

paving & walling specification guide

v 1.2





Sir Chris Hoy Velodrome and National Indoor Arena, Glasgow:
Sienna 60mm Sandstone and Graphite

Paving & Walling Specification Guide

The all encompassing catalogue of world class paving and walling products from Tobermore, European Quality Award Winner.

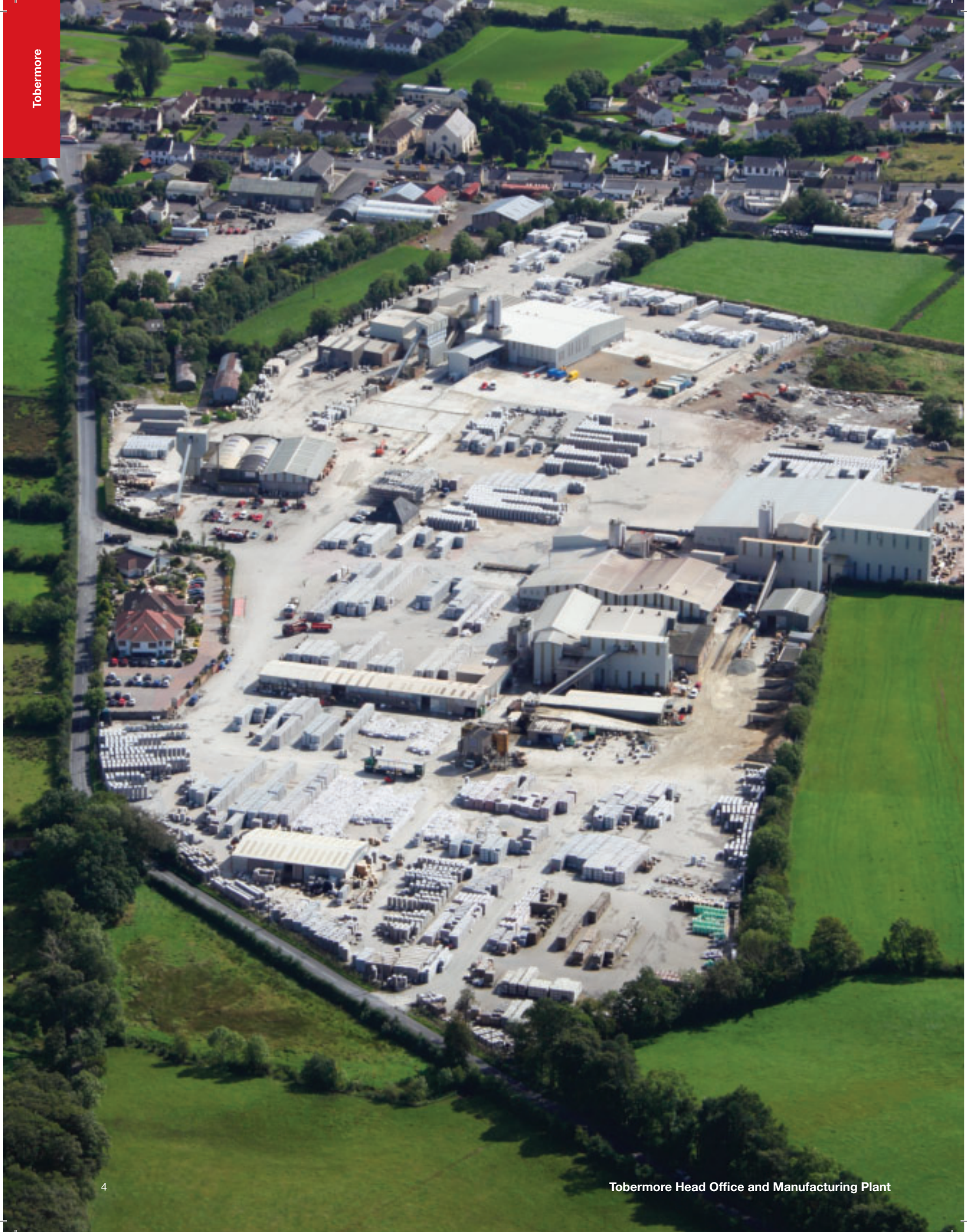
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Lisburn City Centre: Tegula 60mm Heather with Tegula Setts 60mm Charcoal and Sienna 60mm Silver





our company



Tobermore is a UK and European Quality Award winning company. We are dedicated to excellence in the manufacture and supply of paving and walling products to the landscape and construction markets throughout the UK and Ireland.

Tobermore seek to build lasting relationships with our customers by surpassing their expectations in quality and service. We believe in conducting our business in a manner which achieves sustainable growth whilst maintaining a high degree of integrity, trust, honesty and teamwork.

our customer service

Our sales approach to all customers provides reassurance and confidence that we listen to their needs which makes us the supplier of choice.

our products

Tobermore is internationally renowned for its world class manufacturing facilities. We provide our customers with a market leading choice of products to suit all project requirements. Our product quality throughout the years continually meets and surpasses customer expectations.

our business processes

We make it easy for customers to do business with us. We have put the correct processes in place so customers find it easy to deal with us and get the products and information they require faster than our competitors.

our people

Our people are the backbone to our company. They understand the importance of customer relationships. People buy from people. Our success is a testament to how customers appreciate our staff who have been trained and developed to deal professionally with all customer requirements.

European Quality
Award Winner 2007



UK Business Excellence
Award 2005



european quality award winner 2007



David Henderson, Managing Director, receives the EFQM Quality award from George Alogoskoufis, Greece Minister of Economy and Finance.

“The Champions league of business excellence awards.”

Allan Ahrensberg
Chairman of the EFQM excellence award jury.

“These awards, organised by the European Foundation for Quality Management (EFQM) are the most prestigious of their kind in Europe and, for our company, this represents another milestone in our journey towards organisational excellence and many years of hard work by our staff.”

David Henderson
Managing Director, Tobermore

In 2007 Tobermore won the European Business Excellence Award, beating a long list of world renowned businesses. This was the culmination of Tobermore’s long term approach to business excellence principles and recognition of our world class operation.

The award was presented at a glittering ceremony held in Athens in October in the company of top global brands including Ricoh, TNT, Volkswagen and Siemens.

UK business excellence award



Tobermore have received many other accolades to further support the company ethos of excellent customer service whilst providing high quality products. The company is an ISO 9001 and ISO 14001 accredited company.

For details of all our awards and recognitions, visit www.tobermore.co.uk/awards

corporate social responsibility



Tobermore's 2011 Christmas donation of £20,000 is presented to Barnardos.



Tobermore supported the building of 14 new classrooms in the Nyanza Province, Kenya.



Brian Wilson with children who benefited from the £2000 donation from Tobermore for the building of a new classroom in their school in India.



Tobermore support many local schools through funding, sponsorship and teaching interview skills.

Tobermore believe in conducting business in a manner which achieves sustainable growth whilst maintaining a high degree of social responsibility. We are committed to achieving the highest standards of environmental performance by actively working to minimise the impact of our operations.

Tobermore is a company which is steeped in family values and at the heart of our rural community. Our social responsibility is comprehensive and involves employees, charitable organisations, school children and various community groups.



our commitment to charitable organisations

At Tobermore we are heavily committed to local and international charities. We have donated thousands of pounds over the past 10 years and are very proud of some of the benefits and assistance this has given to charities and community groups.



Tobermore have recently completed a long term partnership agreement with internationally renowned charity, Concern Worldwide.

Through Concern Worldwide we supported a project in Kenya which over the last three years saw us:

- Build 14 new classrooms in the Nyanza Province;
- Help establish school management councils to ensure schools are run effectively by the local community;
- Install 8 clean water tanks at the schools which is available for all pupils and the local community;
- Provide health care guidance at school so children will understand how to avoid many of the local diseases;
- Provide grants to the local community to help them start up their own businesses and help them learn the skills to generate their own income;
- Build 12 new toilet blocks.

our environment

Tobermore is committed to achieving the highest standards of environmental performance, preventing pollution and minimising the impact of its business operations.

our customers

Tobermore is a customer focused organisation and have used direct customer feedback to shape our business for many years. We believe in listening to the customer and feel that our relationship with customers has enabled us to become the market leading paving company.

our people

We currently have 145 staff employed within the organisation. We believe in business excellence and have implemented a culture of continuous improvement with our people since the early 1990's. This has been the key backbone to our success and has enabled the company to develop and improve our business processes to meet our customers' needs.

our community

We have been the principal employer in the village of Tobermore and local South Derry area for over 65 years and as we grow many new job opportunities are created.

We have a great relationship with the local community and are actively involved with the economic regeneration of the village.

Tobermore support many local schools, sports clubs and youth organisations through funding, sponsorship and teaching "interview skills". Our senior managers also deliver talks on many issues such as business excellence.

ethical trading policy relating to natural stone products

Tobermore source natural stone products through a third party supplier, Hardscape, who ensure compliance with an Ethical Trading Policy. This process is reaffirmed by regular visits to India and China by Tobermore Senior Managers.

integrated management system policy statement

Tobermore operate an Integrated Management System in accordance with the requirements of ISO9001:2000, ISO14001:2004 and OHSAS18001:1999.

The overall objective of the policy is the provision of a safe and environmentally responsible environment and quality orientated work environment for employees, customers and neighbours.

Download our latest Corporate Social Responsibility Report from www.tobermore.co.uk/csr



Commercial Offices: Tegula 60mm Natural with Tegula Setts 60mm Charcoal border

world class products



block paving

With one of the largest paving block ranges in the UK and Ireland, Tobermore have become the first choice for architects, merchants, engineers, developers, contractors and the private market. Tobermore products are now commonly used in urban renewal, commercial buildings, retail parks, housing developments, education and the hotel and leisure industry.

Our success has been achieved due to a superb blend of colours and textures that compliment, contrast and enhance these commercial schemes.

hydropave permeable paving

Tobermore's Hydropave range has been developed in conjunction with SF-Kooperation (an international paving organisation) and John Knapton, former Professor of Structural Engineering at Newcastle University, a world authority on permeable block paving systems.

Hydropave, as part of a SUDS solution, will not only increase the likelihood of planning proposals being approved but can also give a 10-15% cost saving over traditional drainage methods.

If you require specialist advice, Tobermore can put you in contact with experienced design consultants. Detailed technical guidance is also available.

paving flags & slabs

Tobermore produce one of the widest ranges and finishes of flags available in the industry. We have flag options to suit all requirements starting with the standard smooth finish right through to the high quality Mayfair flags containing granite aggregates.

kerbs, edging & channels

Kerbing is an essential requirement in all commercial and domestic applications to retain paving, create paths or bedding areas. Tobermore have an extensive range to complement traditional concrete paving, flags or the Pietra natural stone range.

walling & masonry

Tobermore offer a wide range of walling products to match and contrast our paving products. The versatility of Tobermore's Country Stone is endless, its aged-face finish adds instant character to the construction of any home, boundary wall or landscaping feature.

Garden Stone is a mortar free decorative walling product which is very easy to install and therefore very popular with DIY enthusiasts.

Tobermore's Lansdowne facing brick range has an inspiring choice of colours and blends.

With our experience in product innovation, manufacture and service you can be assured of quality, reliability and choice.

retaining walls

Secura Retaining Wall products provide housing developers, landscapers, civil engineers and home owners with the most attractive and cost-effective solution for their retaining wall requirements. Quick and easy to use, Secura walling is a dry-laid, block system offering quality in appearance, materials and design flexibility.

If you require specialist advice, Tobermore can put you in contact with experienced design consultants. Alternatively you can refer to the following source of information BS 8002. Detailed technical guidance is also available.

eco paving & walling

Tobermore's eco products are manufactured using recycled materials and are the latest addition to the Tobermore paving and walling range. These products have excellent rates of recycled contents and carbon footprint results.

our services



Tobermore can provide unrivalled technical support.



Our Paving & Walling Centres allow you to view our extensive range of products in actual landscaped environments.



Our Regional Sales Executives can deliver RIBA CPD approved onsite seminars on paving and walling products.



Tobermore have a range of products that can be installed using a machine which provides the customer with cost savings compared to conventional surfacing products.

paving & walling centres

At each centre you can see our extensive range and experience the products in actual landscaped environments. Trained staff will also be on hand to discuss your project and free samples are available.

landscape design

Our expert designers work with commercial and residential clients to ensure an attractive and functional hard landscape solution that meets their individual requirements. Private developers and architects can turn to our experienced designers for advice and detailed landscape planning.

product innovation

Innovation is important to us. It gives us our competitive edge. Continuous investment in new products has resulted in Tobermore becoming the market leader in innovative products, including Hydropave, and techniques such as machine lay.

machine lay

Commercial customers with large paving projects that need to be carried out quickly and, above all, cost-effectively can benefit from our experience in machine laying, a technique that we pioneered in Ireland. We've continued to develop this proven cost saving technique to cover a wide range of paving products.

technical guidance

Our technical support and guidance is unrivalled. We can provide customers with superb advice and guidance that comes from years of experience.

lunchtime presentations



A key feature of our customer focus is our regular series of lunchtime presentations which are all RIBA accredited. We believe in reaching out to customers in all our markets, enabling them to see, at first hand, our range of products and expert services.



Tobermore's fleet of lorries can deliver direct anywhere in the UK and Ireland.

delivery service

We offer a fast and reliable delivery service to anywhere in the UK and Ireland. Our fleet of vehicles saves you both time and money by getting your products delivered with the minimum of fuss and delay.

percentage of deliveries made on time

2011 = 97.00%

2012 = 98.68%

free samples

We appreciate that customers often wish to see our products and to see how they look in a particular setting. Our sales team is happy to provide samples wherever and whenever required.

www.tobermore.co.uk

Our sharp customer focus underpins our dynamic website. It offers the most up-to-date sales and marketing information for our product ranges and the company.

Our website features:

- Picture gallery
- NBS documents
- Latest company and product news
- Current product details
- Case studies

And much more!



With one of the largest block paving ranges in the UK and Ireland, Tobermore have become first choice for architects, developers and building contractors.

world class
block paving

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the benefits of block paving



The benefits of block paving may be measured through a variety of elements. It has the versatility to meet project challenges head-on and can easily handle heavy-duty applications, detailed streetscape designs and sympathetic conservation schemes. In addition, advantages include excellent physical performance, pleasing aesthetic appearance, reconstitution abilities and overall life-long cost-effectiveness.

hard wearing surface layer

Many of Tobermore's paving blocks, such as Hydropave, Shannon and Pedesta are made with a special hard wearing surface layer. This process was introduced worldwide about 20 years ago and almost 18 years ago at Tobermore. This is now the preferred method of production across the developed world.

The Tobermore hard wearing surface is made using a very high cement content, thus ensuring that the top surface is extremely hard and durable, standing up to the riggers of pedestrian and vehicular traffic extremely well. Furthermore, the surface layer is made using a very high pigment content, making the colours stronger, deeper and more vibrant, so giving a superior appearance over the lifetime of the product.

efflorescence can be significantly reduced

Efflorescence is perhaps the single biggest problem encountered with concrete paving products, as the ugly white stains spoil the appearance of the paving and not surprisingly customers are unhappy.

In the Tobermore manufacturing process we put our products through a vapour curing process to ensure that the occurrence of efflorescence is significantly reduced.

strong colour blends

Our blocks have strong deep colours and have a durable surface. We manufacture a number of colour blends such as Bracken, Heather and Brindle which have a stunning appearance. The colours are vibrant and constantly repeating.

tegula 'tumbled aged appearance'

Tobermore Tegula is a paving system, which has been developed to capture the nostalgic aged appearance of traditional stone and granite setts.

The unique aged appearance is achieved by a special tumbling process, which removes the hard edged regular look and gives the impression that the area has been paved for years. Tobermore are proud to continue producing an authentic looking Tegula.

non-slip surface

Excellent skid resistant and non-slip surfaces make block paving a favourite for trafficked and pedestrian areas of all types.

adaptable to any project

Block paving may be used for any scheme. It has the strength and durability to handle major loads, as found in heavy industrial sites, and has the colours and style to meet the needs of any environmental improvement scheme. The range of colours, size, thickness and finishes ensure that block paving is a product with enough versatility to meet the requirements of any plan.

accessibility/reinstatement

The versatility of block paving increases with the ability to gain easy access to underlying systems for essential maintenance work. The area can be accessed at any stage, and the blocks which are removed can be reused to repair the area after work has been carried out.



tegula

tumbled aged appearance

A naturally weathered stone appearance makes Tobermore Tegula the ideal choice for a landscape scheme where aesthetics and style are the primary considerations. Displaying a timeless elegance, Tegula can match the traditional splendour of a period design or add character to a modern environment. Tegula provides a surface which is easily trafficked by pedestrians, prams, wheelchairs or vehicles.

direct web link:
www.tobermore.co.uk/tegula

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Manufacturing process	Tumbled to give aged appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BS EN 12424	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	50mm: 18kgCo ² e/m ² 60mm: 24kgCo ² e/m ² 80mm: 32kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
brecom rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

colours



product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
TEGULA 50mm	175 x 140 x 50	Bracken, Charcoal, Heather, Natural, Cedar, Slate	YES	13.37	1.91	40.82	546	1505
	140 x 140 x 50	Bracken, Charcoal, Heather, Natural, Cedar, Slate	YES	13.77	1.53	51	702	1550
TEGULA TRIO 50mm	202 x 173 x 50	Bracken, Charcoal, Heather, Natural, Cedar, Slate (comes with all three sizes pre-mixed)	YES	13.65	1.05	33.3	144	1530
	173 x 173 x 50						+ 132	
	138 x 173 x 50						+ 144	
TEGULA 60mm	208 x 173 x 60	Bracken, Charcoal, Heather, Natural, Cedar, Slate	YES	12.95	2.16	27.79	360	1810
	173 x 173 x 60	Bracken, Charcoal, Heather, Natural, Cedar, Slate	YES	12.56	1.79	33.41	420	1743
	240 x 160 x 60	Bracken, Charcoal, Heather, Natural, Cedar, Slate	SPECIAL ORDER	12.5	2.5	26.03	325	1745
	160 x 160 x 60	Bracken, Charcoal, Heather, Natural, Cedar, Slate	SPECIAL ORDER	11.65	1.66	39.04	454	1630
TEGULA TRIO 60mm ^{ML}	208 x 173 x 60	Bracken, Charcoal, Heather, Natural, Cedar, Slate (comes with all three sizes pre-mixed)	YES	10.5	1.05	33.3	120	1475
	173 x 173 x 60						+ 110	
	138 x 173 x 60						+ 120	
TEGULA 80mm	208 x 173 x 80	Bracken, Charcoal, Heather	YES	9.72	1.62	27.79	270	1770
		Natural, Cedar, Slate	SPECIAL ORDER					
	173 x 173 x 80	Bracken, Charcoal, Heather	YES	9.43	1.35	33.41	315	1717
		Natural, Cedar, Slate	SPECIAL ORDER					
	104 x 173 x 80	Bracken, Charcoal, Heather	YES	9.07	1.30	55.58	504	1628
		Natural, Cedar, Slate	SPECIAL ORDER					
	240 x 160 x 80	Bracken, Charcoal, Heather, Natural, Cedar, Slate	SPECIAL ORDER	9.6	1.92	26.03	250	1748
	160 x 160 x 80	Bracken, Charcoal, Heather, Natural, Cedar, Slate	SPECIAL ORDER	8.96	1.28	39.04	350	1632
200 x 100 x 80	Bracken, Charcoal, Heather, Natural	SPECIAL ORDER	9.6	1.60	50	480	1724	

^{ML} This product can be hand or machine laid. All ML product is supplied on wooden pallets.



Victoria Hall, Wembley, London: Tegula Circle and Tegula Setts 60mm Charcoal with Hydropave Sienna Duo 60mm Silver

tegula setts & circles

tumbled aged appearance

Tegula Setts are the ideal product for bordering any of the Tobermore paving products. They blend perfectly with rumbled products such as Tegula and Retro but also provide the essential contrast to the modern finishes of Sienna or Shannon. Tegula Setts can also be used independently and can recreate the old cobbled effect of yesteryear.

Classical fantail and circular patterns can open up a whole new world of ideas for the creative designer with specially shaped blocks enabling the creation of accurate circular patterns and effects.

product specifications

Product type	Concrete paving block	
Manufactured to	BS EN 1338:2003	
Manufacturing process	Tumbled to give aged appearance	
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence	
Strength	> 3.6MPa	
Slip/Skid resistance	Extremely Low (>75 USRV)	
Installed to	BS 7533-3:2005	
BS Plus	Q24 110	
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.	
Energy used	100% renewable energy	
Water used	100% water used from rainwater harvesting system	
Carbon Footprint (Approved by the Carbon Trust)	50mm setts	17kgCo ² e/m ²
	60mm setts	22kgCo ² e/m ²
	80mm setts	32kgCo ² e/m ²
	50mm circle	19kgCo ² e/m ²
	60mm circle	24kgCo ² e/m ²
Recyclable	100% of this product can be recycled	
Manufacturing location	Produced in the UK with locally sourced materials	
brecom rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk	
Complementary kerbs	Kerbstone, Country Kerb	

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

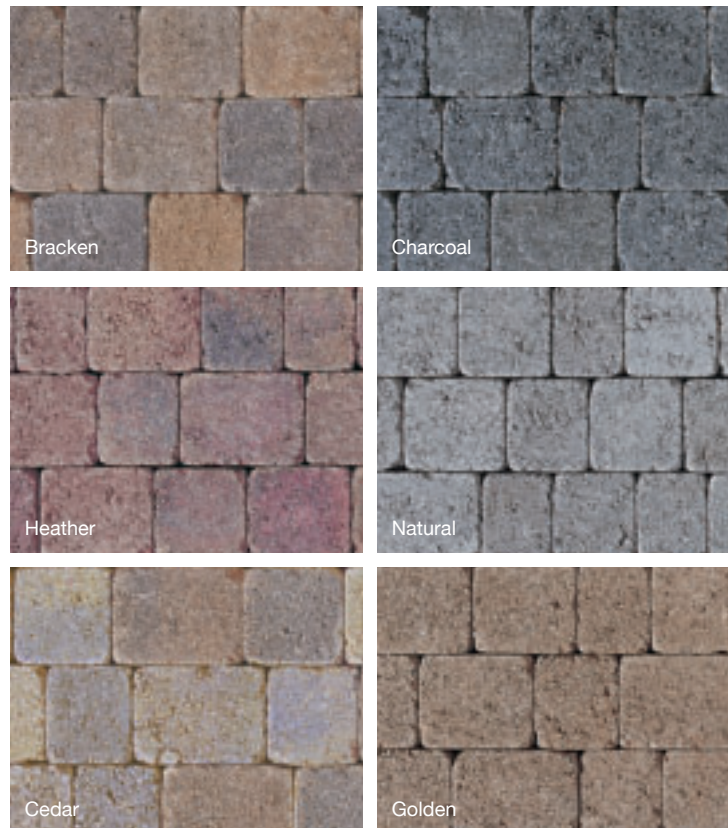
product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
TEGULA SETTS	90mm x various x 50mm	Bracken, Charcoal, Heather, Natural, Cedar, Golden	YES	8.50	0.85	117	995	930
	100 x 100 x 50mm	Bracken, Charcoal, Heather, Golden	YES	11.52	0.96	100	1152	1215
	90mm x various x 60mm	Bracken, Charcoal, Heather, Natural, Cedar, Golden	YES	6.80	0.85	117	796	872
	100 x 100 x 60mm	Bracken, Charcoal, Heather, Golden	YES	9.6	0.96	100	960	1215
	90mm x various x 80mm	Bracken, Charcoal, Heather, Natural, Cedar, Golden	SPECIAL ORDER	5.95	0.85	117	696	1082
TEGULA CIRCLE (Sold as one unit)	50mm x 1.5m diameter	Bracken, Charcoal, Heather, Natural, Cedar, Golden	YES	-	1.76 PER CIRCLE	-	169	200
	60mm x 1.5m diameter	Bracken, Charcoal, Heather, Natural, Cedar, Golden	YES	-	1.76 PER CIRCLE	-	169	239

direct web link:
www.tobermore.co.uk/tegulasetts

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

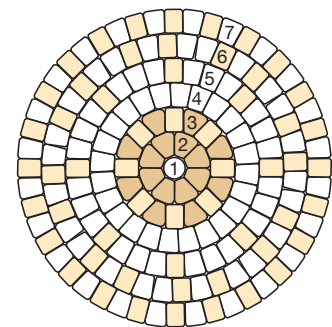


colours



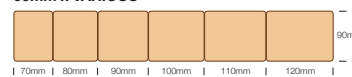
Tegula Circular System

Tegula Circular is a specially designed system for easy creation of circular patterns. See page 43 for laying guidelines.

