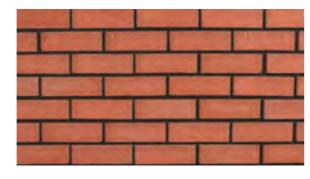
BS guidelines are subject to change and therefore you should refer to www. bsigroup.com for the latest version.

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





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

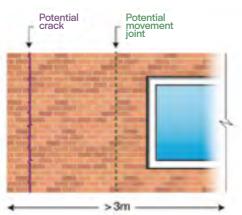


Fig.1: Corners are very stiff joints. A run of brickwork more than half the minimum allowance can lead to cracking near to the corners.

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 subpanel 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.

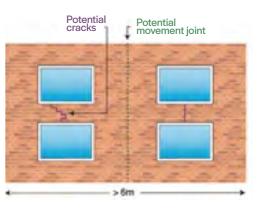
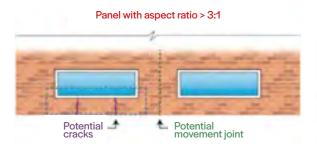


Fig.2: A long uninterrupted run of brickwork between upper and lower windows can lead to cracking at the smallest height, i.e. between the windows either as shown or from the corners of the windows. Cracks may be vertical or stepped - they follow the line of least resistance.





Walling & Masonry

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

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

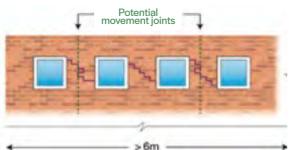


Fig.4: Long runs of uninterrupted brickwork, especially when vertical loading is low, can lead to diagonal cracking of narrow brickwork panels between window openings.

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
- 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

38 239



#### **Product Range**

Secura Grand 242
Secura Lite 246

**Technical Information** 250

# Ketaining Walls

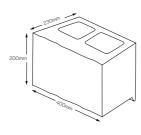
## **Secura Grand**



#### 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



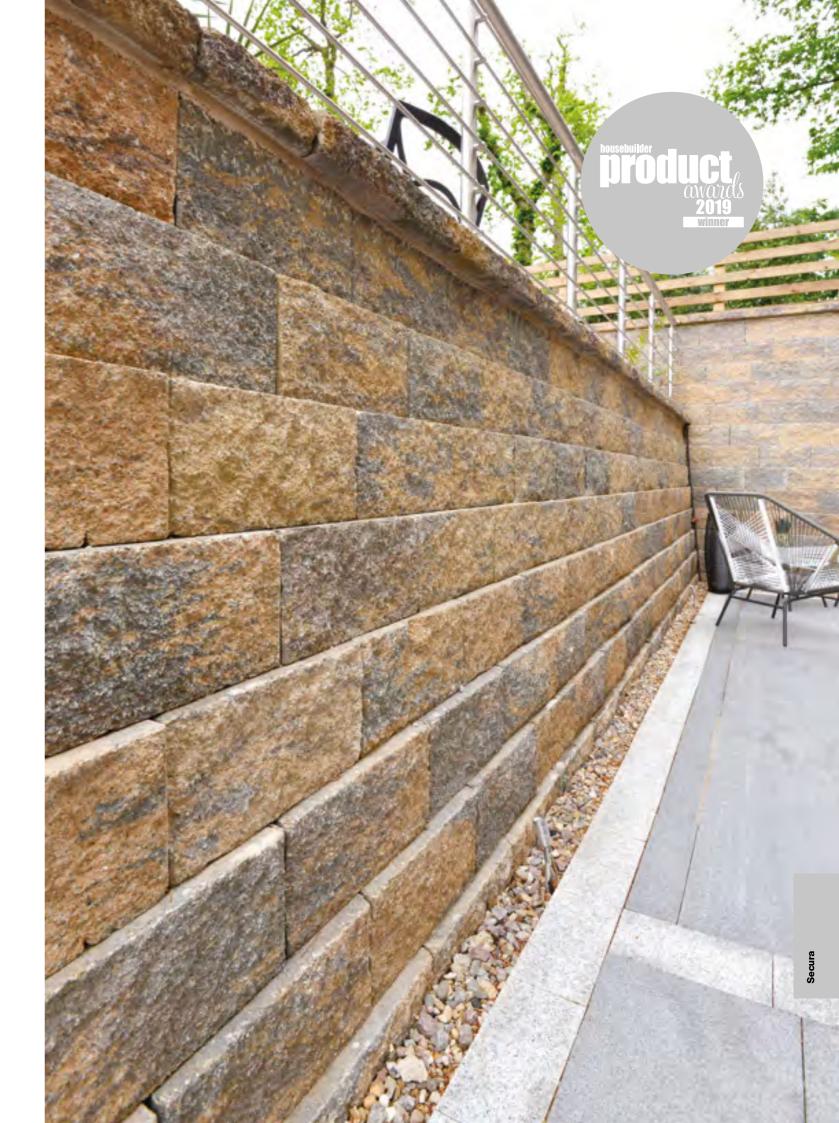
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#### Ef-Stop\*









#### **1** Tobermore

## **Secura Grand**







#### **Specification**

Ef-Stop\*

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
กรร	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	Secura Grand 3.49kgCo²e/m² Secura Grand Double-Sided End Block 7kgCo²e/m² Secura Grand Corners 3.89kgCo²e/m² Secura Coping 90 degree Internal/External Kit 7.52kgCo²e/m²
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	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 (4 copings cut from corner coping)		Bracken, Heather, Slate	YES	-	-	-	105	105

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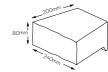
## **Secura Lite**

#### Mortar-free retaining wall.

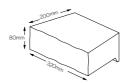
Secura Lite has an antique feel, and a warm aged finish. The combination of block widths available, produce a traditional, random stone appearance.