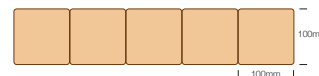


Tegula Setts

90mm x VARIOUS



100mm x 100mm





retro

tumbled aged appearance

Retro has a warm, aged appearance which recreates the cobbled look that was popular in many European towns and villages in years gone by. This product is produced in two blended colours, Heather and Bracken.

Retro can be combined with other Tobermore products such as Tegula Setts to create contrasting designs and textures. It can also be laid in the popular herringbone pattern.

product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Manufacturing process	Tumbled to give aged appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BS EN 12424	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint <small>(Approved by the Carbon Trust)</small>	22kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
Breeam rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb

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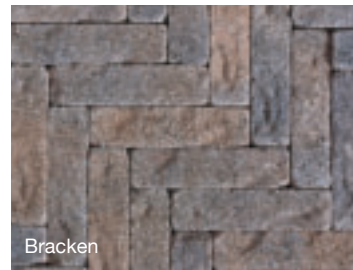
See instructions and warnings on page 132.

direct web link:
www.tobermore.co.uk/retro

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



colours



Galgorm Resort and Spa, Ballymena: Retro 60mm Bracken with an edging of Mayfair Setts Silver

product information

product	packed in	size (mm)	colours available	in stock	m ² per bale/bag	m ² per slice	no. per m ²	no. per bale/bag	weight (kg) per bale/bag
RETRO	Bags	190 x 50 x 60	Bracken, Heather	YES	6.5	2 or 4	105.3	684	820
	Bales	190 x 50 x 60	Bracken, Heather	YES	12	2	105.3	1260	1521



sienna

vibrant granite appearance

Sienna emulates traditional natural granite. The coarse textured surface exposes the sparkling granite aggregates to provide a distinctive appearance similar to natural granite. Sienna provides the aesthetic qualities which can match the traditional splendour of period design or add character to modern buildings.

product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface finish	Textured Granite Aggregate
Granite aggregate	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.
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kg/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BSI Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint <small>(*Approved by the Carbon Trust) <small>(**Awaiting approval by the Carbon Trust)</small></small>	50mm Silver: 20kgCo ² e/m ² ** 50mm Sandstone: 22kgCo ² e/m ² ** 50mm Graphite: 22kgCo ² e/m ² ** 60mm Silver: 24kgCo ² e/m ² * 60mm Sandstone: 26kgCo ² e/m ² * 60mm Graphite: 26kgCo ² e/m ² * 80mm Silver: 32kgCo ² e/m ² * 80mm Sandstone: 34kgCo ² e/m ² * 80mm Graphite: 34kgCo ² e/m ² *
Recycled content	50mm & 60mm Silver & Graphite only: Not less than 8% recycled materials included 80mm Silver & Graphite only: Not less than 6% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

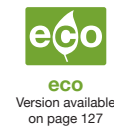
product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
SIENNA 50mm	208 x 173 x 50	Silver, Sandstone, Graphite	YES	14.04	2.34	27.79	390	1638
SIENNA DUO 60mm	208 x 173 x 60 173 x 173 x 60	Silver, Sandstone, Graphite (BOTH SIZES ON ONE BALE)	YES	12.87	0.99	30.3	195 + 195	1818
SIENNA 60mm	ML 208 x 173 x 60 240 x 160 x 60 160 x 160 x 60	Silver, Sandstone, Graphite	YES	10.8	1.8	27.79	300	1537
		Silver, Sandstone, Graphite	SPECIAL ORDER	11.52	2.3	-	-	1630
		Silver, Sandstone, Graphite	SPECIAL ORDER	11.65	1.66	-	-	1646
SIENNA 80mm	200 x 100 x 80 208 x 173 x 80 173 x 173 x 80 240 x 160 x 80 160 x 160 x 80	Silver, Sandstone, Graphite	MADE TO ORDER	9.6	1.6	50	480	1774
		Silver, Sandstone, Graphite	MADE TO ORDER	10.07	1.44	27.79	280	1841
		Silver, Sandstone, Graphite	SPECIAL ORDER	10.5	1.5	33.4	350	1919
		Silver, Sandstone, Graphite	SPECIAL ORDER	9.6	1.92	-	-	1755
		Silver, Sandstone, Graphite	SPECIAL ORDER	8.96	1.28	-	-	1639

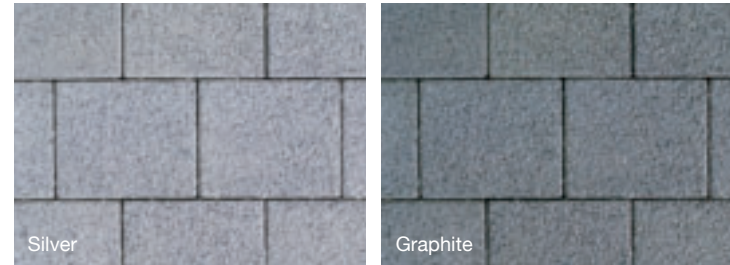
ML This product can be hand or machine laid. All ML product is supplied on wooden pallets.

direct web link:
www.tobermore.co.uk/sienna

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



colours



Important information

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



Queen's Quay, L'derry: Sienna 60mm Silver with Tegula Setts 60mm Charcoal.

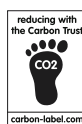


roma

timeless courtyard paving

direct web link:
www.tobermore.co.uk/roma

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



Roma is a three sized product perfect for creating various courtyard patterns. The three block sizes are supplied premixed in one bale and it is available in three popular colours.

The surface of Roma has a special processed finish with broken edges to give it an aged look.

product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Surface finish	Standard surface with fettled edges
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BSI Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	24kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

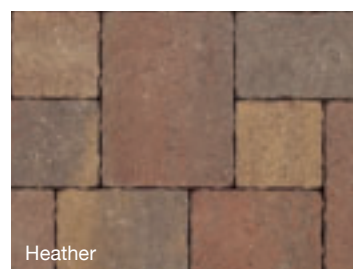
colours



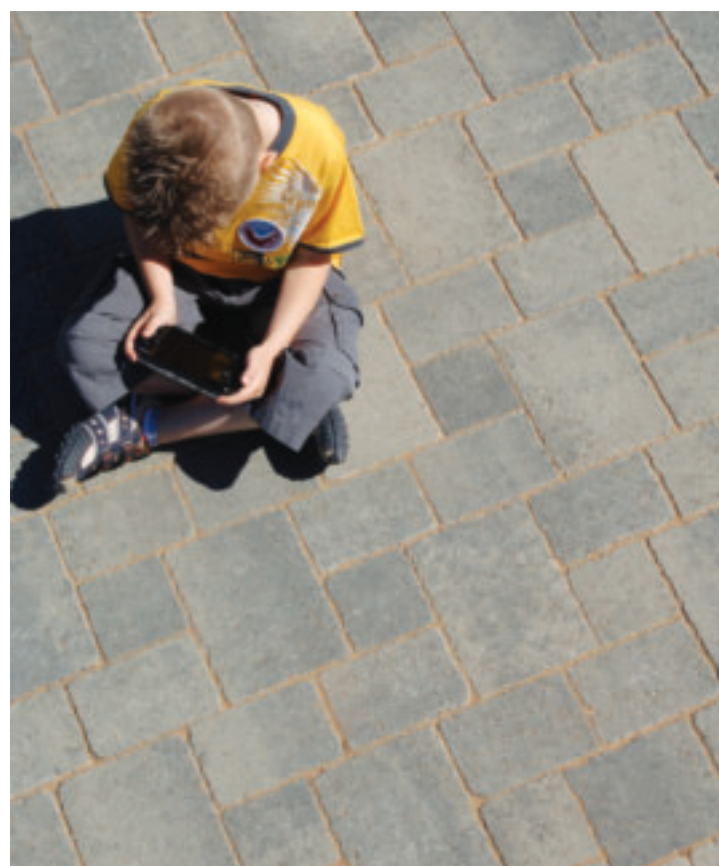
Bracken



Slate



Heather



Roma 60mm Slate

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
ROMA 60mm	240 x 180 x 60 120 x 180 x 60 120 x 120 x 60	Bracken, Slate, Heather (ALL SIZES ON ONE BALE, SINGLE SIZES NOT AVAILABLE)	YES	12.1	1.01	39.6	480	1698



mayfair setts & circles

vibrant granite appearance

Mayfair Setts are the ideal product for bordering any of the Tobermore paving products. They blend perfectly with rumbled products such as Tegula and Retro but also provide the essential contrast to the modern finishes of Sienna or Shannon. Mayfair Setts can also be used independently and can recreate the old cobbled effect of yesteryear.

product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface finish	Textured Granite Aggregate
Granite aggregate	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.
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
NSP Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	60mm Silver: 24kgCo ₂ e/m ² 60mm Sandstone: 26kgCo ₂ e/m ² 60mm Graphite: 26kgCo ₂ e/m ²
Recycled content	60mm Silver & Graphite only: Not less than 8% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb

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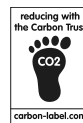
See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
MAYFAIR SETTS	100 x 100 x 50mm	Silver, Sandstone, Graphite	YES	11.52	0.96	100	1152	1285
	90 x various x 60mm	Silver, Sandstone, Graphite	YES	12.35	0.95	117	1445	1737
	90 x various x 80mm	Silver, Sandstone, Graphite	SPECIAL ORDER	8.5	0.85	117	995	1198
MAYFAIR CIRCLE	60 (1.5m diameter)	Silver, Sandstone, Graphite	YES	-	1.76 PER CIRCLE	-	169	245

direct web link:
www.tobermore.co.uk/mayfairsetts

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



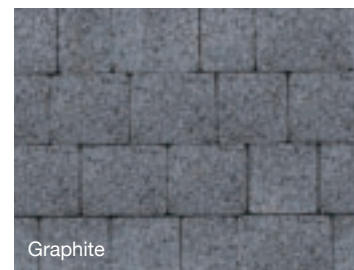
colours



Silver



Sandstone



Graphite

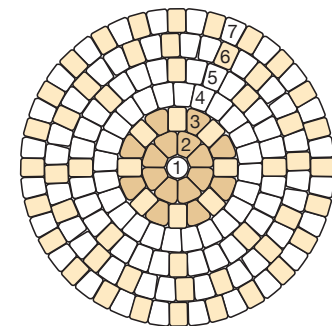
Important information

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

Classical fantail and circular patterns can open up a whole new world of ideas for the creative designer with specially shaped blocks enabling the creation of accurate circular patterns and effects.

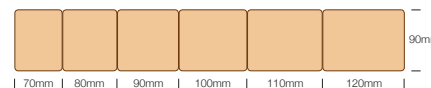
Mayfair Circle System

Mayfair Circle is a specially designed system for easy creation of circular patterns. See page 43 for laying guidelines.

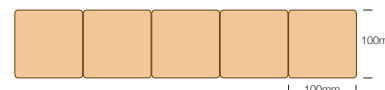


Mayfair Setts

90mm x VARIOUS



100mm x 100mm



Orangefield
Primary School

shannon

beautiful colours, smooth surface

Shannon has been designed to provide maximum performance in areas where smoothness and low maintenance are priorities. Its smooth hard wearing surface makes it particularly suitable for shopping precincts, schools, superstores, public paths and street scenes, where a high volume of prams, wheelchairs and vehicles are anticipated.

The elderly and physically impaired may also benefit from the smooth surface finish while children love it for cycling, skateboarding and general playing.

Shannon has been specifically designed for today's busy lifestyles where low maintenance is a primary consideration. Its 'pencil' chamfer and narrow joint width reduce maintenance levels.

product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Chamfer	Pencil Chamfer
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BS EN 12424	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	50mm: 18kgCo ² e/m ² 60mm: 22kgCo ² e/m ² 80mm: 30kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb, Kerbset

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See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
SHANNON 50mm ML	208 x 173 x 50	Bracken, Heather, Brindle, Charcoal, Natural	YES	14.04	2.34	27.79	390	1638
SHANNON 60mm	208 x 173 x 60	Bracken, Heather, Brindle, Charcoal, Natural	YES	12.96	2.16	27.79	360	1792
SHANNON DUO 60mm	208 x 173 x 60 173 x 173 x 60	Bracken, Heather, Charcoal (BOTH SIZES ON ONE BALE)	YES	12.87	0.99	30.3	195 + 195	1815
SHANNON 80mm	208 x 173 x 80	Bracken, Heather, Brindle, Charcoal, Natural	SPECIAL ORDER	10.07	1.44	27.79	280	1843
SHANNON DUO 80mm	208 x 173 x 80 173 x 173 x 80	Bracken, Heather, Brindle, Charcoal, Natural (BOTH SIZES ON ONE BALE)	SPECIAL ORDER	9.9	0.99	30.3	150 + 150	1812

ML This product can be hand or machine laid. All ML product is supplied on wooden pallets.

direct web link:
www.tobermore.co.uk/shannon

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



colours



Shannon Duo 60mm Heather with Tegula Setts Golden



pedesta

direct web link:
www.tobermore.co.uk/pedesta

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

hard wearing surface, beautiful colours

Tobermore's Pedesta, which is made with our special hard wearing surface layer and deep vibrant colours, is an aesthetic and highly versatile paving product, which provides the designer with a cost-effective solution. Enhancing any project, from a pedestrian scheme to a domestic driveway, Pedesta's simple rectangular profile allows the creation of distinctive patterns and shapes.

Pedesta is suitable for domestic projects such as driveways and patios and has also been very successfully used in pedestrian schemes, town centres, footpaths and car parks.

Pencil Edge Pedesta

Pencil Edge Pedesta is also available. Its profile creates a smooth surface and makes it particularly suitable for shopping precincts, schools, superstores, public paths and street scenes, where a high volume of prams, wheelchairs and vehicles are anticipated.

product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Chamfer	Standard or Pencil Edge Chamfer
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BSI Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	50mm: 18kgCo ₂ e/m ² 60mm: 22kgCo ₂ e/m ² 80mm: 30kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbstone, Country Kerb, Kerbset

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See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
PEDESTA 50mm	200 x 100 x 50	Bracken, Charcoal, Heather, Natural, Golden, Chocolate, Brindle, Red	YES	14.40	2.40	50	720	1626
PEDESTA 60mm	200 x 100 x 60	Bracken, Charcoal, Heather, Natural, Golden, Chocolate, Brindle, Red	YES	13.44	2.24	50	672	1810
PEDESTA 60mm (PENCIL EDGE)	200 x 100 x 60	Bracken, Charcoal, Heather, Natural, Golden, Chocolate, Brindle, Red	SPECIAL ORDER	13.44	2.24	50	672	1810
PEDESTA 80mm	200 x 100 x 80	Bracken, Charcoal, Heather, Natural, Brindle, Red	MADE TO ORDER	9.60	1.60	50	480	1724
PEDESTA 80mm ML	200 x 100 x 80	Bracken, Charcoal, Heather, Natural, Golden, Chocolate, Brindle, Red	SPECIAL ORDER	8.8	0.88	50	440	1689

ML This product can be hand or machine laid. All ML product is supplied on wooden pallets.



colours





fusion

vibrant granite appearance

Emulating traditional natural granite, Fusion's exposed granite aggregates and wide range of modular sizes, allow for the creation of striking visual effects through the clever use of colour and laying patterns.

Important note

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 200 x 200 x 60mm, Fusion 100 x 100 x 60mm and Fusion 400 x 400 x 60mm

colours



direct web link:
www.tobermore.co.uk/fusion

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



block/flag paving specifications

Product type	Concrete paving block/flag																
Manufactured to	<table border="0"> <tr> <td>BS EN 1338:2003:</td> <td>100 x 100 x 60/80mm</td> </tr> <tr> <td></td> <td>200 x 100 x 60/80mm</td> </tr> <tr> <td></td> <td>200 x 200 x 60/80mm</td> </tr> <tr> <td></td> <td>300 x 200 x 60/80mm</td> </tr> <tr> <td>BS EN 1339:2003:</td> <td>300 x 300 x 60/80mm</td> </tr> <tr> <td></td> <td>400 x 400 x 60mm</td> </tr> <tr> <td></td> <td>600 x 300 x 60/80mm</td> </tr> <tr> <td></td> <td>600 x 600 x 60mm</td> </tr> </table>	BS EN 1338:2003:	100 x 100 x 60/80mm		200 x 100 x 60/80mm		200 x 200 x 60/80mm		300 x 200 x 60/80mm	BS EN 1339:2003:	300 x 300 x 60/80mm		400 x 400 x 60mm		600 x 300 x 60/80mm		600 x 600 x 60mm
BS EN 1338:2003:	100 x 100 x 60/80mm																
	200 x 100 x 60/80mm																
	200 x 200 x 60/80mm																
	300 x 200 x 60/80mm																
BS EN 1339:2003:	300 x 300 x 60/80mm																
	400 x 400 x 60mm																
	600 x 300 x 60/80mm																
	600 x 600 x 60mm																
Surface finish	Textured Granite Aggregate																
Granite aggregate	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.																
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement																
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence																
Strength	BS EN 1338: > 3.6MPa BS EN 1339: > 3.5MPa																
Slip/Skid resistance	Extremely Low (>75 USRV)																
Installed to	BS 7533-3:2005																
BS EN 12404	Q25 215																
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.																
Energy used	100% renewable energy																
Water used	100% water used from rainwater harvesting system																
Carbon Footprint <small>(Awaiting formal approval by the Carbon Trust)</small>	<table border="0"> <tr> <td>60mm Silver:</td> <td>24kgCo²e/m²</td> </tr> <tr> <td>60mm Mid Grey:</td> <td>24kgCo²e/m²</td> </tr> <tr> <td>60mm Sandstone:</td> <td>26kgCo²e/m²</td> </tr> <tr> <td>60mm Graphite:</td> <td>26kgCo²e/m²</td> </tr> <tr> <td>80mm Silver:</td> <td>32kgCo²e/m²</td> </tr> <tr> <td>80mm Mid Grey:</td> <td>32kgCo²e/m²</td> </tr> <tr> <td>80mm Sandstone:</td> <td>34kgCo²e/m²</td> </tr> <tr> <td>80mm Graphite:</td> <td>34kgCo²e/m²</td> </tr> </table>	60mm Silver:	24kgCo ² e/m ²	60mm Mid Grey:	24kgCo ² e/m ²	60mm Sandstone:	26kgCo ² e/m ²	60mm Graphite:	26kgCo ² e/m ²	80mm Silver:	32kgCo ² e/m ²	80mm Mid Grey:	32kgCo ² e/m ²	80mm Sandstone:	34kgCo ² e/m ²	80mm Graphite:	34kgCo ² e/m ²
60mm Silver:	24kgCo ² e/m ²																
60mm Mid Grey:	24kgCo ² e/m ²																
60mm Sandstone:	26kgCo ² e/m ²																
60mm Graphite:	26kgCo ² e/m ²																
80mm Silver:	32kgCo ² e/m ²																
80mm Mid Grey:	32kgCo ² e/m ²																
80mm Sandstone:	34kgCo ² e/m ²																
80mm Graphite:	34kgCo ² e/m ²																
Recycled content	Not less than 8% recycled materials included (Silver, Mid Grey & Graphite)																
Recyclable	100% of this product can be recycled																
Manufacturing location	Produced in the UK with locally sourced materials																
brecom rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk																
Complementary kerbs	Country Kerb Granite, Country Edge Granite																

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See instructions and warnings on page 132.



fusion

vibrant granite appearance

sizes available (Please check product information table for available block depths)

100 x 100mm	200 x 100mm	200 x 200mm
		
300 x 200mm	300 x 300mm	400 x 400mm
		
600 x 300mm	600 x 600mm	
		

Important information

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

product information

PRODUCT	SIZE (MM)	COLOURS AVAILABLE	IN STOCK	M ² PER BALE	M ² PER SLICE	NO. PER M ²	NO. PER BALE	WEIGHT/BALE (KG)
FUSION 60mm	100 x 100 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	11.52	0.96	100	1152	1630
	200 x 100 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	13.44	2.24	50	672	1810
	200 x 200 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	12.48	2.08	25	312	1765
	300 x 200 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	12.48	3.12	16.66	208	1765
	300 x 300 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.36	2.34	11.11	104	1325
	400 x 400 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	2.72	-	6.25	17	402.5
	600 x 300 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.36	4.68	5.55	52	1325
	600 x 400 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	4.08	-	4.16	17	610
	600 x 600 x 60	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	2.78	-	2.77	17	814
FUSION 80mm	100 x 100 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.6	0.96	100	960	1756
	200 x 100 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.6	1.6	50	480	1756
	200 x 200 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.6	1.6	25	240	1756
	300 x 200 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.6	2.4	16.66	160	1756
	300 x 300 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	7.2	1.8	11.11	80	1319
	600 x 300 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	7.2	3.6	5.55	40	1319
HYDROPAVE FUSION	200 x 100 x 80	Silver, Mid Grey, Sandstone, Graphite	SPECIAL ORDER	9.6	1.6	50	480	1739



toberloc

heavy duty paving

The unique 'L' shaped format of Toberloc ensures that each block is always anchored, giving maximum resistance to rutting and lateral forces and avoiding creep.

Trials have shown that Toberloc provides much greater strength than other paving blocks in heavy duty use and double the design life of 200 x 100mm paving blocks (assuming the same sub-base and block thickness). Toberloc is produced with integral spacers to maintain uniform joints ready for machine laying, and is most economic for larger paving projects.

product specifications


Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Chamfer	Fine or deep Chamfer available
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BS EN 1338	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	32kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Country Kerb, Half Battered

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See instructions and warnings on page 132.

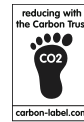
product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
Toberloc 80mm 	225 x 80	Brindle, Natural, Charcoal	SPECIAL ORDER	8.90	0.89	26.33	234	1572

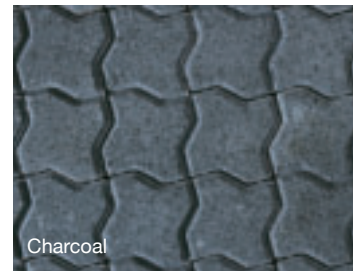
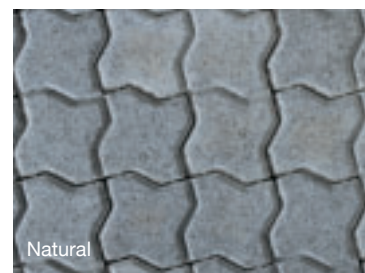
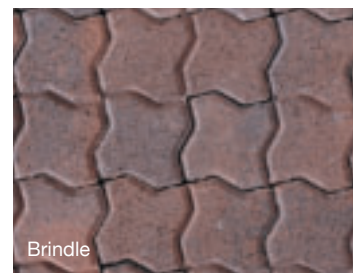
 This product can be hand or machine laid. All ML product is supplied on wooden pallets.

direct web link:
www.tobermore.co.uk/toberloc

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



colours



Aldi Retail Store, Dublin: Toberloc 80mm Natural and Charcoal



mammut

direct web link:
www.tobermore.co.uk/mammut

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

The small pencil chamfers and large plan size makes Mammut ideal for supermarket and retail schemes.

Mammut is ideal for machine laying and provides cost savings on larger paving projects.



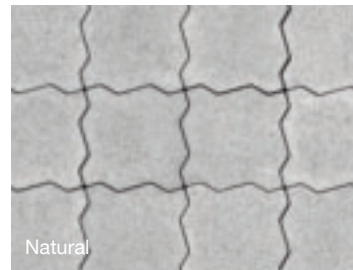
product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Chamfer	Pencil Chamfer
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
NSP Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	32kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Country Kerb, Half Battered

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

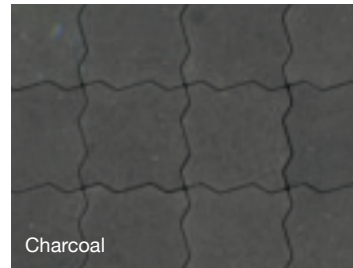
colours



Natural



Red



Charcoal



Lidl Retail Outlet: Mammut 80mm Natural

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
MAMMUT 80mm	210 x 210 x 80	Natural, Red, Charcoal	SPECIAL ORDER	10.38	1.038	22.67	235	1844

This product can be hand or machine laid. All ML product is supplied on wooden pallets.

turfstone

direct web link:
www.tobermore.co.uk/turfstone

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

Turfstone is a ground reinforcement grass paving system ideally suited to projects where a hard surface capable of supporting vehicles is required within a grassed area or other space where a naturalistic appearance is preferred. It functions as a SUDS permeable pavement, controlling surface water at source by directing it to the sub-layers.

Turfstone provides a low cost paving option with minimal visual impact. Its honeycombed cavities are designed to facilitate the growth of grass within a supporting concrete matrix, allowing grass to be cut in the conventional manner.

Each element weighs approximately 35kg and so we recommend machine-aided installation to comply with manual handling regulations. Special lifting aids that can be attached to excavators, tele-handlers and cranes are readily available.



product specifications

Product type	Concrete paving block
Manufactured to	BS EN 1338:2003
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BS EN 12424	Q25 800
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	24kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Country Kerb, Half Battered

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.



Turfstone Natural

Typical uses include:

- Off-street residential parking
- Vehicular access for occasional usage i.e. fire lanes, utility access
- Overspill commercial or retail parking
- Occasional parking for cricket clubs, schools, churches, caravan parks, cemeteries etc.
- Nature reserves, sensitive heritage sites and country parks
- Environmental erosion control areas such as riverbanks and waterways
- Road verges
- Field entrances and farm tracks
- SUDS schemes

For installation guidelines please go online or contact the Tobermore Sales Office.

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
TURFSTONE	600 x 400 x 100	Natural	YES	7.68	3.84	4.17	32	1070

technical information

block paving

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 it is professionally installed. Please refer to the following relevant BS guidelines for detailed information.

- **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.
- **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 7533-11:2003** Code of practice for the opening, maintenance and reinstatement of pavements of concrete, clay and natural stone.
- **BS 7533-13:2009** Pavements constructed with clay, natural stone or concrete pavers. Guide for the structural design of permeable pavements.

Note

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

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

Important 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. For this reason blocks should not be mortar jointed. Jointing sand is available from Tobermore sand is purchased separately from paving. **Very fine jointing sand is not suitable for heavily trafficked areas.** (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).

Recess manhole covers

Tobermore can supply manhole surrounds suitable for domestic applications only.

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.

Patterns for trafficked areas

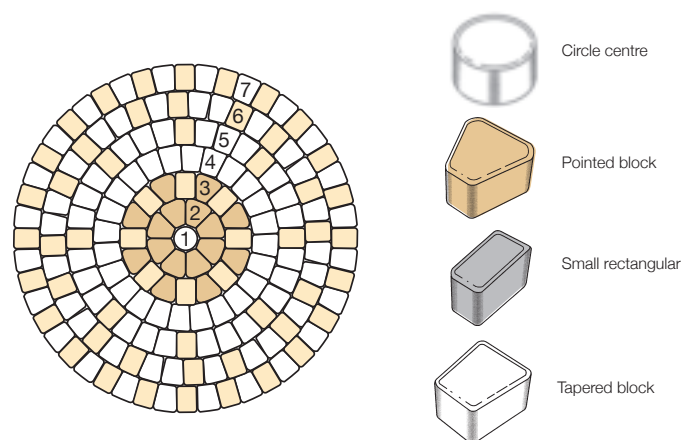
Tobermore's experience is that Toberloc performs particularly well under heavy load. Tobermore's technical team of experts can advise on specific projects, alternatively a rectangular block such as Pedesta in a herringbone pattern.

Tegula and Mayfair Circles laying instructions

The following information is provided as guidance from Tobermore on how to lay your Tegula and Mayfair Circles.

The basic circle pattern guide

row	no. of blocks	type
1	1	Circle centre
2	8	Pointed
3	8	Pointed
3	8	Small rectangular
4	24	Tapered
5	24	Tapered
5	8	Small rectangular
6	24	Tapered
6	16	Small rectangular
7	24	Tapered
7	24	Small rectangular



NOTE: After row 7, the Paving Circle diameter is increased using Tegula Setts and Mayfair Setts.

We provide you with the optimum number of bricks to create a circle, size 1.5m diameter. To achieve the best possible circle it is recommended that you follow this pattern precisely. It should be noted, however, that in outer rows of the circle you may need to provide spaces between the blocks. For further assistance please contact the sales office, Tobermore.

Instructions and warnings

Please refer to page 132.



A (In accordance with the Green Guide to Specification, 2nd edition 2009).

A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk



Tobermore offer an extensive range of Hydropave Permeable Paving products. Many of these quality products can be machine laid thus reducing labour costs.

world class
hydropave
permeable
paving

■ flooding and pollution	46
■ the benefits of permeable paving	47
■ product range	48-49
■ technical information	51-52
■ catalogue of designs	53-57

flooding & pollution

As urban and industrial areas throughout the country have continued to expand, the total area of impermeable surfaces such as roofs, roads, pavements and car parks has increased. This means that rainfall cannot infiltrate naturally into the ground quickly enough and put our already overloaded drainage systems to an even greater test. The aging traditional drainage systems are high maintenance and no longer able to cope.



Rainwater which would normally recharge groundwater or wetlands is now washed directly into water courses via conventional drainage systems. With global warming leading to increased levels of rainfall, our ageing drainage systems are no longer able to cope with high volumes of storm water run off. This leads to flash flooding and increased pollution.

Pollution risk

During periods of dry weather heavy metals, hydrocarbons, oil, rubber and other pollutants are deposited on impermeable surfaces. When it rains these pollutants are washed into drainage systems and end up further downstream in rivers where they damage wildlife habitats.

Flooding risk

The Environment Agency report on the Autumn 2000 floods in the UK, entitled "Lessons Learned-Autumn 2000 Floods" concluded that an estimated 1.85 million homes, 185,000 commercial properties and 5 million people in the UK are now at risk from flooding.

The Environment Agency's publication "Policy and practice for the protection of floodplains" states that: "Inappropriate development within floodplains should be resisted where such development would itself be at risk from flooding or may cause flooding elsewhere." To minimise any increased surface run off, new developments must be carefully located and designed. Where appropriate, storm water source control measures, which also improve water quality, should be incorporated into the development proposal.

the benefits of permeable paving

The solution to flooding problems is the use of more sustainable methods of storm water drainage which take into account quantity, quality and social issues. These are now referred to as SUDS (Sustainable Urban Drainage Systems). SUDS are made up of a number of structures, which include:

- Permeable pavements
- Swales and filter strips
- Basins and wetlands
- Infiltration devices

They are more sustainable because they:

- deal with run off close to where it falls;
- manage potential flooding at its source;
- protect or enhance water quality;
- provide a habitat for wildlife in urban areas;
- protect water resources from accidental spills and pollution;
- allow new development in areas where existing sewerage systems are at full capacity, enabling new development within existing areas;
- are sympathetic to the environmental setting and the needs of the local community;
- encourage natural groundwater recharge.

The inclusion of a permeable paving surface as part of a SUDS solution will not only increase the likelihood of planning proposals being approved but may also offer the developer a 10-15% cost savings over traditional methods due to a significant reduction in drainage costs (pipes, manholes, petrol interceptors etc). Machine laying the paving blocks also reduces costs.

Water quality improvement

Permeable paving is very effective at removing pollution from runoff. The pollutants may remain on the surface or may be flushed into the underlying pavement layers where a very high percentage of the pollutants are filtered, trapped or degrade over time. Expensive petrol interceptors, which are used in traditional drainage schemes, are generally no longer required due to the natural removal of pollutants through the permeable paving sub-base. For more detailed information on water quality please refer to the *Guide to the design, construction and maintenance of concrete block permeable pavements - Edition 6* produced by Interpave available for download on www.paving.org.uk



Four elements of permeable paving

There are four elements which make up permeable paving:

- 1 Permeability
- 2 Detention of storm water
- 3 Pollution control
- 4 Structure

Permeability

The Hydropave range of products have permeability rates in excess of 1800 litres/sec/hectare, providing a significant safety factor on the required permeability rates of 180 litres/sec/hectare.

Detention

The sub-base thickness should be designed to detain rain falling throughout 24 hours and must provide at least 30% void space. A 4/20mm coarse open graded crushed rock to BS EN13242:2002, value of 100kN or more must be used. If the designer opts to specify alternative materials, a site trial must be undertaken to ensure that the laying course material does not invade the sub-base material.

The laying course and jointing material must be a 6.3-2mm grit to BS EN13242:2002. This has been proven in tests to perform best and will not invade the sub-base material. In ground conditions where water cannot infiltrate into the subgrade, an impermeable membrane must be laid between the subgrade and sub-base and wrapped up the sides to detain the water.

Pollution

As water flows slowly into the sub-base it collides with individual aggregate components and deposits pollutants on their surface. The large surface area of the aggregates will ensure effective filtering of the pollutants which are then broken down by natural microbial action or eventually rest at the bottom.

Structure

The specification of a permeable paving structure depends upon the hydraulic and traffic loading characteristics and upon the properties of the subgrade. Most pavements in the UK will be required to have a water detention capability rather than infiltration because of the subgrade types. It is recommended to design a permeable paving system to store rainfall occurring during 24 hours.



A (In accordance with the Green Guide to Specification, 2nd edition 2009).

A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk

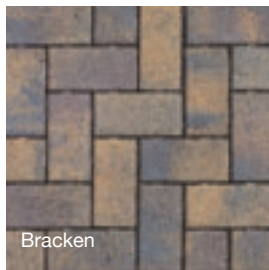
hydropave products

direct web link:
www.tobermore.co.uk/hydropave

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



Hydropave
Permeable Paving



hydropave 240 / ML

beautiful colours, hard wearing surface

Hydropave 240 is the original permeable concrete block paving from Tobermore. This larger block size increases the speed of installation.

The Machine Lay version is Hydropave 240 ML and it is designed specifically for machine lay installations and comes prepacked in a herringbone configuration.

See page 33 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE 240	240 x 120 x 80	Brindle, Bracken, Charcoal, Heather, Natural	YES	10.08	2.02	34.72	350	1810
		Golden, Red	SPECIAL ORDER					
HYDROPAVE 240 ML ML	240 x 120 x 80	Brindle, Bracken, Charcoal, Heather, Natural, Golden	SPECIAL ORDER	9.5	0.95	34.72	330	1647



hydropave shannon

beautiful colours, smooth surface

The smooth surface on Hydropave Shannon Duo makes it ideal for shopping centres, schools, superstores, public paths and street schemes.

It is designed specifically to provide a random bond finish. Both block sizes are supplied on one pallet.

See page 31 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE SHANNON DUO	208 x 173 x 60 173 x 173 x 60	Brindle, Bracken, Charcoal, Heather, Natural (BOTH SIZES ON ONE BALE)	MADE TO ORDER	12.87	0.99	30	195 + 195	1764



hydropave sienna

vibrant granite appearance

Hydropave Sienna emulates traditional natural granite. The coarse textured surface exposes the sparkling black and white granite aggregates to

provide a distinctive silver appearance similar to natural granite.

See page 25 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE SIENNA DUO	208 x 173 x 60 173 x 173 x 60	Silver, Graphite, Sandstone (BOTH SIZES ON ONE BALE)	SPECIAL ORDER	12.87	0.99	30	195 + 195	1800
HYDROPAVE SIENNA 200 ML ML	200 x 100 x 80	Silver, Graphite, Sandstone	SPECIAL ORDER	9.6	1.6	50	480	1739

ML This product can be hand or machine laid. All ML product is supplied on wooden pallets.



hydropave tegula 240

tumbled aged appearance

Hydropave Tegula 240 combines the aesthetics of Tegula and the environmental benefits of permeable paving. This larger block size increases the speed of installation.

Hydropave Tegula 240 ML is the Machine Lay version. It is designed specifically for machine lay installations and comes prepacked in a herringbone configuration.

See page 19 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE TEGULA 240	240 x 120 x 80	Heather, Slate, Natural	SPECIAL ORDER	10.08	2.02	34.72	350	1781
		Bracken, Cedar, Charcoal	MADE TO ORDER					
HYDROPAVE TEGULA 240 ML ML	240 x 120 x 80	Heather, Bracken, Slate, Charcoal, Natural, Cedar	SPECIAL ORDER	9.5	0.95	34.72	330	1647



hydropave tegula 200 ML

tumbled aged appearance

Hydropave Tegula 200 ML combines the aesthetics of Tegula and the environmental benefits of permeable paving. It is designed specifically for

machine lay installations and comes prepacked in a herringbone configuration.

See page 19 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE TEGULA 200 ML ML	200 x 100 x 80	Heather, Bracken, Slate, Charcoal, Natural, Cedar	SPECIAL ORDER	8.8	0.88	50	440	1566



hydropave tegula duo

tumbled aged appearance

Hydropave Tegula Duo combines the aesthetics of Tegula and the environmental benefits of permeable paving. It is designed specifically to

provide a random bond finish. Both block sizes are supplied on one pallet.

See page 19 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE TEGULA DUO	208 x 173 x 60 173 x 173 x 60	Heather, Bracken, Slate, Charcoal, Natural, Cedar (BOTH SIZES ON ONE PALLET)	MADE TO ORDER	12.87	0.99	30	195 + 195	1721



hydropave pedestra

beautiful colours, hard wearing surface

Hydropave Pedesta brings together the simple rectangular profile which allows the creation of distinctive laying patterns.

The Machine Lay version is Hydropave Pedesta ML and it is designed specifically for machine lay installations and comes prepacked in a herringbone configuration.

See page 33 colour swatches.

Contact the Tobermore Sales Office for product specifications and laying guidelines.

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
HYDROPAVE PEDESTA	200 x 100 x 60	Brindle, Bracken, Charcoal, Heather	MADE TO ORDER	13.44	2.24	50	672	1808
		Natural, Golden	SPECIAL ORDER					
	200 x 100 x 80	Brindle, Bracken, Charcoal, Heather, Natural	YES	9.6	1.6	50	480	1732
Golden		SPECIAL ORDER						
HYDROPAVE PEDESTA ML ML	200 x 100 x 80	Brindle, Bracken, Charcoal, Heather, Natural, Golden	SPECIAL ORDER	8.8	0.88	50	440	1566

ML This product can be hand or machine laid. All ML product is supplied on wooden pallets.



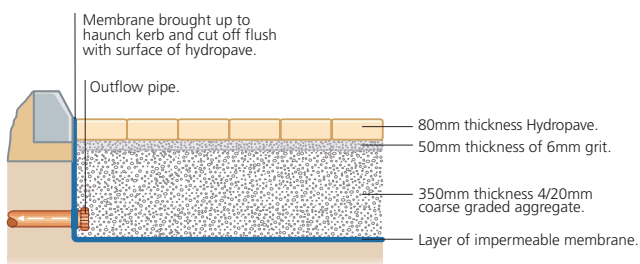
technical information

hydropave permeable paving

What types of systems are available?

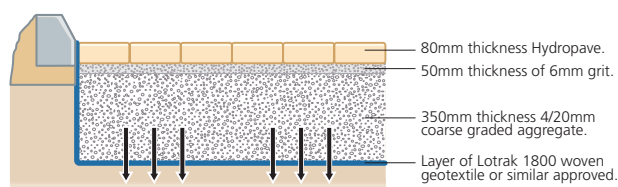
There are two common types of permeable paving systems, Attenuation and Infiltration.

Typical Attenuation System



The Attenuation system temporarily stores the water in the crushed stone beneath the paving before being slowly released back into the drainage systems. This therefore reduces the peak downstream flow from a result of heavy rainfall.

Typical Infiltration System



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



What system should I use?

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

What are the key components of a permeable paving system?

The key components of the system are the sub-base, the bedding layer, the paving blocks and the jointing grit. As long as the system has been adequately designed for the site the most important next step is to get these components right.

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 blocks & jointing grit	Tobermore have a wide range of Hydropave blocks available and they have a permeability of 1800 litres/sec/hectare which more than meets the 180 litres/sec/hectare requirement. The blocks are jointed using a 6.3-2mm grit to BS EN7533-13:2009*.	
Bedding layer	The blocks are jointed using a 6.3-2mm grit to BS EN7533-13:2009*.	
Sub-base	A clean 4/20mm coarse graded aggregate** to BS EN13242:2002 must be used for this component. A crushed rock angular stone works best.	

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

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

design

How do I design a permeable paving system?

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.

If you require specialist advice Tobermore can put you in contact with experienced design consultants.

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 BS7533-13:2009. Method statements on how to install these layers can be supplied on request.

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

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

Note

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

installation

How to install a permeable paving system

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

Sub-base: 4/20mm aggregate

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

Bedding layer: 6.3-2mm laying course material

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

Paving blocks

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

Joint filling

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

Note

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

Adverse weather

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

maintenance

For optimum performance we recommend that paving is cleaned twice a year.

Initial cleaning

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

General dirt

Regular sweeping to prevent the build up of detritus is recommended. Light coloured blocks, emphasise tyre marks and oil spills on the pavement. It must be accepted that these products will need more maintenance if the overall appearance is to be maintained.

A light power hose at medium pressure is generally all that is required to clean general dirt and grime. Any jointing grit which is removed must be replaced. Do not use high pressure power-washers as aggressive power-washing can damage the product surface. A trial area should be tested before large scale power-washing takes place.

Please do not use vacuum sweepers as jointing grit may be removed.

Please refer to the following sources of information – Guide to the design, construction and maintenance of concrete block permeable pavements Edition 6 produced by Interpave available for download on www.paving.org.uk

How to clean clogged joints

After several years use, joints may become clogged with detritus and it may be necessary to clean them. This can be done as follows:

- 1 Remove existing jointing grit and detritus by high pressure water jet.
- 2 Reset the pavers which will have become displaced. Replace any damaged pavers at this time since they will have been loosened.
- 3 Apply 6.3-2mm single size grit to the joints, using a stiff brush to sweep the material in ensuring joints are filled.
- 4 Finish off as above.

catalogue of designs

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

Note:

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

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

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

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

The thicknesses of coarse graded aggregate will be suitable for the traffic conditions shown and in the case of attenuation designs should be sufficiently thick to meet the attenuation requirements. However, a site specific hydraulic analysis

should be carried out using the method set out in the Interpave Guidelines. In the case of infiltration designs, there is usually no need to check hydraulic capacity but a check must be made on the infiltration capacity of the ground. (The ground must be proven to accept sufficient water which will have to be scaled up if the pavement is infiltrating water draining towards it from impermeable paving or from downpipes.)

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

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

Please refer to the booklet '*Hydropave - Guidelines for the Design and Installation of Tobermore's range of Hydropave Products*' which can be downloaded from our website: www.tobermore.co.uk/permeablepaving

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.

LOADING CATEGORY TABLE

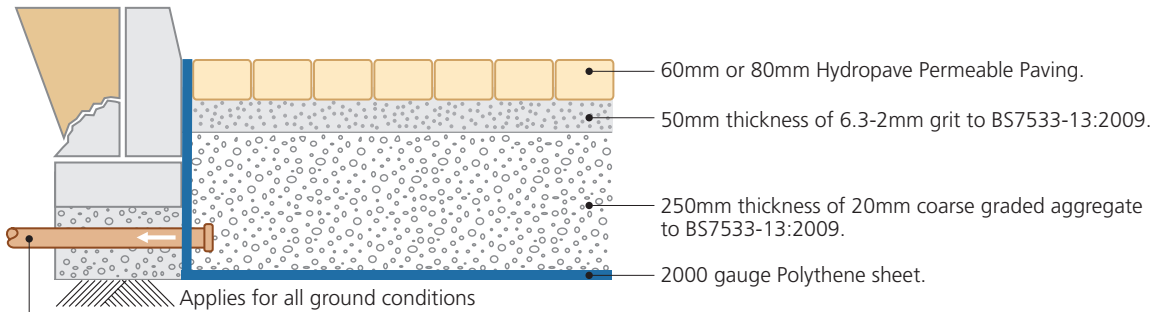
A DOMESTIC	B CAR PARKING	C PEDESTRIAN	D SHOPPING	E COMMERCIAL	F HEAVY TRAFFIC
No large goods vehicles	Emergency large goods vehicles only	One large goods vehicle per week	Ten large goods vehicles per week	100 large goods vehicles per week	1000 large goods vehicles per week
Zero standard axles	100 standard axles	0.015msa	0.15msa	1.5msa	15msa
Patio	Car parking bays and aisles	Town/city pedestrian street	Retail development delivery access route	Industrial premises	Main Road
Private drive	Railway station platform	Nursery access	School/college access road	Lightly trafficked public road	Distribution centre
Decorative feature	External car showroom	Parking area to residential development	Office block delivery route	Light industrial development	Bus station (bus every 5 minutes)
Enclosed playground	Sports stadium pedestrian route	Garden centre external display area	Deliveries to small residential development	Mixed retail/ industrial development	Motorway truck stop
Footway with zero vehicle overrun	Footway with occasional overrun	Cemetery Crematorium	Garden centre delivery route	Town square	Bus stop
	Private drive/ footway crossover	Motel parking	Fire station yard	Footway with regular overrun	Roundabout
		Airport car park with no bus pick-up	Airport car park with bus terminal	Airport landside roads	Bus lane
		Sports centre	Sports stadium access route/forecourt		
Dense Bitumen Macadam (DBM) alternative to cement stabilised coarse graded aggregate					
zero cement bound	zero cement bound	125mm cement bound	150mm cement bound	200mm cement bound CGA	300mm cement bound CGA
zero DBM50	zero DBM50	70mm DBM50	100mm DBM50	130mm DBM35	200mm DBM35

MSA = millions of standard 8,000kg axles

attenuation designs

LOADING CATEGORY A 1-5%CBR

Conventional edge restraint



An upper geotextile is optional on this design.