- Easy to buildUsed 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

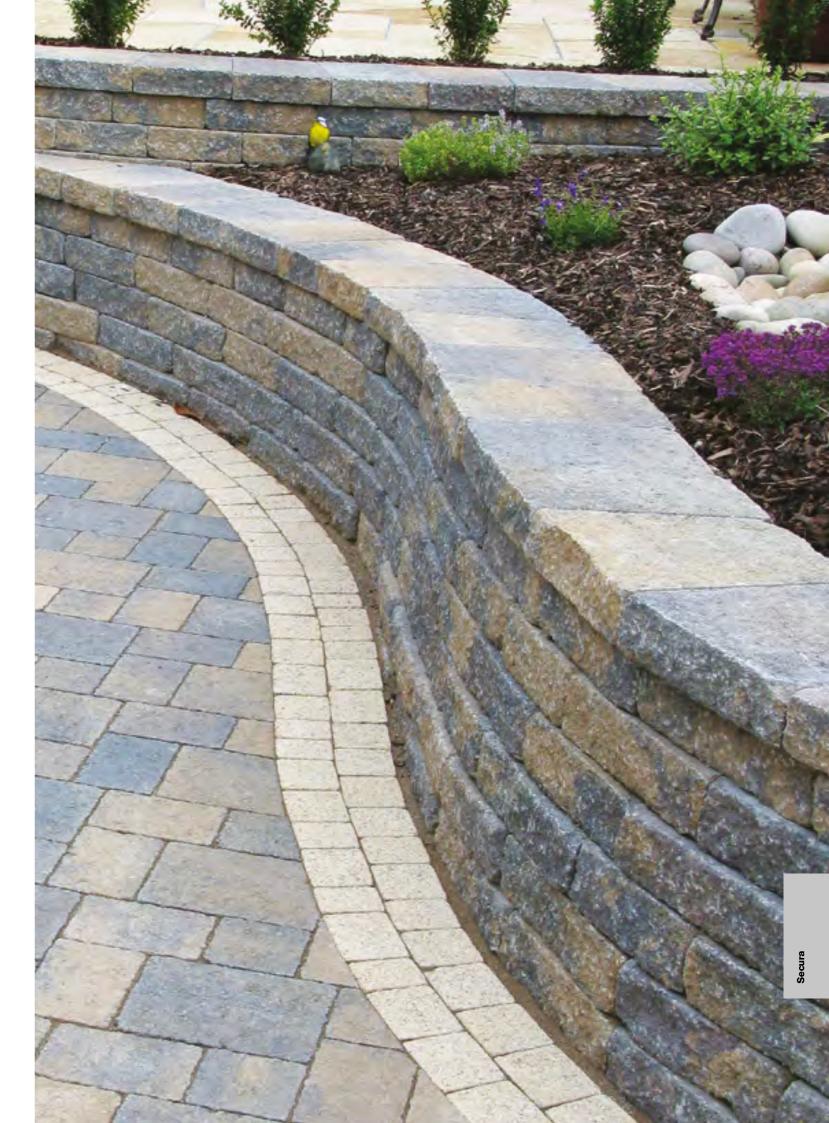














## **Secura Lite**



Finish





#### **Specification**

Ef-Stop<sup>®</sup>

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
กรร	Plus D41310 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	Secura Lite 4.18kgCo²e/m² Secura Lite Coping 7.03kgCo²e/m²
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
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	LM per	m² per	no. per	no. per	weight kg per	weight kg per
product	Size (IIIII)	Colours available	III SLOCK	pack	slice	m²	pack	pack GB	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

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late







Secura



### **Technical Information**

#### Secura Retaining Walls

Secura Retaining Walls

#### **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.

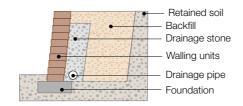
Such technical information should not be relied upon in substitution for obtaining independent expert advice prior to using any product from both a suitably qualified engineer and building contractor, in particular, as to the suitability of the product for use at the intended site for the intended scheme.

#### 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.



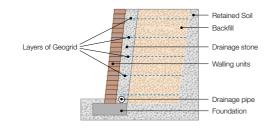
#### Suitable Secura products

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.

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.