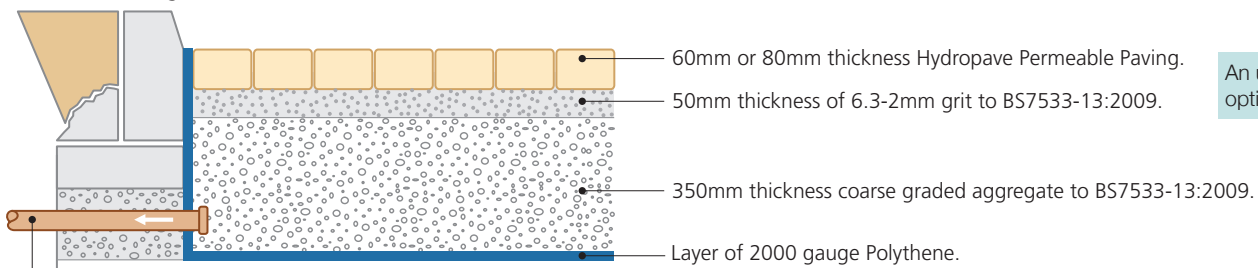
Sub-base & Capping Layers -

Capping thickness to be sufficient to provide a firm working platform or in the 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)

LOADING CATEGORY B 1-5%CBR

Conventional edge restraint



An upper geotextile is optional on this design.

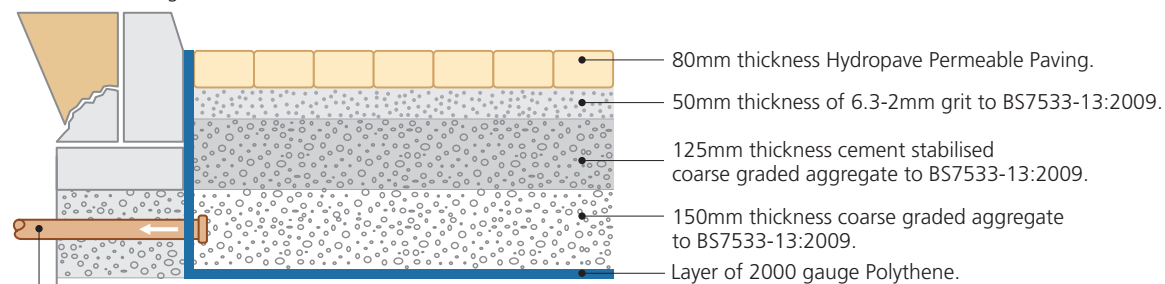
Sub-base & Capping Layers -

Capping thickness to be sufficient to provide a firm working platform or in the 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)

LOADING CATEGORY C 1-5%CBR

Conventional edge restraint



An upper geotextile is optional on this design.

For DBM alternative please refer to table on page 53.

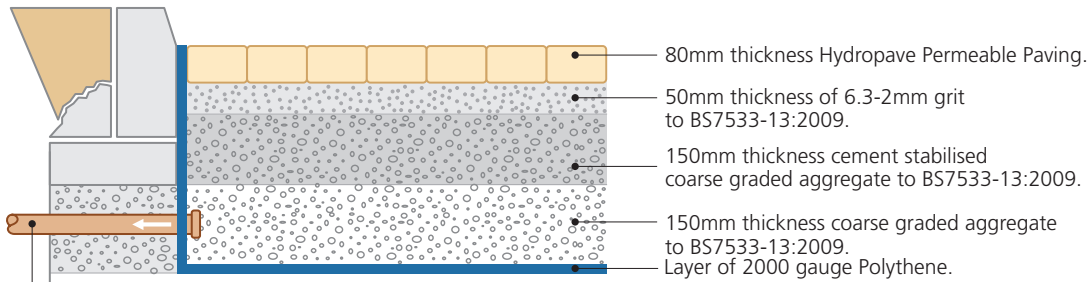
Sub-base & Capping Layers -

Capping thickness to be sufficient to provide a firm working platform or in the 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)

LOADING CATEGORY D 1-5%CBR

Conventional edge restraint



An upper geotextile is optional on this design.

For DBM alternative please refer to table on page 53.

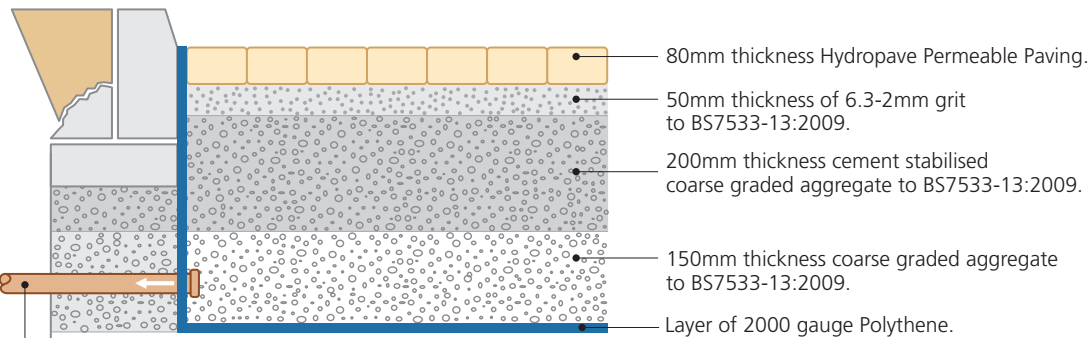
Sub-base & Capping Layers -

Capping thickness to be sufficient to provide a firm working platform or in the 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)

LOADING CATEGORY E 1-5%CBR

Conventional edge restraint



An upper geotextile is optional on this design.

For DBM alternative please refer to table on page 53.

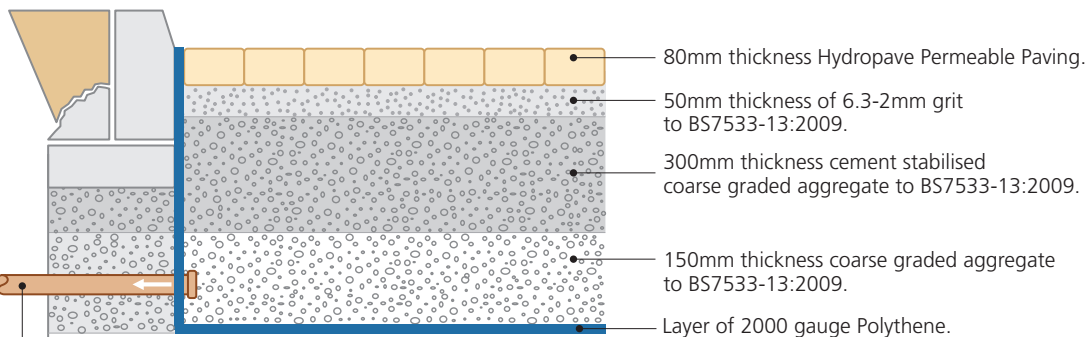
Sub-base & Capping Layers -

Capping thickness to be sufficient to provide a firm working platform or in the 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)

LOADING CATEGORY F 1-5%CBR

Conventional edge restraint



An upper geotextile is optional on this design.

For DBM alternative please refer to table on page 53.

Sub-base & Capping Layers -

Capping thickness to be sufficient to provide a firm working platform or in the case of low CBR subgrade ground stabilisation may be more cost effective.

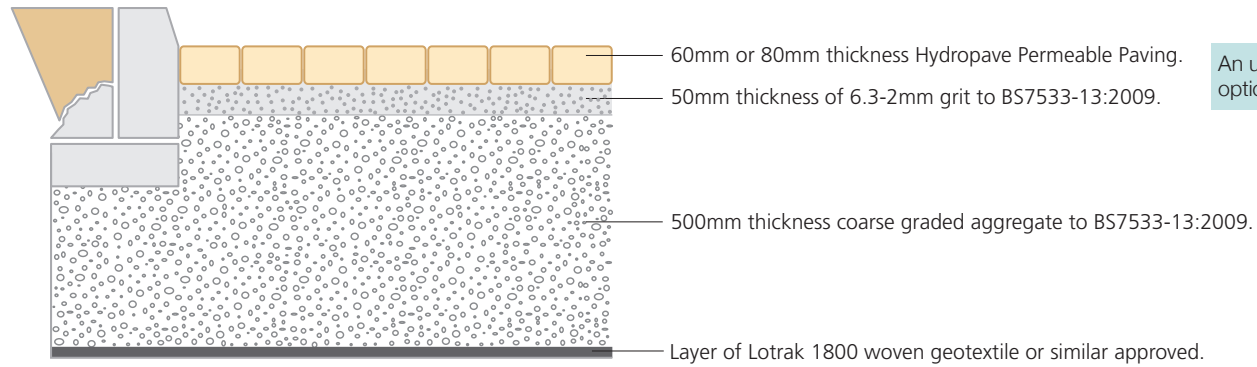
Outflow pipe - diameter according to project requirements (with perforated End Cap to prevent blockage of the pipe and a Top Hat Seal is used to achieve a water tight connection)

infiltration designs

NOTE : 1 & 2 % CBR - ground not suitable

LOADING CATEGORY B 3 & 4% CBR

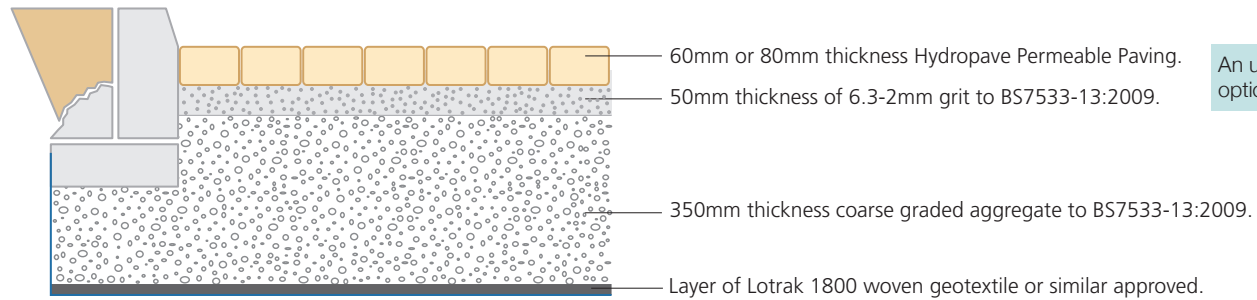
Conventional edge restraint



An upper geotextile is optional on this design.

LOADING CATEGORY B 5% CBR

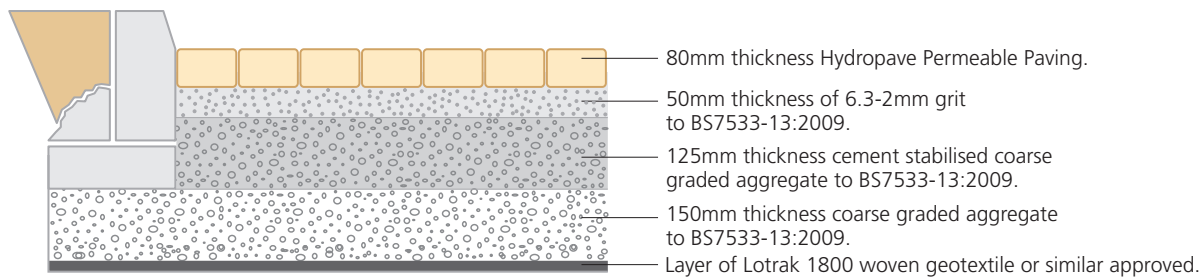
Conventional edge restraint



An upper geotextile is optional on this design.

LOADING CATEGORY C 5% CBR

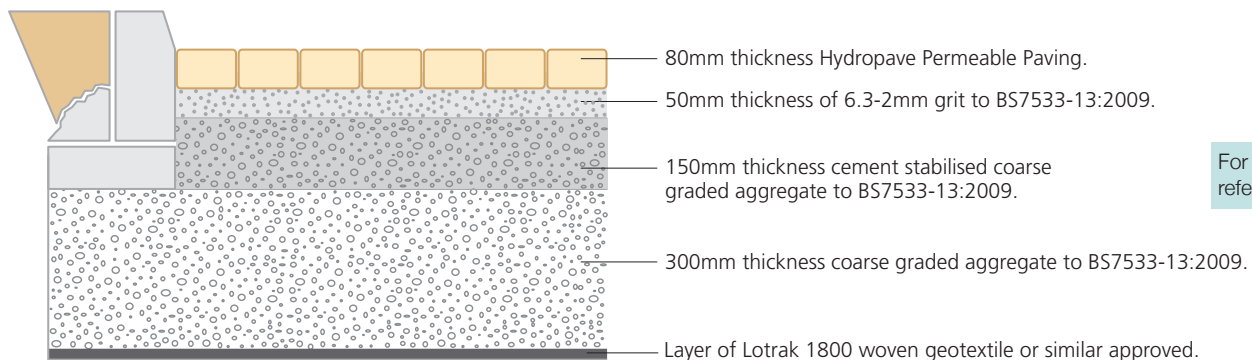
Conventional edge restraint



For DBM alternative please refer to table on page 53.

LOADING CATEGORY D 3 & 4% CBR

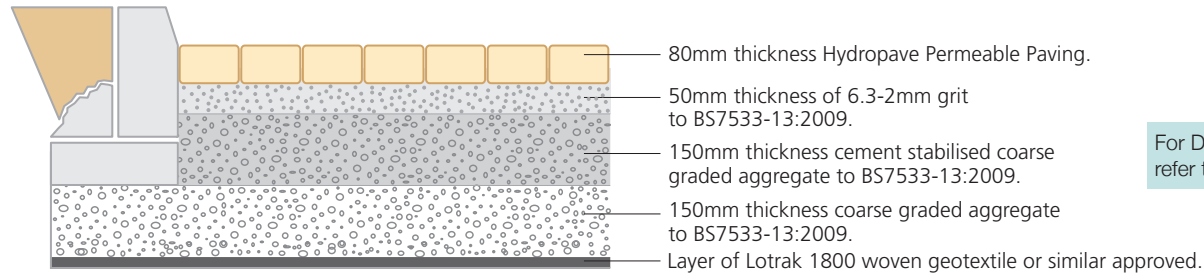
Conventional edge restraint



For DBM alternative please refer to table on page 53.

LOADING CATEGORY D 5% CBR

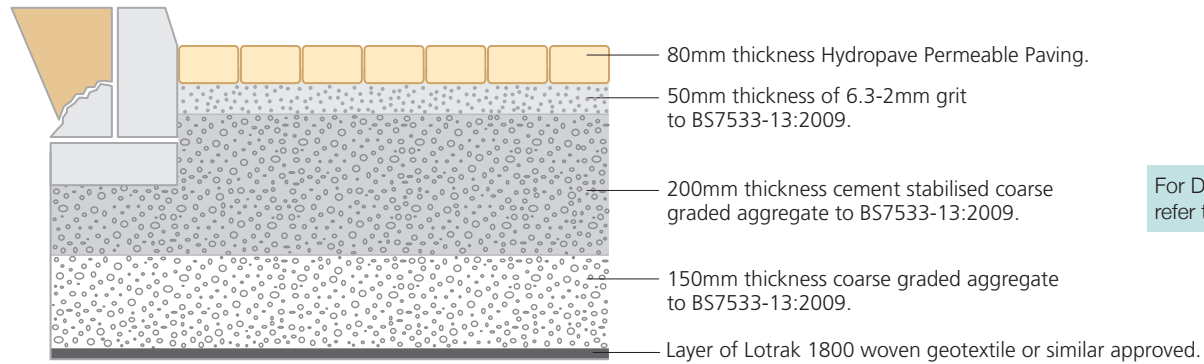
Conventional edge restraint



For DBM alternative please refer to table on page 53.

LOADING CATEGORY E 5% CBR

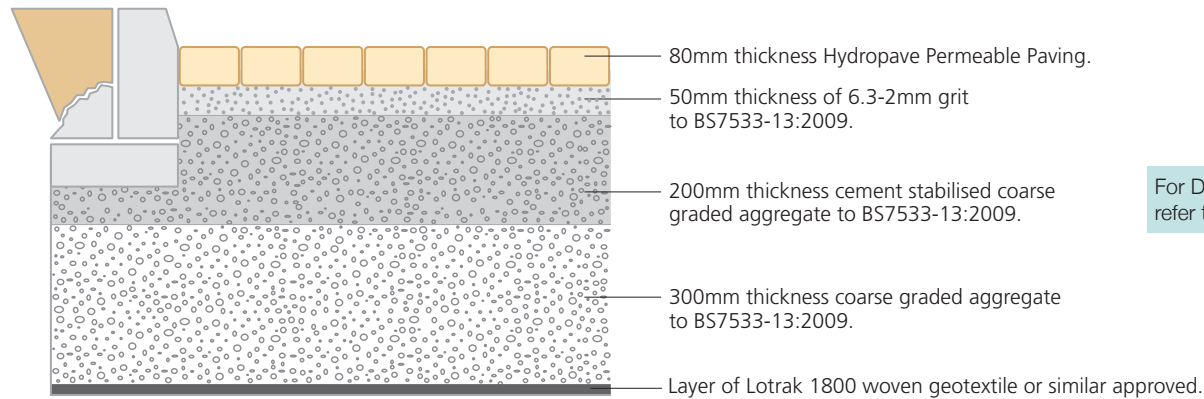
Conventional edge restraint



For DBM alternative please refer to table on page 53.

LOADING CATEGORY F 3 & 4% CBR

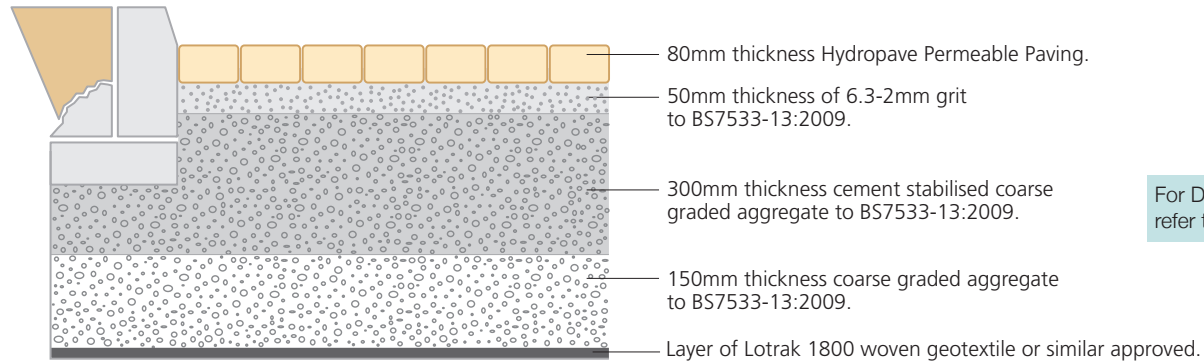
Conventional edge restraint



For DBM alternative please refer to table on page 53.

LOADING CATEGORY F 5% CBR

Conventional edge restraint



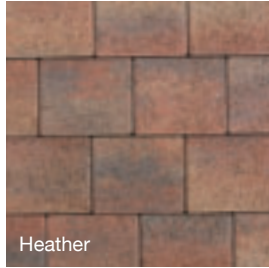
For DBM alternative please refer to table on page 53.

machine lay products

direct web link:
www.tobermore.co.uk/machinelay

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

shannon



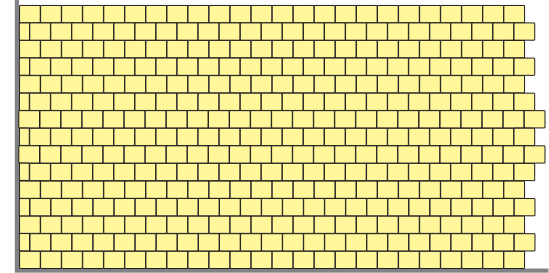
Heather

- Size: 208 x 173 x 60mm
- Available in 5 colours: Heather, Bracken, Brindle, Natural & Charcoal.

See page 31 for specifications & colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.

completed laying pattern



sienna

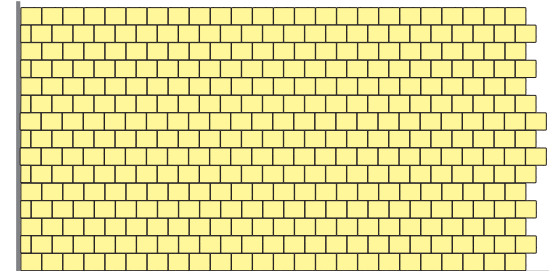


Silver

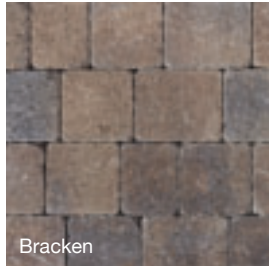
- Size: 208 x 173 x 60mm
- Available in 3 colours: Silver, Sandstone & Graphite

See page 25 for specifications & colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



tegula trio

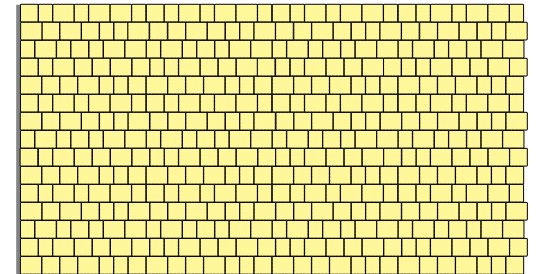


Bracken

- Sizes: 208 x 173 x 60mm
173 x 173 x 60mm
138 x 173 x 60mm
- Available in 6 colours: Heather, Bracken, Natural, Charcoal, Slate and Cedar

See page 19 for specifications & colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



pedesta

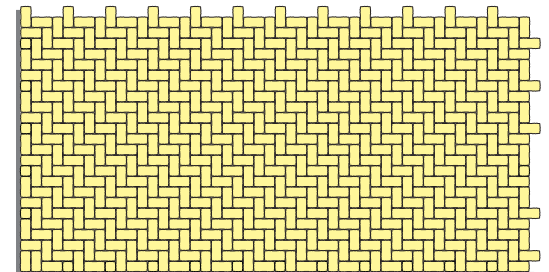


Bracken

- Size: 200 x 100 x 80mm
- Available in 8 colours: Heather, Bracken, Natural, Charcoal, Brindle, Chocolate, Golden & Red

See page 33 for specifications & colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



hydropave pedesta ML

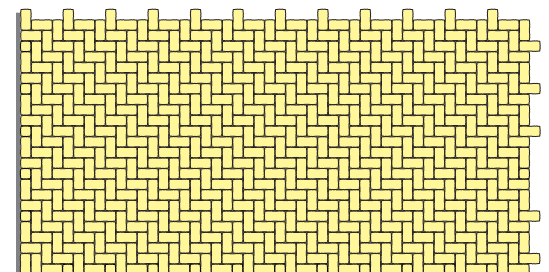


Heather

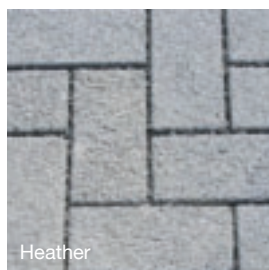
- Size: 200 x 100 x 80mm
- Available in 6 colours: Heather, Bracken, Natural, Charcoal, Brindle & Golden

See page 33 for colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



hydropave sienna 200 ML

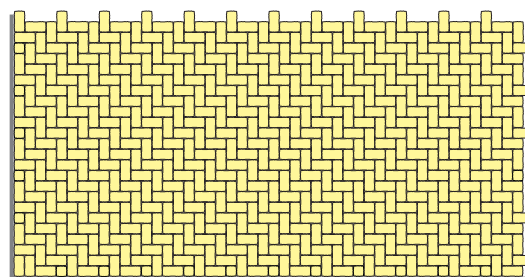


- Size: 200 x 100 x 80mm
- Available in 3 colours: Silver, Graphite and Sandstone

See page 25 for colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.

completed laying pattern



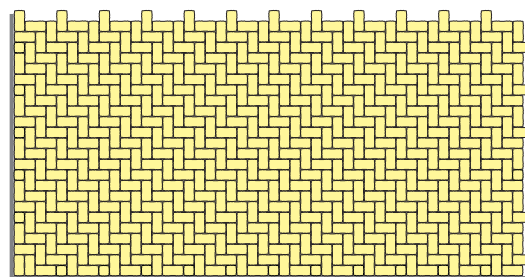
hydropave tegula 200 ML



- Size: 200 x 100 x 80mm
- Available in 6 colours: Heather, Bracken Natural, Charcoal, Slate and Cedar

See page 19 for colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



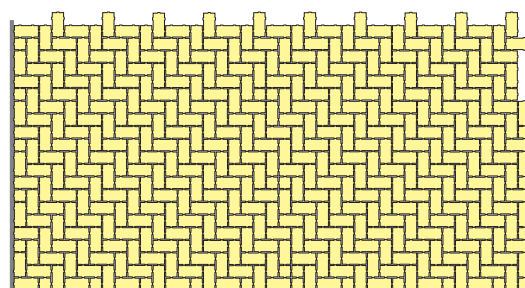
hydropave tegula 240 ML



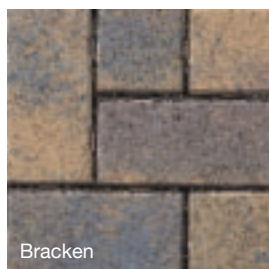
- Size: 240 x 120 x 80mmmm
- Available in 6 colours: Heather, Bracken Natural, Charcoal, Slate and Cedar

See page 19 for colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



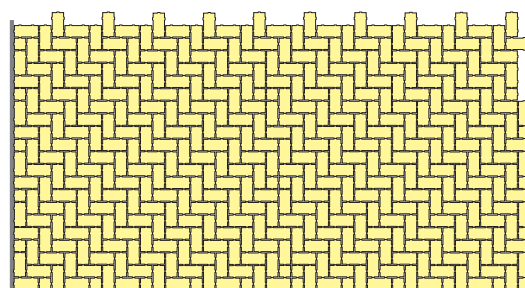
hydropave 240 ML



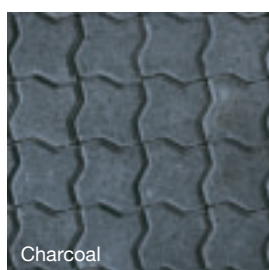
- Size: 240 x 120 x 80mmmm
- Available in 6 colours: Heather, Bracken Natural, Golden, Brindle & Charcoal

See page 33 for colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



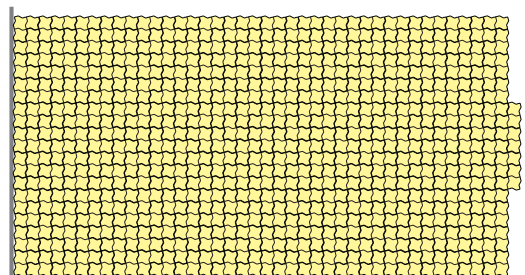
toberloc



- Sizes: 225 x 80mm
- Available in 3 colours: Brindle, Natural & Charcoal

See page 39 for specifications & colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.



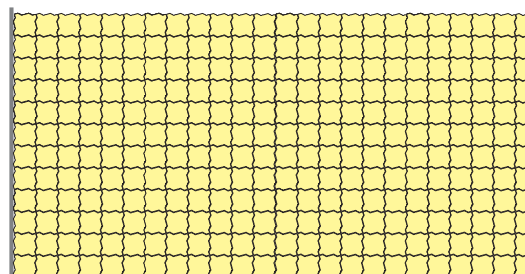
mammut



- Sizes: 210 x 210 x 80mm
- Available in 3 colours: Natural, Charcoal & Red

See page 41 for specifications & colour swatches.

Contact the Tobermore Sales Office for specific guidelines on the installation, configuration and laying patterns for each product.

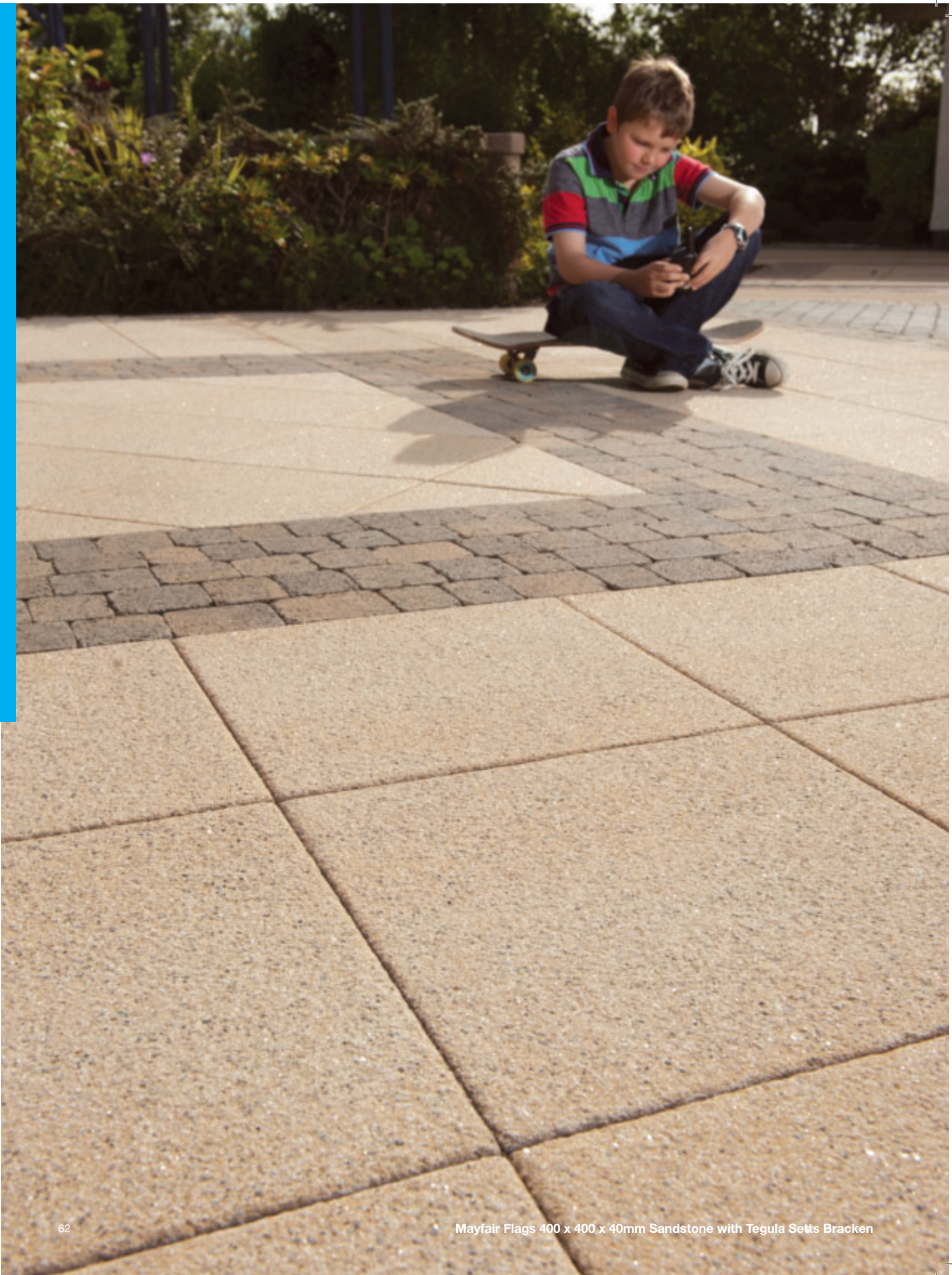




Tobermore produce one of the widest ranges of flags available in the industry, starting with standard smooth finish flags right through to our high quality Mayfair flags containing granite aggregates.

world class
paving flags

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the benefits of tobermore flags



world class manufacturing

Tobermore produce one of the widest ranges and finishes of flags available in the industry using some of the most modern processes available. We have flag options to suit both domestic and commercial projects starting with the standard smooth finish right through to the high quality Mayfair flags containing granite aggregates.

hard wearing surface layer

Tobermore's paving flags are made with a special hard wearing surface layer. This process was introduced worldwide about 25 years ago and almost 18 years ago at Tobermore. This is now the preferred method of production across the developed world.

The Tobermore hard wearing surface layer, which is made using a very high cement content, wears much better than single mix and the colour is more intense thus giving a superior appearance over the lifetime of the product.

efflorescence can be significantly reduced

Efflorescence is the single biggest problem encountered with concrete paving products, as the ugly white stains spoil the appearance of the paving and not surprisingly customers are unhappy.

In the Tobermore manufacturing process we have taken a number of steps to ensure that the occurrence of efflorescence is significantly reduced.

strong vibrant colours

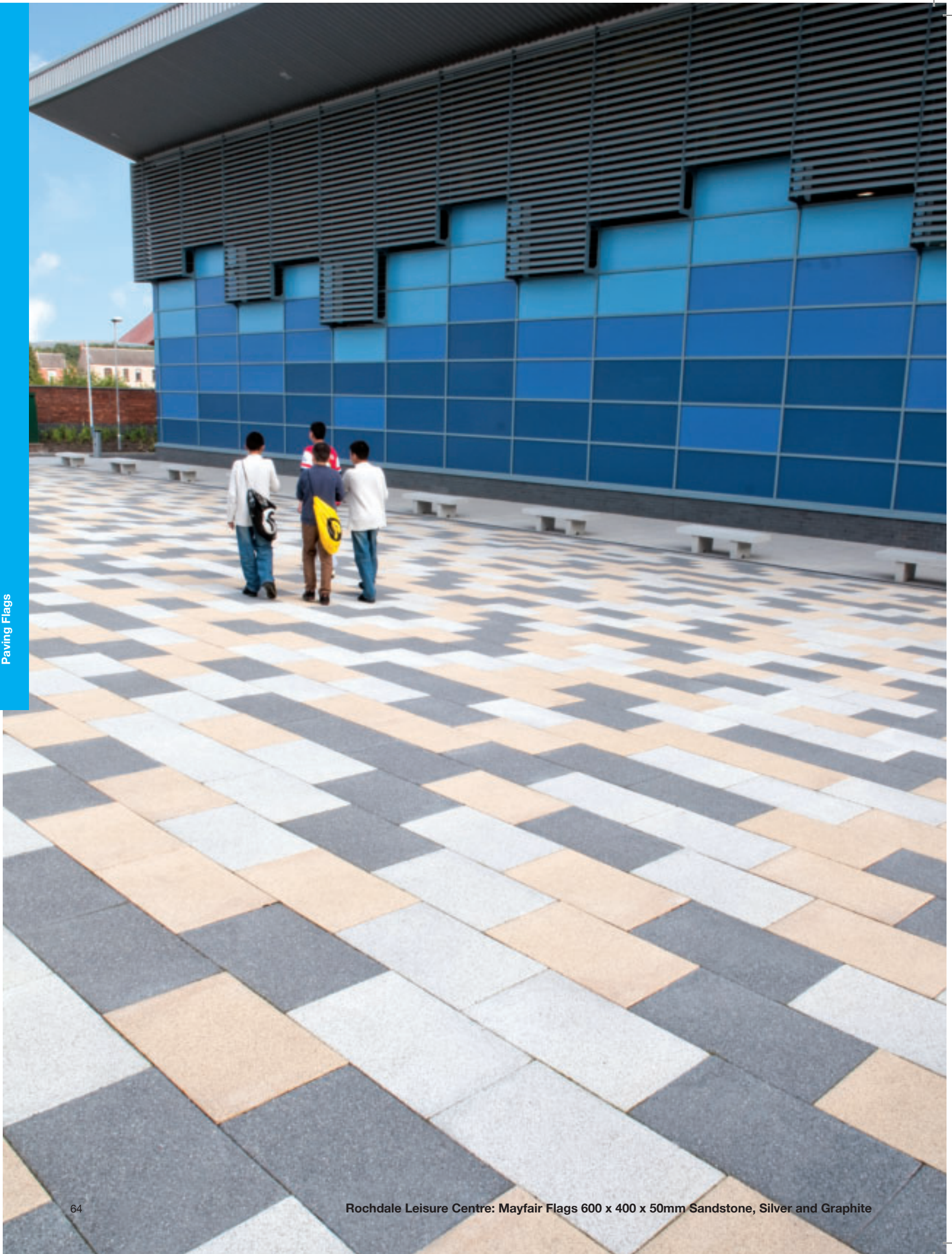
Tobermore flags are manufactured using some of the most modern processes available, enabling strong, deep colours suitable for use in domestic and commercial projects.

non-slip surface

Excellent skid resistant and non-slip surfaces make Tobermore flags a favourite for trafficked and pedestrian areas of all types.



Textured Flags 400 x 400 x 40mm Buff with Retro Heather



mayfair flags

vibrant granite appearance

product specifications

Product type	Concrete paving flag				
Manufactured to	BS EN 1339:2003				
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement				
Surface finish	Textured Granite Aggregate				
Edge	Chamfered				
Granite aggregate	Not less than 57% of granite aggregate in surface layer for Silver, Graphite and Russet; Not less than 46% of granite aggregate in surface layer for Sandstone. Not less than 32% of granite aggregate in surface layer for Rose.				
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence				
Strength	> 3.5MPa				
Slip/Skid resistance	Extremely Low (>75 USRV)				
Installed to	BS 7533-4:2006				
BS4Plus	Q25 215				
Applications	Mayfair Flags are suitable for all pedestrian areas and traffic-free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS7533-8:2003 for guidance on the correct flag size to suit your application.				
Energy used	100% renewable energy				
Water used	100% water used from rainwater harvesting system				
Carbon Footprint <small>(Approved by the Carbon Trust)</small>	Product	35mm	40mm	50mm	65mm
	Silver	14kgCo ₂ e/m ²	16kgCo ₂ e/m ²	19kgCo ₂ e/m ²	24kgCo ₂ e/m ²
	Sandstone	15kgCo ₂ e/m ²	17kgCo ₂ e/m ²	22kgCo ₂ e/m ²	28kgCo ₂ e/m ²
	Graphite	15kgCo ₂ e/m ²	17kgCo ₂ e/m ²	24kgCo ₂ e/m ²	30kgCo ₂ e/m ²
	Russet	15kgCo ₂ e/m ²	17kgCo ₂ e/m ²	-	-
	Rose	15kgCo ₂ e/m ²	17kgCo ₂ e/m ²	-	-
Recyclable	100% of this product can be recycled				
Recycled content: not less than:	Product	35mm	40mm	50mm	65mm
	Silver	22%	20%	16%	12%
	Graphite	22%	20%	16%	12%
	Russet	22%	20%	-	-
Manufacturing location	Produced in the UK with locally sourced materials				
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk				
Complementary paving	Tegula Setts & Circle, Mayfair Setts & Circle				
Complementary kerbs	Kerbstone, Kerbstone, Country Kerb				

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

product	size (mm)	finish	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
MAYFAIR FLAGS	600 x 600 x 50	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite	YES	2.78	20	859
	600 x 400 x 50	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite,	YES	4.16	20	589
				Rose, Russet	SPECIAL ORDER			
	450 x 450 x 70	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite,	YES	4.94	15	512
				Rose, Russet	SPECIAL ORDER			
	450 x 450 x 50	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite,	YES	4.94	20	507
				Rose, Russet	SPECIAL ORDER			
	450 x 450 x 35	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite, Rose, Russet	YES	4.94	30	529
	400 x 400 x 40	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite	YES	6.25	25	384
				Rose, Russet	SPECIAL ORDER			
400 x 400 x 65	GRANITE TEXTURED	CHAMFERED	Silver, Graphite	YES	6.25	16	394.5	
			Sandstone	MADE TO ORDER				
Edge step	600 x 400 x 50	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite TOP & 1 EDGE TEXTURED	YES	4.16	20	589
Corner step	600 x 400 x 50	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite TOP & 2 EDGES TEXTURED	YES	4.16	20	589
Edge step	400 x 400 x 40	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite TOP & 1 EDGE TEXTURED	YES	6.25	25	403
Corner step	400 x 400 x 40	GRANITE TEXTURED	CHAMFERED	Sandstone, Silver, Graphite TOP & 2 EDGES TEXTURED	YES	6.25	25	403

direct web link:

www.tobermore.co.uk/mayfairflags

sales & technical line:

028 7964 2411 (for ROI change 028 to 048)



eco
Version available
on page 129



ISO 9001 : 2000

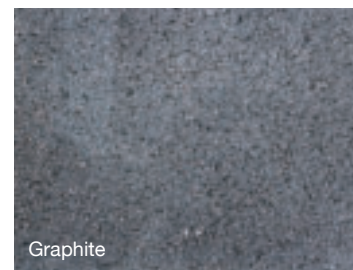
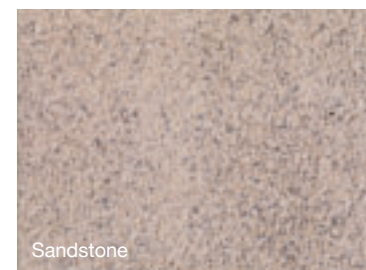


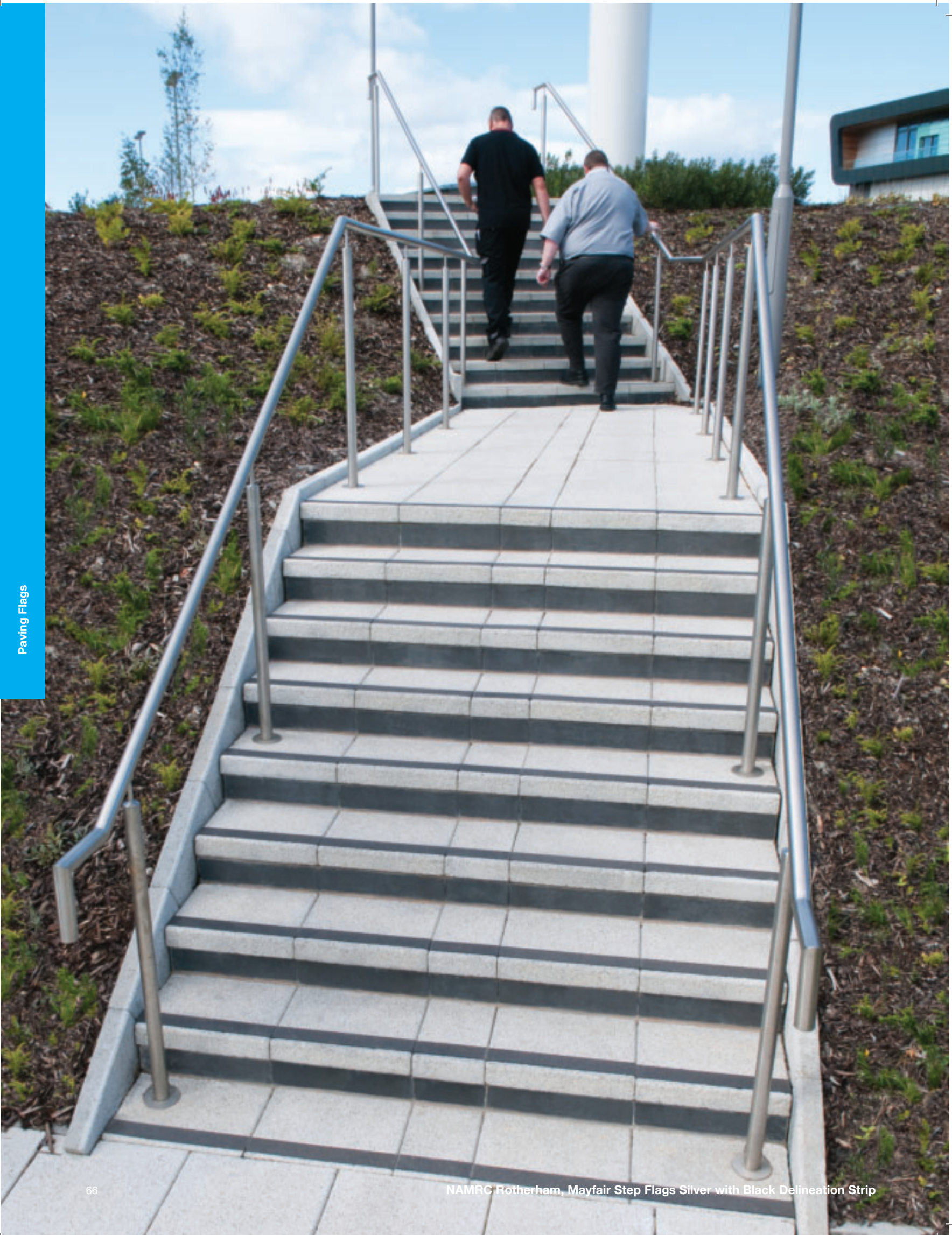
ISO 14001

Mayfair Flags are the premium choice for architects. The natural granite aggregates and granular surface finish of Mayfair flags make them ideal for both contemporary and conservation projects.