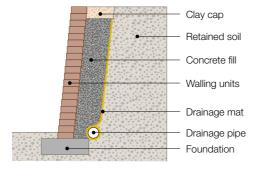


Suitable Secura products Secura Grand

#### 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.

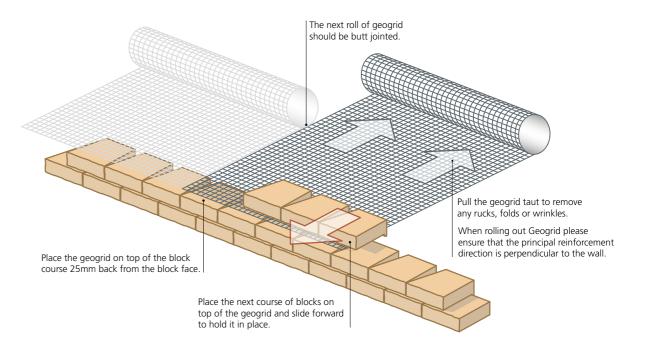


Secura Grand

#### 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 joined 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.

**1** Tobermore

- 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.

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 NO<sub>2</sub> into harmless nitrates that are washed away by the rain.

#### **Product Range**

AirClean Fusion 254

**Technical Information** 256

# Air Clean Paving



## **AirClean Fusion**

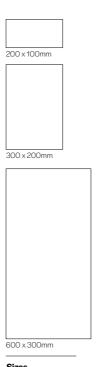


#### Modular granite paving with AirClean.

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 NO<sub>2</sub>
- Transforms NO<sub>2</sub> 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





#### **Specification**

Prime iop	M ET-Stop

AirClean	Up to 16% NO <sub>2</sub> 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/m³ 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	B\$7533-3:2005
<b>N55</b> 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	23.47kgCo²e/m² (+8.4%-5.8% depending on specific products)
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
www.bre.co.uk	<b>B</b> , according to the Green Guide to Specification, 4th Edition 2009. <b>A</b> , 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					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



#### IMPORTANT INFORMATION

using contrasting bands of colour as each product is manufactured separately and may have slight variations



### **Technical Information**

#### **Important Information**

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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

#### 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.

#### Prior to Installation

Prior to opening the packs check that all the batch code labels match. The batch code labels can be found on the outer packaging. For example, 04D22N.

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.

#### Installatio

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.

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.

Where products from different batches are being installed in the same area of paving, wall or building it is the installers responsibility to carry out a colour match check by comparing colours from each batch. If a noticeable variance in colour / shade or texture is visible, do not proceed with the installation and contact your supplier for further guidance.

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.

During installation the installer must make regular visual checks to ensure the blending of colours is consistent.

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

Colours and textures illustrated are representations and therefore should not be expected to be an exact match.

The overall visual appearance of a completed installation should only be assessed from the normal viewing distance. Variations in colour/shade and texture are technically harmless, do not affect the products performance and are not deemed

We will not be held liable for any discolouration or staining caused to product which has been stored incorrectly.

Note: Whilst we strive to ensure consistency, complimentary products such as Kerb Specials, Step Flags, Facing Brick Specials, Historic Circles etc. may not be an exact colour / texture or shade match to the standard version of the product as they will have been manufactured at varying times using different processes.

#### Tegu

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.

#### Staini

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

#### loisture

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.

#### Efflorescenc

Efflorescence is a crystalline deposit that occurs naturally on the surface of concrete materials. It usually appears as a 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 Scratche

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.

#### rdering

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.

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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.

#### nitial 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.

256

A light power hose at medium pressure is generally all that is required to clean general Joints can be finished flush or tooled depending on the overall effect required. Raked dirt and grime. Any jointing material which is removed must be replaced. Do not use joints are not recommended. It is vital that all horizontal and vertical joints between high pressure powerwashers as aggressive power-washing can damage the product Country Stone blocks must be compacted and free from voids. Shell bedding should 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.

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**

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

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 2. It is important to ensure that the mortar specified for the construction is suitable

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 contamina

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

#### FOR FASYOLFAN PRODUCTS

#### Handling & Installation

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

Once the protective glue dot has been removed do not stack flags directly on top 3. Tobermore recommends that vertical movement joints be spaced at no more of each other

Use a plate vibrator with a rubber mat. Do not scratch the surface with tools. (Spade, trowel etc.)

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 & COLINTRY 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

#### Installation - Facing Bricks

available on our website: www.tobermore.co.uk

#### Installation - Country Stone

Tobermore's Country Stone products are designed to recreate traditional stone sizes Installation - Secura and to co-ordinate with standard cavity wall construction. When used in housing All Secura products should be installed in accordance with British Standard BS8002. projects, a clear cavity must be retained.

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

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
- Mortar extruding from joints should be removed when the mortar is wet and during the process of laving.
- Any mortar smears on the brick surface should be removed by dry or wet
- · 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.
- It is possible to seal block paving with a resin material which combats staining and 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
- · 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.
- 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. Tohermore 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
- 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 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.
- Please refer to Tobermore's detailed 'Guide to the use of Tobermore Concrete Bricks' 7. It is recommended that this guidance is discussed with all persons involved in the design and construction of the building work.

#### FOR SECLIRA PRODUCTS

When constructing a retaining wall, ensure that you follow the design provided by the



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