Like all Tobermore flags, the colour range enables the specifier to add further detail to a project by including contrasting paving products.

colours





mayfair step flags

with delineation strip

Tobermore can now offer customers the Mayfair step flag product with the inclusion of a contrasting coloured delineation strip. This specially manufactured step flag avoids the hassle of having to add a delineation strip to the product after it has been installed. More importantly the new Mayfair product provides continuity between the main stairway and walkways as the same product can be used.

product specifications

Product type	Concrete paving flag		
Manufactured to	BS EN 1339:2003		
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement		
Surface finish	Textured Granite Aggregate		
Granite aggregate	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	> 3.5MPa		
Slip/Skid resistance	Extremely Low (>75 USRV)		
Installed to	BS 7533-4:2006		
BSI Plus	Q25 215		
Applications	Mayfair Flags are suitable for all pedestrian areas and traffic-free zones. Always refer to BS7533-8:2003 for guidance on the correct flag size to suit your application.		
Energy used	100% renewable energy		
Water used	100% water used from rainwater harvesting system		
Carbon Footprint <small>(Approved by the Carbon Trust)</small>	Product	40mm	50mm
	Silver	16kgCo ² e/m ²	19kgCo ² e/m ²
	Sandstone	17kgCo ² e/m ²	22kgCo ² e/m ²
	Graphite	17kgCo ² e/m ²	24kgCo ² e/m ²
Recyclable	100% of this product can be recycled		
Manufacturing location	Produced in the UK with locally sourced materials		
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk		
Complementary paving	Tegula Setts & Circle, Mayfair Setts & Circle		
Complementary kerbs	Kerbstone, Kerbstone, Country Kerb		

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

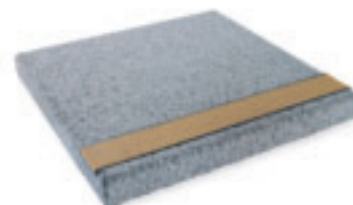
product	size (mm)	finish	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
MAYFAIR EDGE STEP with delineation strip	400 x 400 x 40	GRANITE TEXTURE TOP & 1 EDGE TEXTURED	CHAMFERED	SILVER FLAG with YELLOW or BLACK STRIP	MADE TO ORDER	6.25	25	384
	600 x 400 x 50	GRANITE TEXTURE TOP & 1 EDGE TEXTURED	CHAMFERED	GRAPHITE FLAG with YELLOW or WHITE STRIP	SPECIAL ORDER	4.16	20	589
MAYFAIR RISER	400 x 170 x 40	GRANITE TEXTURE	CHAMFERED	SANDSTONE FLAG with BLACK or WHITE STRIP	MADE TO ORDER	-	25	194.5

direct web link:
www.tobermore.co.uk/mayfairflags

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



colour combination examples



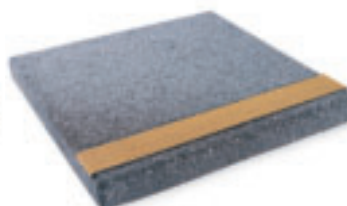
Mayfair Edge Step Flag Silver
400 x 400 x 40mm with
Yellow delineation strip



Mayfair Edge Step Flag Silver
400 x 400 x 40mm with
Black delineation strip



Mayfair Edge Step Flag Graphite
400 x 400 x 40mm with
White delineation strip



Mayfair Edge Step Flag Graphite
400 x 400 x 40mm with
Yellow delineation strip



Mayfair Edge Step Flag Sandstone
400 x 400 x 40mm with
Black delineation strip



Mayfair Edge Step Flag Sandstone
400 x 400 x 40mm with
White delineation strip

step example



Mayfair 400 x 400 x 40mm
Corner Step Flag with
Delineation Strip

Mayfair 400 x 400 x 40mm
Edge Step Flag with
Delineation Strip

Mayfair 400 x 400 x 40mm
Corner Step Flag with
Delineation Strip



textured flags

beautiful granular surface

product specifications

Product type	Concrete paving flag
Manufactured to	BS EN 1339:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Surface finish	Textured Aggregate
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-4:2006
BS Plus	Q25 215
Applications	Textured Flags are suitable for all pedestrian areas and traffic-free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS7533-8:2003 for guidance on the correct flag size to suit your application.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	900 x 600 x 63mm: 28kgCo ² e/m ² 900 x 600 x 50mm: 20kgCo ² e/m ² 600 x 600 x 63mm: 28kgCo ² e/m ² 600 x 600 x 50mm: 22kgCo ² e/m ² 600 x 600 x 40mm: 16kgCo ² e/m ² 450 x 450 x 50mm: 22kgCo ² e/m ² 450 x 450 x 35mm: 15kgCo ² e/m ² (Buff 17kgCo ² e/m ²) 400 x 400 x 65mm: 28kgCo ² e/m ² 400 x 400 x 50mm: 22kgCo ² e/m ² 400 x 400 x 40mm: 19kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
brecom rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary paving	Tegula Setts & Circle, Mayfair Setts & Circle
Complementary kerbs	Kerbstone, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

product	size (mm)	finish	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
TEXTURED FLAGS	900 x 600 x 63	TEXTURED	SQUARE	Natural	TEXTURED TO ORDER	1.85	16	1400
	900 x 600 x 50	TEXTURED	SQUARE	Natural	TEXTURED TO ORDER	1.85	20	1350
	600 x 600 x 63	TEXTURED	SQUARE	Natural	SPECIAL ORDER	2.78	16	868
	600 x 600 x 50	PATIO TEXTURED	CHAMFERED	Natural, Red, Charcoal, Golden, Buff	YES	2.78	20	850
	600 x 600 x 40	PATIO TEXTURED	CHAMFERED	Natural, Red, Charcoal, Golden, Buff	YES	2.78	24	793
	450 x 450 x 70	TEXTURED	CHAMFERED	Natural, Buff	SPECIAL ORDER	4.94	15	512
	450 x 450 x 50	TEXTURED	CHAMFERED	Natural, Buff	YES	4.94	20	507
				Charcoal	MADE TO ORDER			
	450 x 450 x 35	TEXTURED	CHAMFERED	Natural, Red, Charcoal, Buff	YES	4.94	30	521
	400 x 400 x 65	TEXTURED	CHAMFERED	Natural	YES	6.25	16	400
				Red, Charcoal, Golden, Buff	MADE TO ORDER			
	400 x 400 x 50	TEXTURED	CHAMFERED	Natural	YES	6.25	20	396.5
				Red, Charcoal, Golden	MADE TO ORDER			
	400 x 400 x 40	TEXTURED	CHAMFERED	Natural, Red, Charcoal, Golden	YES	6.25	25	402.5
				Buff	MADE TO ORDER			

direct web link:
www.tobermore.co.uk/texturedflags

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



eco
Version available
on page 129



Textured flags are one of the premier products in the large element paving range. Their unique granular surface and mellow colours create a natural and timeworn appearance.

Areas of textured flags can be interspersed with other Tobermore paving bricks, such as Tegula Setts and Retro creating endless options for the specifier.

Textured flags have become a popular choice for architects in many environmental improvement schemes. The soft natural appearance has also made this flag a popular choice for residential customers.

colours





riven flags

natural stone appearance

direct web link:
www.tobermore.co.uk/rivenflags

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



Riven flags combine the rugged look of natural stone with the strength and durability of machine pressed flags. Their small size and light weight make them a popular choice for residential customers. Riven flags are economically priced which enables designs to be created at minimal cost.

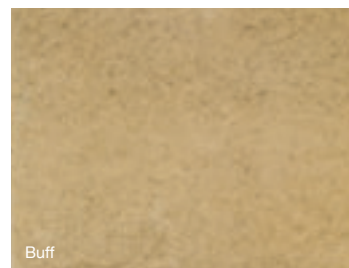
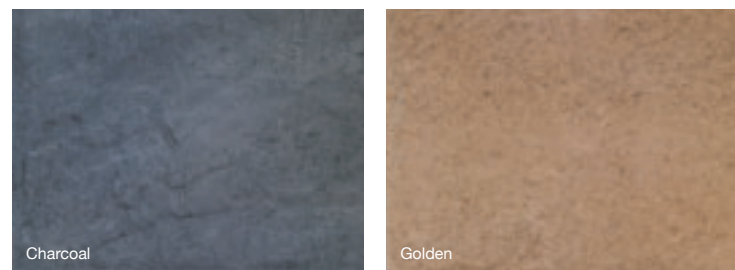
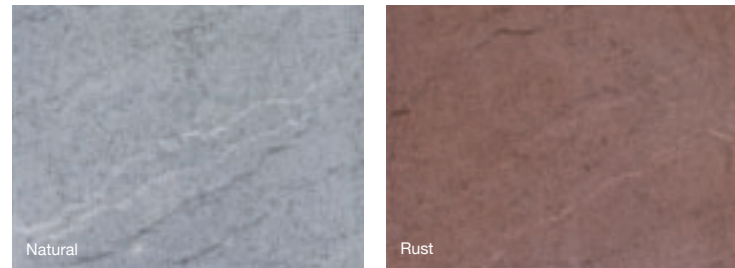
product specifications

Product type	Concrete paving flag
Manufactured to	BS EN 1339:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-4:2006
BSI Plus	Q25 215
Applications	Riven Flags are suitable for all pedestrian areas and traffic-free zones. Always refer to BS7533-8:2003 for guidance on the correct flag size to suit your application.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint <small>(Approved by the Carbon Trust)</small>	450 x 450 x 35mm: 15kgCo ² e/m ² (Buff 16kgCo ² e/m ²) 400 x 400 x 40mm: 18kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary paving	Tegula Setts & Circle, Mayfair Setts & Circle
Complementary kerbs	Kerbstone, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

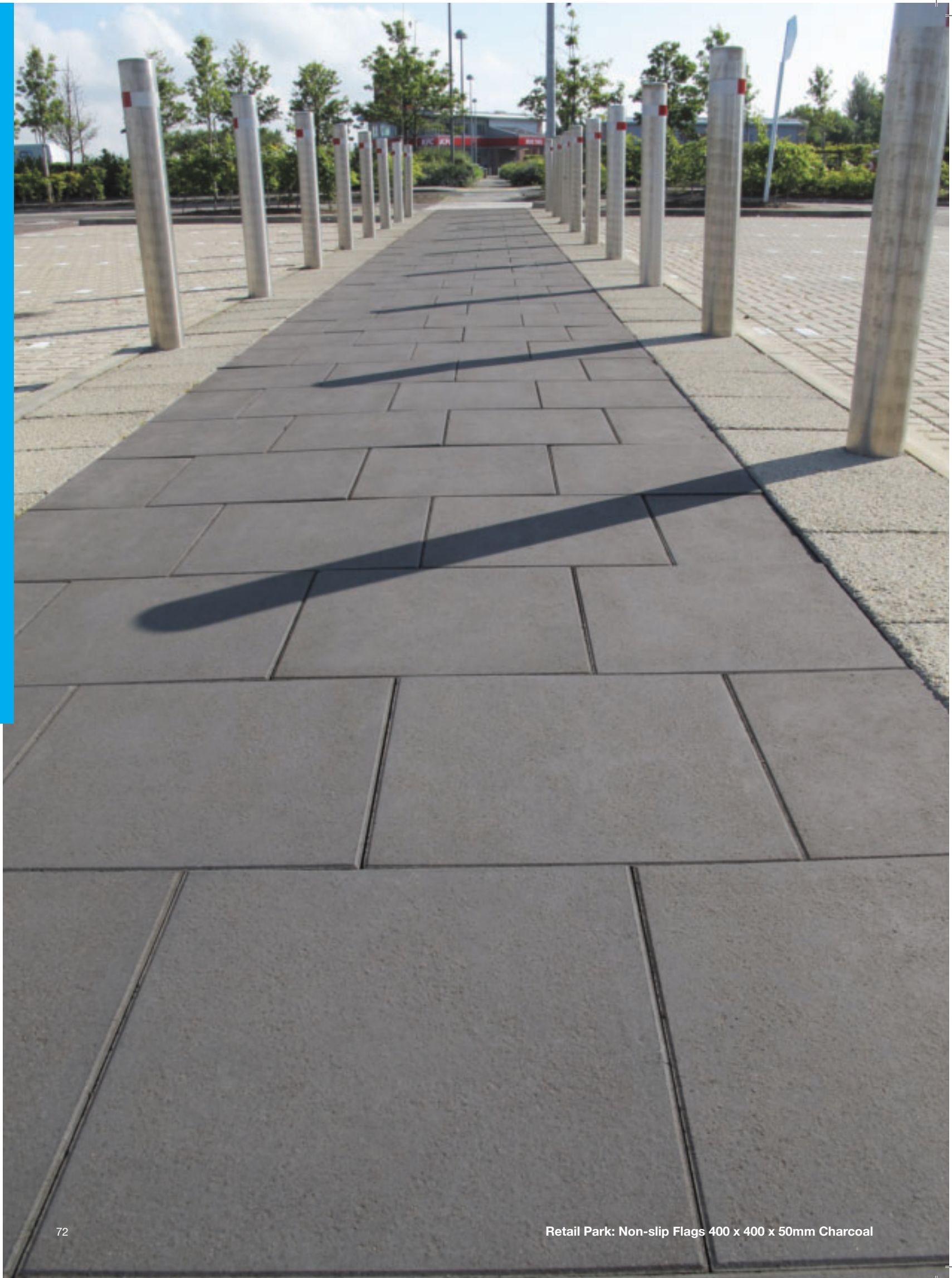
colours



Riven Flags 400 x 400 x 40mm Buff

product information

product	size (mm)	finish	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
RIVEN FLAGS	450 x 450 x 35	RIVEN	CHAMFERED	Natural, Charcoal, Rust, Buff	YES	4.94	30	532
	400 x 400 x 40	RIVEN	CHAMFERED	Natural, Charcoal, Golden Buff, Rust	YES MADE TO ORDER	6.25	25	394.5



dimple & non-slip flags

tough durable surface

product specifications

Product type	Concrete paving flag
Manufactured to	BS EN 1339:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-4:2006
BS Plus	Q25 215
Applications	Dimple and Non-slip Flags are suitable for all pedestrian areas and traffic-free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS7533-8:2003 for guidance on the correct flag size to suit your application.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by the Carbon Trust)	900 x 600 x 63mm Dimpled: 26kgCo ² e/m ² 900 x 600 x 50mm Dimpled: 20kgCo ² e/m ² 600 x 600 x 63mm Dimpled: 26kgCo ² e/m ² 600 x 600 x 50mm Dimpled: 20kgCo ² e/m ² 600 x 600 x 50mm Non-slip: 22kgCo ² e/m ² 600 x 600 x 40mm Non-slip: 16kgCo ² e/m ² 450 x 450 x 50mm Non-slip: 22kgCo ² e/m ² 450 x 450 x 35mm Non-slip: 15kgCo ² e/m ² (Buff 16kgCo ² e/m ²) 400 x 400 x 65mm Non-slip: 28kgCo ² e/m ² 400 x 400 x 50mm Non-slip: 22kgCo ² e/m ² 400 x 400 x 40mm Non-slip: 18kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary paving	Tegula Setts & Circle, Mayfair Setts & Circle
Complementary kerbs	Kerbstone, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

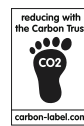
See instructions and warnings on page 132.

product information

product	size (mm)	finish	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
STANDARD FLAGS	900 x 600 x 63	DIMPLE	SQUARE	Natural	YES	1.85	16	1400
	900 x 600 x 50	DIMPLE	SQUARE	Natural	YES	1.85	20	1350
	600 x 600 x 63	DIMPLE	SQUARE	Natural	SPECIAL ORDER	2.78	16	885
	600 x 600 x 50	DIMPLE	SQUARE	Natural	YES	2.78	20	897
	600 x 600 x 50	PATIO NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Golden	YES	2.78	20	850
	600 x 600 x 40	PATIO NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Golden, Buff	YES	2.78	24	793
	450 x 450 x 70	PATIO NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Buff	SPECIAL ORDER	4.94	15	512
	450 x 450 x 50	PATIO NON-SLIP	CHAMFERED	Natural, Charcoal, Buff	YES	4.94	20	507
				Golden, Red	MADE TO ORDER			
	450 x 450 x 35	NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Buff	YES	4.94	30	515
	400 x 400 x 65	NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Golden	SPECIAL ORDER	6.25	16	400
	400 x 400 x 50	NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Golden	SPECIAL ORDER	6.25	20	392
	400 x 400 x 40	NON-SLIP	CHAMFERED	Natural, Red, Charcoal, Golden	YES	6.25	25	402.5
				Buff	MADE TO ORDER			

direct web link:
www.tobermore.co.uk/standardflags

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

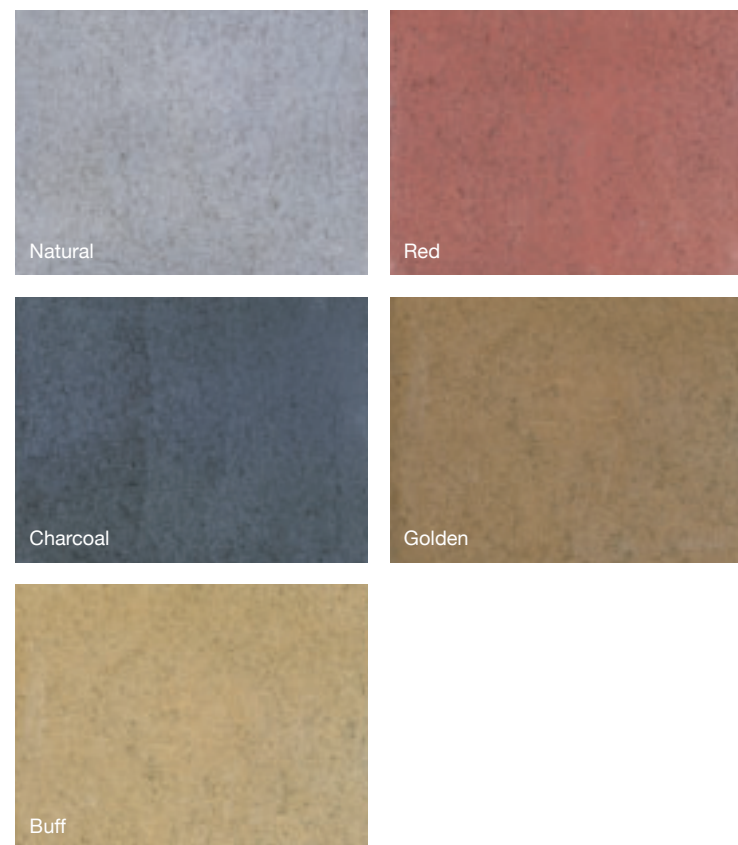


Tobermore's extensive Dimple and Non-slip Flags range has been a recognised choice for customers over many years. This flag range has a tough durable surface finish and is suitable for a wide range of domestic and commercial applications.

These flags are available in various sizes and in five standard colours, giving the designer increased choice for each scheme.

Dimple Flags are a utility flag and are not recommended for decorative applications where aesthetics are important.

colours





tactile flags

direct web link:
www.tobermore.co.uk/tactileflags

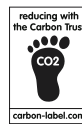
sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

Tactile paving flags are used to assist blind and partially sighted people at pedestrian crossings.

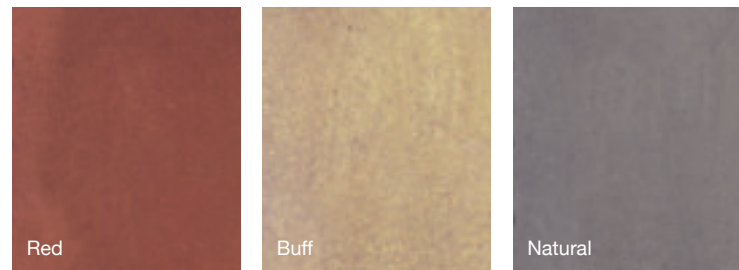
There are two types of crossing zones, controlled and uncontrolled. Controlled crossing zones include zebra crossings, pelican crossings, puffin crossings, toucan crossings and traffic signals with pedestrian phases. Uncontrolled crossing zones relate to side road crossings, busy crossovers, crossings away from junctions, kerb-to-kerb humps and traffic signals without a pedestrian phase.

Tactile flags are available in three colour finishes to enable the partially blind to distinguish between different types of crossing zones. Red relates to controlled crossing zones, while Buff is available to distinguish uncontrolled crossing zones. Natural is manufactured for the ROI market.

Different flag layout patterns are used to assist blind pedestrians identify with different types of crossing zones.



colours



product specifications

Product type	Concrete paving flag
Manufactured to	BS EN 1339:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-4:2006
BS Plus	Q25 215
Applications	Tactile Flags are suitable for all pedestrian areas and traffic-free zones. Always refer to BS7533-8:2003 for guidance on the correct flag size to suit your application.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	22kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary paving	Pedesta, Shannon, Tegula, Sienna
Complementary kerbs	Half Battered Kerbs

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

product	size (mm)	finish	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
TACTILE FLAGS	400 x 400 x 50	BLISTER	SQUARE	Red, Buff	YES	6.25	20	393
	400 x 400 x 50	HAZARD WARNING	SQUARE	Buff, Natural	YES	6.25	20	416
	400 x 400 x 50	CYCLEWAY	SQUARE	Buff	YES	6.25	20	397
	400 x 400 x 50	OFF SETT	SQUARE	Red, Buff	MADE TO ORDER	6.25	20	395.5

types

Blister Paving



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

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

Off Sett BlisterPaving



Off Sett Blister flags are used to indicate the edge of the platform at rail and tram stations.

Hazard Warning Paving



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, at a cross-roads on a shared pedestrian/cycleway, at a level crossing.

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

Cycleway Paving



This bar pattern is used on a shared pedestrian/cycle route, which is not segregated by different levels. It is laid in two orientations, transverse to denote pedestrian path and longitudinal to denote cycle path.

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



historic flags

fabulous blended colours

This new addition to the Tobermore flag range provides the look and feel of traditional natural stone with similar hard wearing characteristics. The fettled edges and riven face add to the warmth and charm of these flags and make them ideal for both old and new properties. This product is available in a mixed size pack which allows for the creation of a random laying pattern.

Manufactured on world class paving machines these products provide the installer distinct advantages over wet cast alternatives. Due to the consistent product tolerances it can be laid quickly and on a sand bed avoiding the use of an expensive mortar base. The joints are filled with a stabilising joint material.

product specifications

Product type	Concrete paving flag
Manufactured to	BS EN 1339:2003
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-4:2006
BSI Plus	Q25 215
Applications	Residential and commercial when used in conjunction with the correct sub-base design in accordance with the latest british standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Awaiting formal approval by Carbon Trust)	18kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary paving	Tegula, Tegula Setts, Retro
Complementary kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

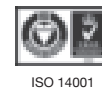
See instructions and warnings on page 132.

product information

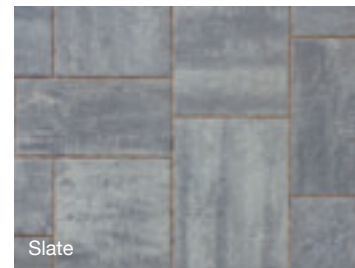
product	size (mm)	edge	colours available	in stock	no. per m ²	no. per bale	weight (kg) per bale
HISTORIC FULL PACK	600 x 450 x 50 - 10no. 600 x 300 x 50 - 10no. 450 x 450 x 50 - 20no. 450 x 300 x 50 - 10no. 300 x 300 x 50 - 10no.	FETTLLED	BRACKEN, SLATE	YES	10.8 M ² PER BALE	60 PER BALE VARIOUS SIZES	1228
HISTORIC CIRCLE	2.4m diameter	FETTLLED	BRACKEN, SLATE	YES	-	1 CIRCLE (3.52 m ²)	455

direct web link:
www.tobermore.co.uk/historicflags

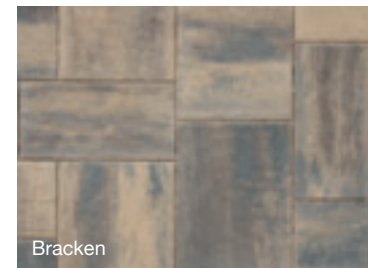
sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



colours



Slate



Bracken



Historic Flags and Circle Slate



technical information

paving flags

Paving Flags are now an established product in the construction industry and has a number of British Standards (BS) dedicated to the range to ensure it is professionally installed. Please refer to the following relevant BS guidelines for detailed information.

- **BS 7533-4:2006** Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of precast concrete flags or natural stone slabs.
- **BS 7533-8:2003** Guide for the structural design of lightly trafficked pavements of precast concrete flags and natural stone slabs.
- **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** Guide for the structural design of trafficked pavements constructed of concrete paving flags and natural stone slabs.
- **BS 7997-2003** Products for tactile paving surface indicators. Specification.



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.



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 spacers and pedestals

Tobermore can provide flag spacers to ensure accurate joint width and also pedestal spacers to support paving products on roof surfaces. Contact the Sales Office for further information.

Instructions and warnings

Please refer to page 132.



A (In accordance with the Green Guide to Specification, 2nd edition 2009).

A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk



Kerbing is an essential requirement in all commercial and domestic applications to retain paving, create paths or bedding areas.

kerbs, edging & channels

■ product range

country kerb	83
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water channels	88
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kerbsett	90
kerbstone	93



country kerb

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

Country Kerb has an exposed granular surface, emulating the unique aged appearance of traditional granite kerbs, while maintaining the benefits of modern concrete kerbing.

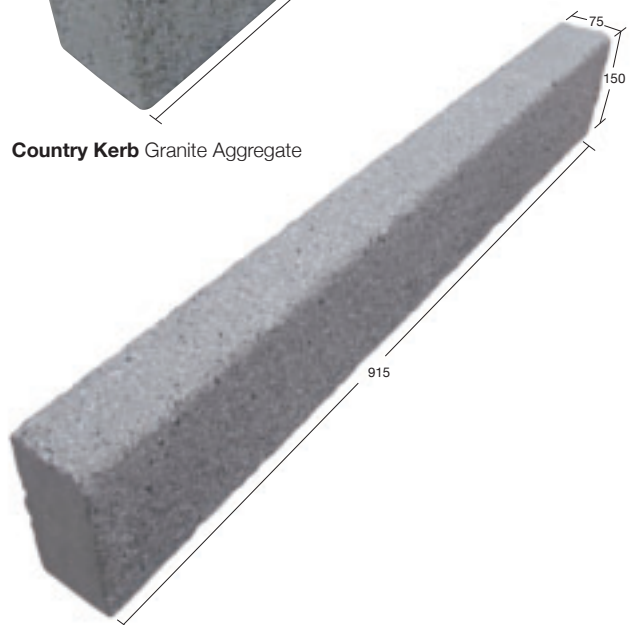
Available in two finishes, Standard and Granite Aggregate, Tobermore's Country Kerb is ideal for areas where an attractive hard wearing kerb is required.

A complimentary garden edge kerb is also available in Granite Aggregate finish.

Country Kerb uses recycled aggregates.



Country Kerb Granite Aggregate



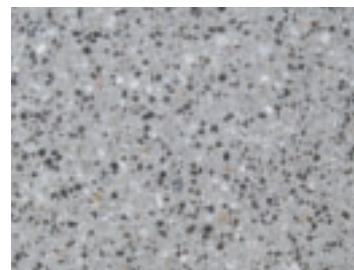
Garden Edge Granite Aggregate



colour



Standard Aggregate



Granite Aggregate

product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1340:2003
Strength	> 3.5MPa
Installed to	BS 7533-6:1999
BS Plus	Q10 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy Used	100% renewable energy
Water Used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	13kgCo ² e/ea
Recycled content	Granite aggregate: Not less than 31% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing Location	Produced in the UK with locally sourced materials
Complimentary Products	Radii Kerbs, Quadrant Kerbs, Garden Edge

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	no. per pallet	weight (kg) per bale
COUNTRY KERB	250 x 125 x 915	Standard Aggregate, Granite Aggregate	YES	18	1251
		Graphite Aggregate	SPECIAL ORDER		
DROPPER	250/150 x 125 x 915	Standard Aggregate, Granite Aggregate (specify left or right hand dropper)	MADE TO ORDER	18	915
CUTS	300 or 450mm lengths	Standard Aggregate, Granite Aggregate	YES	-	-
GARDEN EDGE	150 x 75 x 915	Granite Aggregate	YES	50	1179

radii kerbs

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

A 'bend' in a kerb line is more correctly known as a 'radius'. All bends, curves and arcs are composed of one or more radii (or radii, if you prefer). While it is possible to create a radius by using straight kerbs, it is more desirable to use especially manufactured radius kerbs, either internal (concave) or external (convex).

Radii kerb is available in 3 radius sizes enabling the perfect creation of curves. It is available in Standard & Granite aggregates which match the Country Kerb range.



Radii Kerb Standard Aggregate



colour



Standard Aggregate

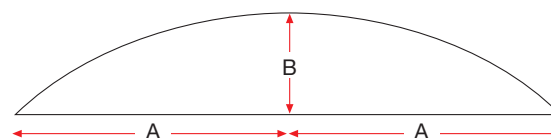


Granite Aggregate

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.



$$\text{Radius} = \frac{A^2 + B^2}{2B}$$

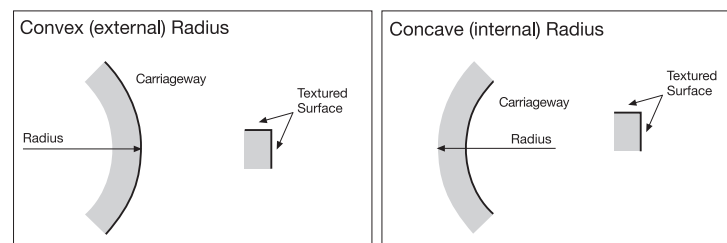
The size of a radius is ALWAYS measured to the face of the kerbline, whether the radius is internal or external. This applies to channel blocks as well as kerbs. In a situation such as that illustrated, both the kerbs and the channel blocks are the same stated radial size.

product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1340:2003
Strength	> 3.5MPa
Installed to	BS 7533-6:1999
BS EN 12460	Q10 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy Used	100% renewable energy
Water Used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	13kgCo ² e/ea
Recycled content	Granite aggregate: Not less than 31% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing Location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.



product information

product	size (mm)	no. per quarter circle	colours available	in stock	no. per pallet	weight (kg) per bale
RADII KERB	250 x 125 x 780 (3m*)	6	Standard Aggregate, Granite Aggregate	TEXTURED TO ORDER	18	1047
* RADIUS OF THE CURVE	250 x 125 x 780 (6m*)	12	Standard Aggregate, Granite Aggregate	TEXTURED TO ORDER	18	1070
	250 x 125 x 780 (9m*)	16	Standard Aggregate, Granite Aggregate	TEXTURED TO ORDER	18	1056

quadrant kerbs

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

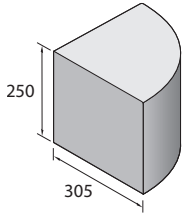


ISO 9001 : 2000



ISO 14001

solid quadrant kerb



colour

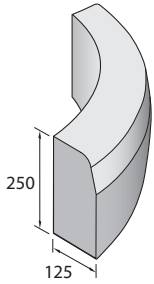


Natural



Granite Aggregate

precast radii quadrant kerb



Standard Aggregate

product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1340:2003
Strength	> 3.5MPa
Installed to	BS 7533-6:1999
BS Plus	Q10 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy Used	100% renewable energy
Water Used	100% water used from rainwater harvesting system
Recycled content	Granite aggregate: Not less than 31% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing Location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	no. per pallet	weight (kg) per bale
SOLID QUADRANT KERB (Cheese block)	250 x 305	Standard Aggregate, Granite Aggregate, Natural	MADE TO ORDER	4	184
PRECAST RADII QUADRANT KERB	250 x 125	Natural	YES	4	221

half battered & bullnose kerbs

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

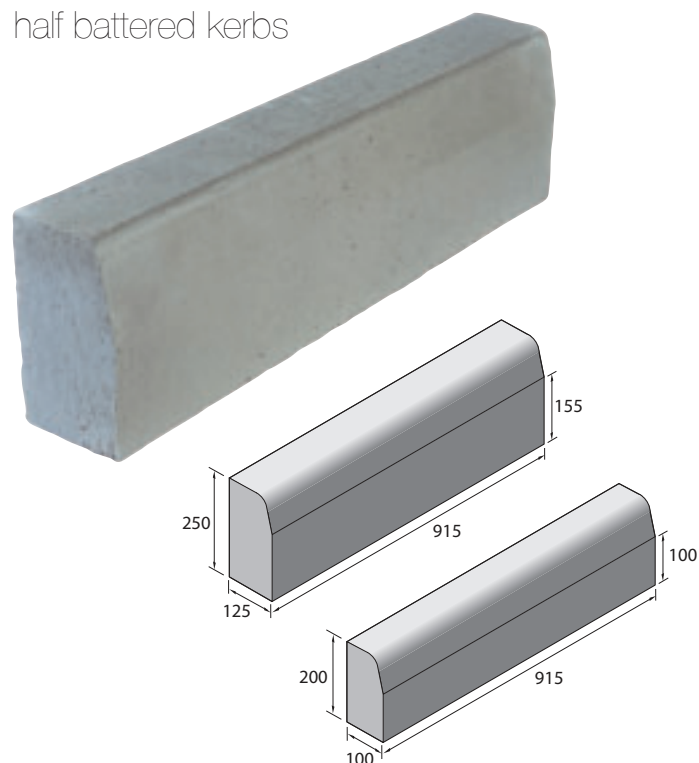


ISO 9001 : 2000

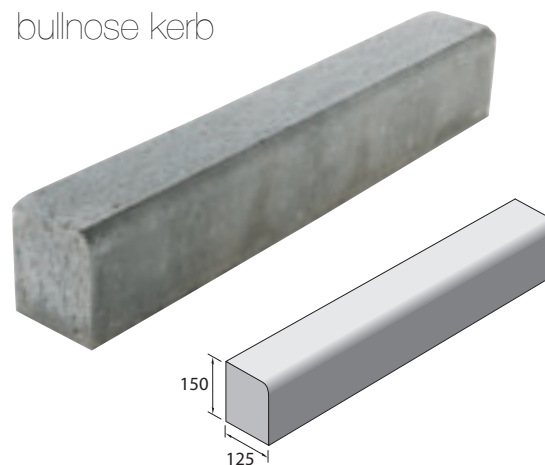


ISO 14001

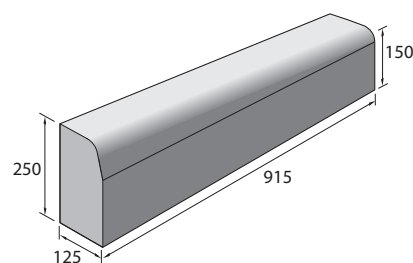
half battered kerbs



bullnose kerb



half battered dropper



product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1340:2003
Strength	> 3.5MPa
Installed to	BS 7533-6:1999
BSI Plus	Q10 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy Used	100% renewable energy
Water Used	100% water used from rainwater harvesting system
Recyclable	100% of this product can be recycled
Manufacturing Location	Produced in the UK with locally sourced materials

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See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	no. per pallet	weight (kg) per bale
HALF BATTERED	200 x 100 x 915	Natural	YES	22	969
	250 x 125 x 915	Natural	YES	18	1232
DROPPER	250/150 x 125 x 915	Natural PLEASE SPECIFY EITHER RIGHT OR LEFT HAND	YES	18	915
CUTS	300 or 450mm lengths	Natural	YES	-	-
BULLNOSED	150 x 125 x 915	Natural	YES	27	1167

pietra granite kerbstone

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
 028 7964 2411 (for ROI change 028 to 048)

The Pietra Kerbstone is commonly used in a driveway or domestic situation as the unit allows for the easy creation of curves and corners.

product specifications

Product type	Granite paving flag
Installed to	BS 7533-6:2002
NSRF	Q10 120
Applications	Residential and commercial when used in conjunction with the correct sub-base design in accordance with the latest british standard.
Recyclable	100% of this product can be recycled
Complementary paving	Pietra Granite Setts
Complementary kerbs	Pietra Granite Kerbs

See instructions and warnings on page 132.



Pietra Granite Kerbstone
 190 x 160 x 100mm



product information

product	size (mm)	colours available	finish	in stock	no. per pallet	weight (kg) per bale
Pietra Granite Kerbstone	190 x 160 x 100	Natural	Hand dressed on all sides	YES	180	1350

garden edge & water channels

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



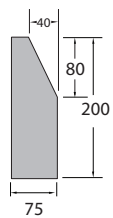
ISO 9001 : 2000



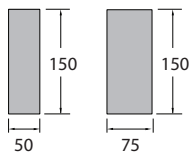
ISO 14001

Garden edge is an effective edging for paths and patios and is available in either splayed, flat top or round top.

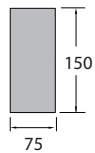
splayed



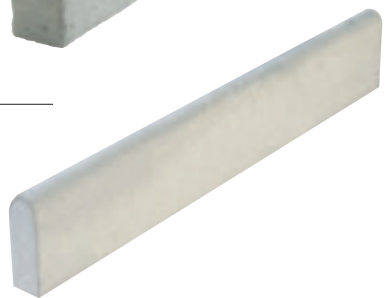
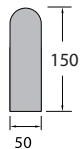
flat top



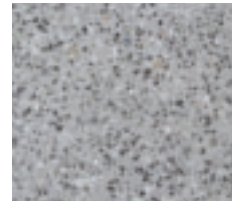
flat top



round top



colour



Granite Aggregate



Natural

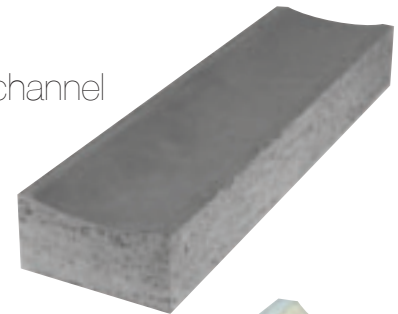
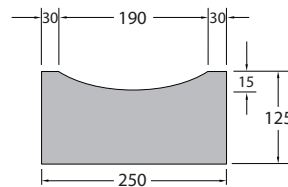
product specifications

Product type	Concrete channel
Manufactured to	BS EN 1340:2003
Strength	Water Channels: > 3.5MPa
Installed to	BS 7533-6:1999
MS Plus	Q10 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy Used	100% renewable energy
Water Used	100% water used from rainwater harvesting system
Recyclable	100% of this product can be recycled
Manufacturing Location	Produced in the UK with locally sourced materials

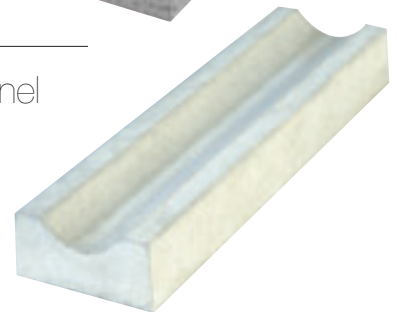
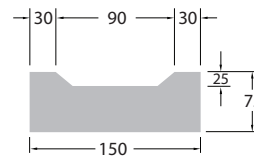
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See instructions and warnings on page 132.

prestressed water channel



precast water channel



product information

product	type	size (mm)	colours available	in stock	no. per pallet	weight (kg) per bale
GARDEN EDGE	SPLAYED	200 x 75 x 915	Natural	YES	40	1281
	FLAT TOP	150 x 50 x 915	Natural	YES	60	949
		150 x 75 x 915	Natural, Granite Aggregate	YES	50	1179
	ROUND TOP	150 x 50 x 915	Natural	YES	60	911
WATER CHANNEL	PRESTRESSED	250 x 125 x 915	Natural	YES	18	1221
	PRECAST	150 x 75 x 600	Natural	YES	60	773

step risers

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

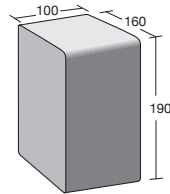
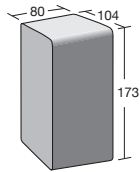
Every door needs a step or ramp and the Step Riser range from Tobermore enables a distinctive and contrasting edge to be created. A wide variety of products can then be used behind the Step Riser to infill the tread including Tegula Setts, Mayfair Setts or Mayfair Flags.



ISO 9001 : 2000



ISO 14001



product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1338:2003
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-6:1999
BSI Plus	Q10 150
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.



Step Risers Charcoal

colours



Bracken



Heather



Natural



Charcoal

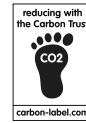
product information

product	size (mm)	colours available	in stock	no. per bale	no. per slice	weight (kg) per bale
STEP RISERS	190 x 160 x 100	Bracken, Heather, Charcoal, Natural	YES	240	40	1669
	173 x 104 x 80	Bracken, Heather, Charcoal, Natural	YES	560	80	1865

Kerbsett has been developed to meet the demands of local authorities, engineers and architects for a simple and flexible alternative to traditional concrete kerbs.

Application

It is easily handled, allowing rapid one-man laying, whilst the small unit size allows radii as small as 1 metre to be achieved without special blocks. The unique design provides the opportunity for a variety of different uses. Kerbsett is the ideal solution wherever edge-restraints, channels, changes of surfaces or minor level differences are required.



product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1338:2003
Strength	> 3.6MPa
Installed to	BS 7533-6:1999
BSI Plus	Q10 150
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	11kgCo ² e/ea
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

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See instructions and warnings on page 132.

colours



Brindle



Bracken



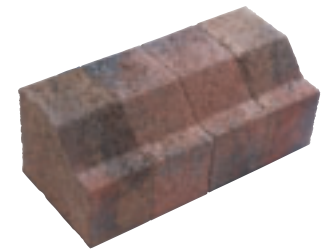
Charcoal



Red



Golden



Heather



Natural



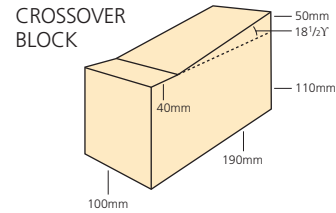
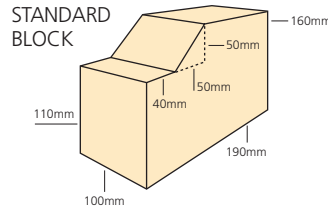
Chocolate

product information

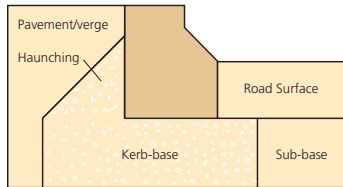
product	size (mm)	colours available	in stock	lm per bale	lm per slice	no. per bale	weight (kg) per bale
KERBSETT	190 x 160 x 100	Brindle, Bracken, Charcoal, Red, Golden, Heather Natural, Chocolate	YES	24.0	4	240	1497
CROSSOVERS	190 x 160 x 100	Brindle, Bracken, Charcoal, Red, Golden, Heather Natural, Chocolate	MADE TO ORDER	25.6	3.2	256	1466

laying details

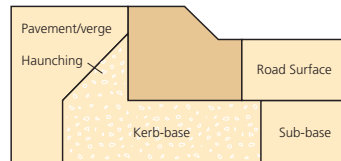
Kerbsett is laid on a concrete kerb-base and haunched as traditional kerbing. Either mortar bonding or close, dry joints may be used between blocks, at the specifier's discretion. However, with curves greater than 1 metre radius, special blocks are not required; standard blocks are laid with tapered joints and mortar bonding is recommended.



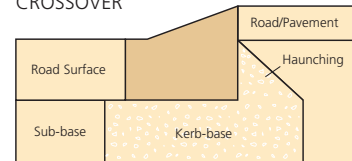
HIGH RISE



LOW RISE



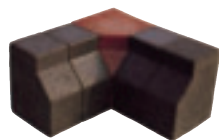
CROSSOVER



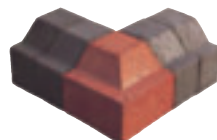
kerbsett specials



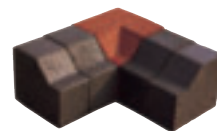
Right Angle Corner
External High (Type EC/H)



Right Angle Corner
Internal High (Type IC/H)



Right Angle Corner
External Low (Type EC/L)



Right Angle Corner
Internal Low (Type IC/L)



Right Angle Corner
Internal Crossover (Type IC/X)



Right Angle Corner
External Crossover (Type EC/X)



45° Internal Corner
Low (Type I45/L) High (Type I45/H)



45° External Corner
Low (Type E45/L) High (Type E45/H)



Curves (external radius less than 1m)
Low (Type ER/L)
High (Type ER/H)



Crossover
Crossover to High Position
(Type L-X and H-L)



Crossover
Crossover to Low Position
(Type L-X)



Drop Kerb
High Position to Low (Type H-L)



Transition Kerb
Low Position to Half Batter (Type L-7)
High Position to Half Batter (Type H-7)



End Block
Low position to End Block
(Type L-E)



kerbstone

no specials required

direct web link:
www.tobermore.co.uk/kerbsandedging

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



Kerbstone's unique aged appearance is ideal for use in areas where natural and unobtrusive edging is required. It will harmonise with Tegula pavements as well as areas that have been laid with other Tobermore paving systems.

Kerbs are easy to achieve with Kerbstone's unique block design and its aesthetic appearance ensures that it complements surrounding landscaped areas as well as paths, patios and driveways.

Installation

Kerbstone is laid on a concrete kerb-base and haunched as traditional kerbing. All sides have a finished surface so it can be laid in any orientation to create various heights and widths. Either mortar bonding or close, dry joints may be used between blocks, at the specifier's discretion.

product specifications

Product type	Concrete kerb
Manufactured to	BS EN 1338:2003
Manufacturing process	Tumbled to give aged appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 3.6MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-6:1999
NSP Plus	Q10 150
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	190mm: 1.2kgCo ² e/ea 104mm: 0.6kgCo ² e/ea
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

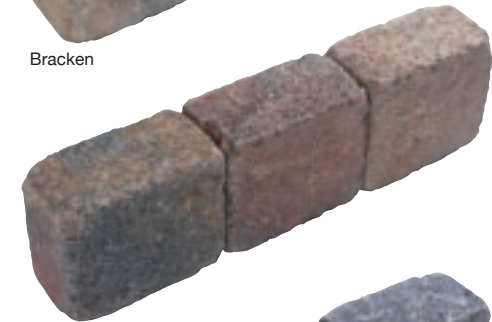
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See instructions and warnings on page 132.

colours



Bracken



Heather



Charcoal



Natural



Cedar

product information

product	size (mm)	colours available	in stock	no. per slice	no. per bale	weight (kg) per bale
KERBSTONE	190 x 160 x 100	Bracken, Heather, Charcoal, Natural, Cedar	YES	30	210	1460
	104 x 173 x 80	Bracken, Heather, Charcoal, Natural	YES	72	504	1638



Tobermore manufacture Lansdowne Facing Brick, Country Stone and Garden Stone walling products which complement our extensive range of paving products.

walling & masonry

■ **product range**

country stone	96
lansdowne facing brick	99
garden stone	101

country stone

direct web link:
www.tobermore.co.uk/wallingandmasonry

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



Country Stone creates the look of natural stone, which is increasingly sought after by home owners and planners. It can be used on its own or can be integrated with other materials such as facing brick or render to give a stunning natural look to any house or building.

Country Stone's aesthetic qualities, cost effectiveness and ease of installation make it an idea option for architects and developers. It also looks superb when used to create dividing walls and other garden features as its rustic appearance blends perfectly with plants and shrubs in garden and landscaping projects.

product specifications

Product type	Concrete block
Manufactured to	BS EN 6073: Part 1 & 2
Manufacturing process	Processed surface to leave aged antique appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 30N/mm ²
Water absorption	3.9%
Drying shrinkage	0.049%
Density	2100kg/m ³
BS EN 12618	F10 15
Applications	Residential and Commercial. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	36kgCo ₂ e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

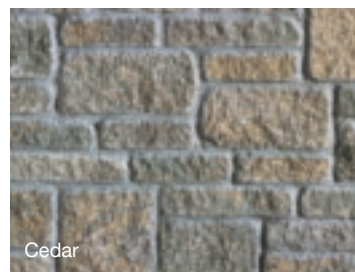
colours



Bracken
Random bond laying pattern



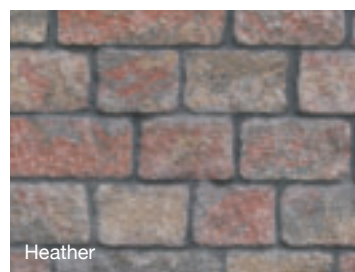
Natural
Random bond laying pattern



Cedar
Random bond laying pattern



Slate
Random bond laying pattern



Heather
Single course mixed length laying pattern

product information

product	size (mm)	colours available	in stock	m ² per bale	m ² per slice	no. per m ²	no. per bale	weight (kg) per bale
COUNTRY STONE	215 x 440 x 105	Bracken, Natural, Cedar, Slate	YES	6.80	1.70	10.57	72	1584
	215 x 215 x 105	Bracken, Natural, Cedar, Slate	YES	7.40	1.85	21.63	160	1806
	140 x 365 x 105	Bracken, Natural, Cedar, Slate	YES	6.60	1.32	19.56	130	1578
	140 x 290 x 105	Bracken, Natural, Cedar, Slate	YES	6.50	1.30	24.63	160	1564
	140 x 215 x 105	Bracken, Natural, Cedar, Slate	YES	7.20	1.20	33.22	240	1721
	65 x 290 x 105	Bracken, Natural, Cedar, Slate	YES	6.64	0.60	53.05	352	1620
	65 x 215 x 105	Bracken, Natural, Cedar, Slate	YES	6.70	0.55	71.55	480	1556
COUNTRY STONE Single course mixed length pack	370 x 140 x 105	Bracken, Natural, Cedar, Slate, Heather	YES	7.40	1.48	-	-	1573
	275 x 140 x 105							
	245 x 140 x 105							
	215 x 140 x 105							
	185 x 140 x 105							
COUNTRY STONE COPING	300 x 208 x 80	Bracken, Natural, Cedar, Slate, Heather	YES	-	-	-	120	1338

technical information

country stone

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

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

All new work must be protected during construction and must be designed and built in accordance with good building 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.

laying patterns

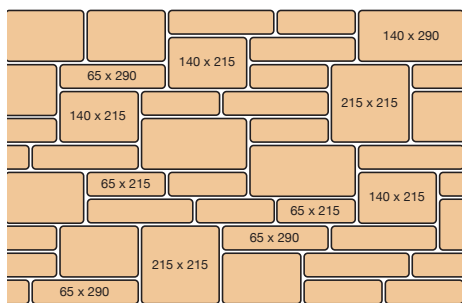
Country Stone blocks are available in a range of sizes which allow them to be laid random, coursed, random brought to course and mixed pack single course.

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.

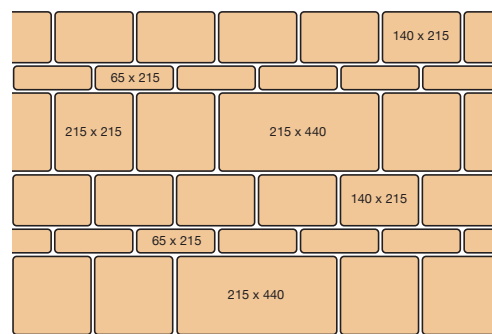


Country Stone Bracken: (Mixed pack single course)

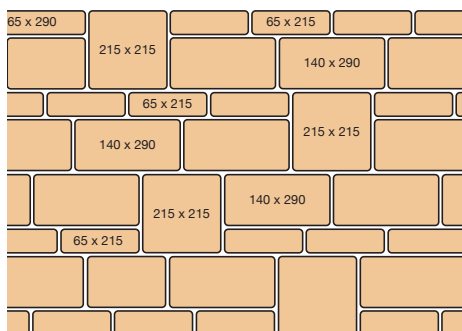
Random bond



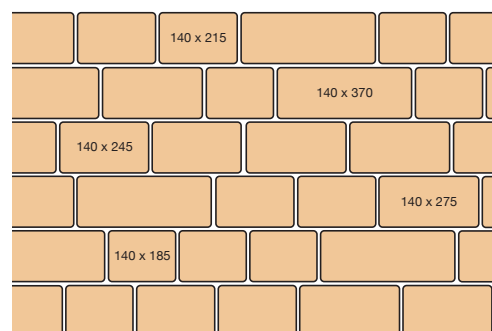
Course bond



Random brought to course



Mixed pack single course





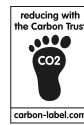
lansdownne

direct web link:
www.tobermore.co.uk/wallingandmasonry

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

Lansdownne brick is the perfect choice for creating that timeless appearance of warmth and elegance. Tobermore offer an inspiring range of solid and blended colours for complementary or contrasting architectural designs.

Tobermore's experience in product innovation, manufacture and service, ensures that when choosing brick you can be assured of quality, reliability and choice.



product specifications

Product type	Concrete facing brick
Manufactured to	BS EN 6073: Part 1 & 2
Manufacturing process	Tumbled to give aged appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Comprehensive strength	Typically greater than 15N/mm ²
Water absorption	Less than 8%
Drying shrinkage	Not exceeding 0.06%
Density	Typically 2050kg/m ³
NSRF	F10 05
Applications	Residential and Commercial. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	22kgCo ² e/m ²
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

colours



Autumn Gold



Burren



Cottage Red



Heather



Warm Red



Charcoal



Chocolate



Gold



Lansdownne Heather

product information

product	size (mm)	colours available	in stock	no per bale	no. per slice	weight (kg) per bale
LANSDOWNE	215 x 100 x 65	Autumn Gold, Burren, Cottage Red, Heather, Warm Red, Charcoal, Chocolate, Gold	YES	576	96	1578



garden stone

free standing, mortarless

Garden Stone 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.

product specifications

Product type	Concrete block
Manufactured to	BS EN 6073: Part 1 & 2
Manufacturing process	Processed on both surfaces to leave aged antique appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 30N/mm ²
Applications	Residential. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	2kgCO ₂ e/ea
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.



Garden Stone Bracken

product information

product	size (mm)	colours available	in stock	LM per bale	LM per slice	no. per LM	no. per bale	weight (kg) per bale
GARDEN STONE	300/260 x 120 x 180	Slate, Bracken, Heather	YES	35.28	5.88	3.57	126	1720
GARDEN STONE COPING	310/255 x 240 x 70	Slate, Bracken, Heather	YES	-	-	3.54	160	1754

direct web link:
www.tobermore.co.uk/wallingandmasonry

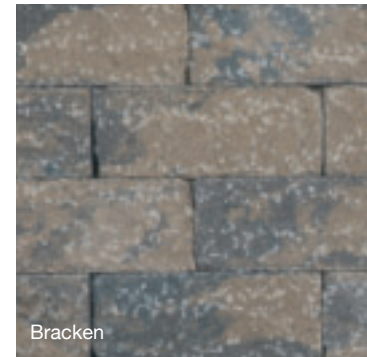
sales & technical line:
028 7964 2411 (for ROI change 028 to 048)



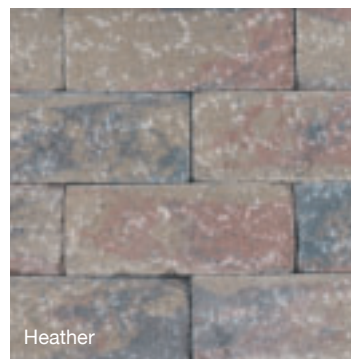
colours



Slate



Bracken



Heather

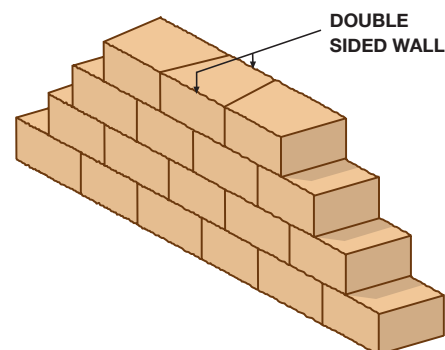
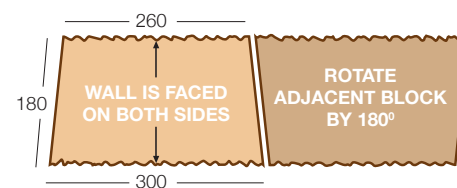
Important information

Garden Stone is not a retaining wall product (if retention is required please refer to our Secura range).

Garden Stone can be built to a maximum height of 960mm.

Contact Tobermore for construction guidelines.

Building Garden Stone



DOUBLE SIDED WALL



Guidelines on how to construct gravity and reinforced retaining walls using the Tobermore Secura product range.

technical information

■ methods of construction	115
■ guidelines for constructing a gravity wall up to 0.96m using secura lite	116
■ guidelines for constructing a reinforced wall above 1.25m using secura major	117
■ guidelines for constructing a reinforced wall above 1.2m using secura grand	118
■ guidelines for drainage, geogrid & backfill	119
■ typical secura drawings catalogue of designs	121

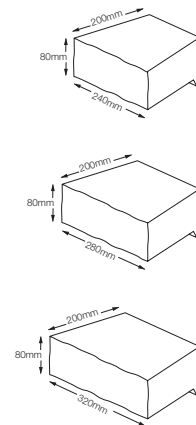
Any technical information provided by Tobermore in relation to any product (whether before or after order) is provided by way of GUIDANCE ONLY and, to the fullest extent permitted by law, without liability on the part of Tobermore for any loss or damage suffered as a result of relying upon it. Such technical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



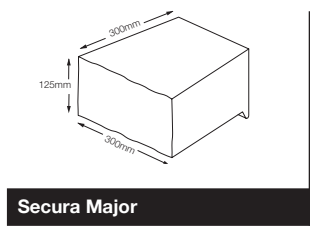
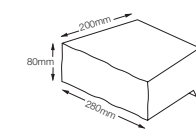
Tobermore's Secura range of walling products provide architects, engineers, contractors and house builders with a cost-effective solution for all types and sizes of retaining wall projects.

secura retaining walls

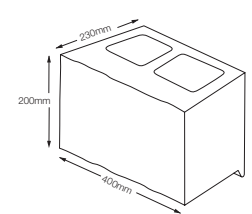
- **benefits of secura retaining walling** 105
- **product range**
 - secura lite 107
 - secura major 109
 - secura grand 111
- **technical information** 113



Secura Lite



Secura Major



Secura Grand



Secura Grand segmental retaining wall system
BBA Roads and Bridges **certified**





secura retaining walls



Tobermore's SECURA range of walling products provide architects, engineers, contractors and house builders with a cost-effective solution for all types and sizes of retaining wall projects.

the benefits

- **Cost effective**
- **Fast and easy installation**
- **Mortar free dry build**
- **More efficient utilisation of land**
- **Nostalgic rugged appearance**
- **Available in a range of sizes**
- **Three attractive blended colours**
- **Ideal for creating distinctive curves**
- **Internal and external 90 degree corners**

design service

How do I design a Secura Retaining Wall?

If you require specialist advice Tobermore can put you in contact with experienced design consultants. Alternatively you can refer to the following source of information BS 8002.

- **Design service and technical support**
- **Visualisation to show how it will look**
- **Animated demo of building guidelines**



Secura Major Bracken



Secura Major Heather



Secura Major Bracken



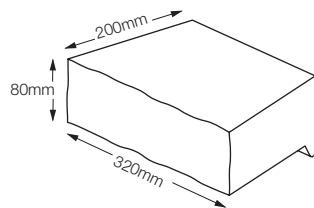
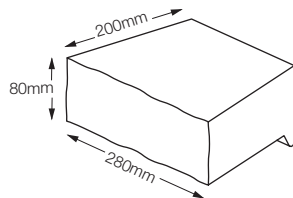
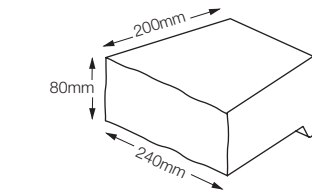
secura lite

direct web link:
www.tobermore.co.uk/securaretainingwalls

sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

Used mainly in domestic situations, Secura Lite is available in a combination of three block widths, which gives a random stone appearance that is both traditional in meeting high levels of aesthetic expectation and modern in production, quality and technical ability.

Secura has a unique rugged appearance which is finished in a subtle range of blended colours. The designer is able to match or contrast the walling with Tobermore's well established range of paving products.



Secura Lite Heather



colours



Bracken



Heather



Slate

product specifications

Product type	Concrete block
Manufactured to	BS EN 6073
Manufacturing process	Processed surface to leave aged antique appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 30N/mm ²
Installed to	BS8002
BS Plus	D41 310
Applications	Residential. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	2kgCO ₂ e/ea
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

product information

product	size (mm)	colours available	in stock	LM per bale	LM per slice	no. per m ²	no. per bale	weight (kg) per bale
SECURA LITE	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	120	1121
SECURA LITE COPING	310/255 x 240 x 70 (tapered coping)	Bracken, Heather, Slate	YES	-	-	3.54 lm	160	1744



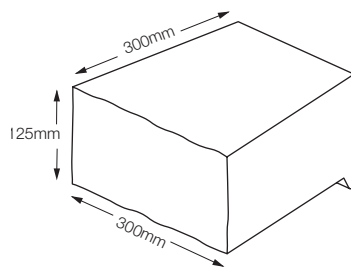
secura major

direct web link:
www.tobermore.co.uk/securaretainingwalls

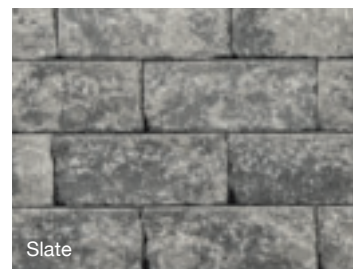
sales & technical line:
 028 7964 2411 (for ROI change 028 to 048)

Generally used for larger and higher walls, Secura Major is ideally suited to larger landscaping schemes such as housing developments, roads and commercial property.

Secura Major can be used as a gravity walling system or combined with Geogrid to form reinforced soil walls for retaining structures. A single face sized dry-laid block system with split or aged finish.



colours

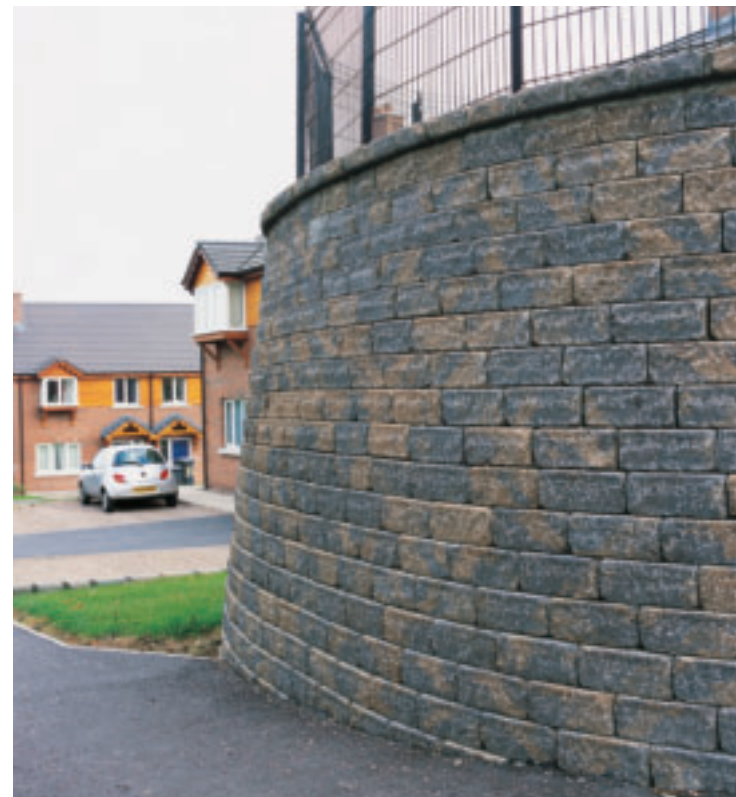


product specifications

Product type	Concrete block
Manufactured to	BS EN 6073-1
Manufacturing process	Processed surface to leave aged antique appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 30N/mm ²
Installed to	BS8002
BS EN 12618	D41 310
Batter	1:6.25
Applications	Residential and Commercial. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	4kgCo ₂ e/ea
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

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See instructions and warnings on page 132.



Secura Major Bracken

product information

product	size (mm)	colours available	in stock	m ² per bale	no. per m ²	no. per bale	weight (kg) per bale
SECURA MAJOR	300 x 300 x 125	Bracken, Heather, Slate	YES	2.25	26.66	60	1436
SECURA COPING	300/235 x 330 x 70 (tapered coping)	Bracken, Heather, Slate	YES	-	3.73 lm	120	1700



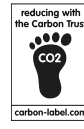
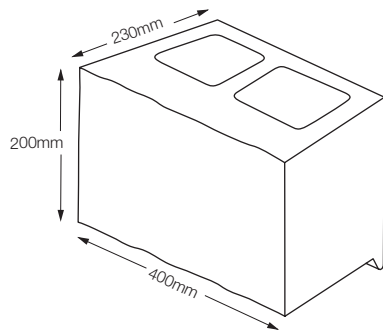
secura grand

direct web link:
www.tobermore.co.uk/securaretainingwalls

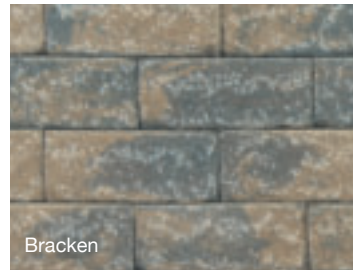
sales & technical line:
 028 7964 2411 (for ROI change 028 to 048)

Generally used for larger and higher walls, Secura Grand is ideally suited to larger landscaping schemes such as housing developments, roads and commercial property.

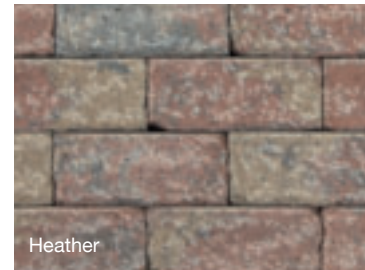
Secura Grand can be used as a gravity walling system or combined with Geogrid to form reinforced soil walls for retaining structures. A single face sized dry-laid block system with split or aged finish. This larger block offers quicker build and a more modern feel, with wide appeal.



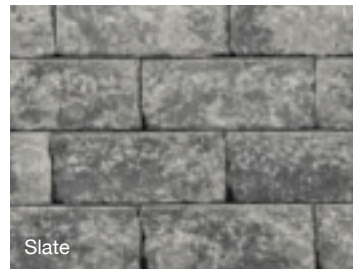
colours



Bracken



Heather



Slate

product specifications

Product type	Concrete block
Manufactured to	BS EN 6073-1
Manufacturing process	Processed surface to leave aged antique appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	> 30N/mm ²
Installed to	BS8002
BS EN 12618	D41 310
Batter	1:8
Applications	Residential and Commercial. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint (Approved by Carbon Trust)	5kgCo ² e/ea
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.



Secura Grand segmental retaining wall system
 BBA Roads and Bridges **Certificate 10/R148**

See instructions and warnings on page 132.



Secura Grand Heather

product information

product	size (mm)	colours available	in stock	m ² per bale	no. per m ²	no. per bale	weight (kg) per bale
SECURA GRAND	400 x 230 x 200	Bracken, Heather, Slate	YES	3.84	12.5	48	1288
SECURA COPING	300/235 x 330 x 70 (tapered coping)	Bracken, Heather, Slate	YES	-	3.73 lm	120	1700
SECURA GRAND CORNERS	450 x 230 x 200	Bracken, Heather, Slate	MADE TO ORDER	-	-	48	1464



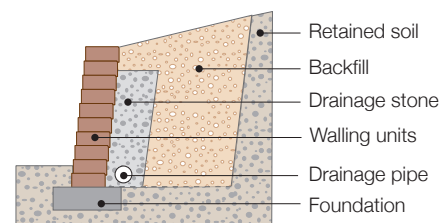
secura retaining walls methods of construction

gravity retaining walls

Gravity retaining walls depend on the weight of their mass to resist pressures from behind and are ideal for retaining walls up to 1.25 metres high.

Suitable Secura products

Secura Lite
Secura Major
Secura Grand



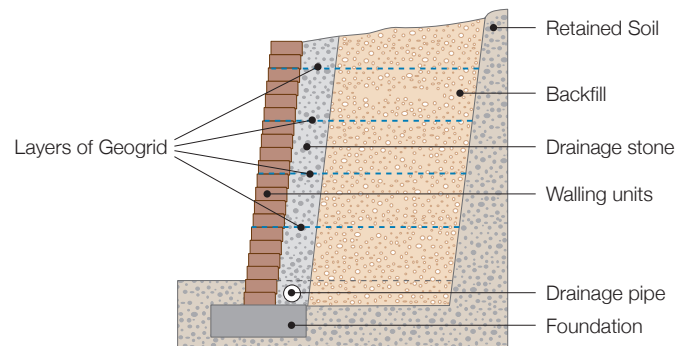
reinforced retaining walls

Geogrid

Geogrid is the most commonly used material to reinforce retaining walls above 1.25m metres. It is a mesh-like material installed in layers between the blocks and covered with backfill which is then compacted. This creates a soil mass structure behind the wall, resisting the forces acting against it.

Suitable Secura products

Secura Major
Secura Grand



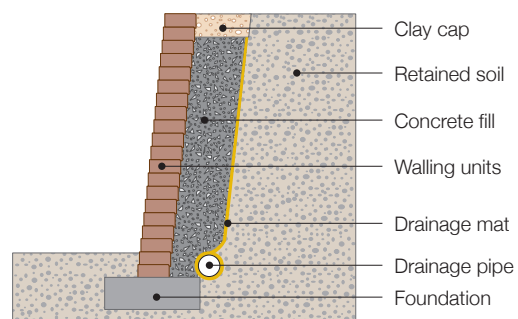
Concrete Backfill

Concrete is poured into the space behind the blocks and the excavated space, it then acts as a homogenous mass designed to be a mass gravity wall.

This method generally reduces the space required behind the retaining wall by around half compared to that required for geogrids. It is a more expensive option so is only specified where space is limited.

Suitable Secura products

Secura Grand



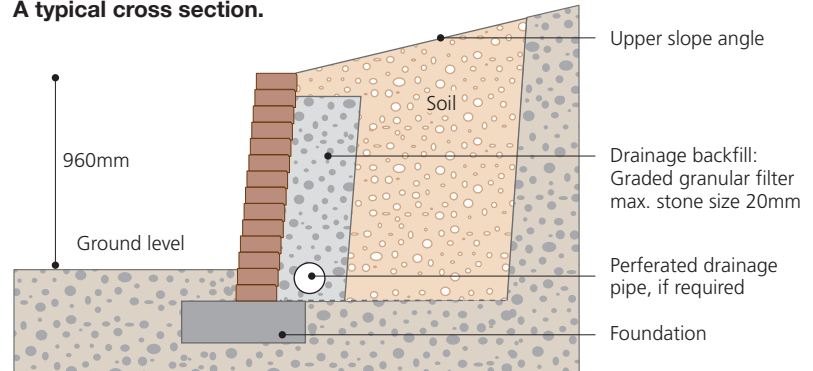
guidelines for constructing a gravity wall up to 960mm

secura lite

Foundations and drainage pipe

- 1 Prepare the foundation, excavating any unsuitable material and replacing it with 100mm Type 1/CL804, clean compacted material. Please refer to the table below for typical foundation details. An engineers' site specific design should be followed at all times. *(Please refer to the table below for dimensions and recommended block courses below ground).*
- 2 Lay the drainage pipe if required at the back of the wall and cover with granular filter, maximum stone size 20mm.

A typical cross section.

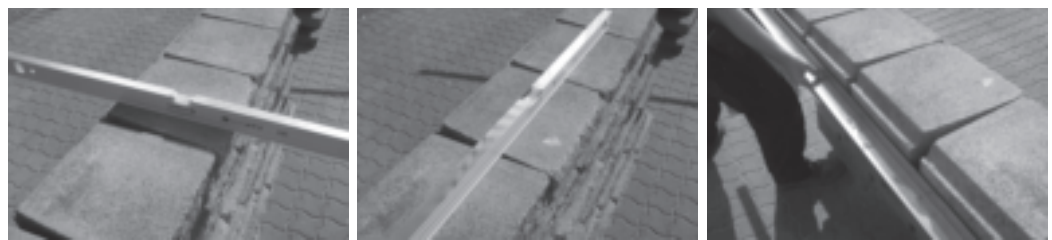


product	max. gravity wall height	min. internal radius	max. external radius	typical trench width (mm)	typical trench depth (mm)	foundation material	typical foundation depth (mm)	block courses below ground
SECURA LITE	960mm	2m	2m	600	260	Type 1/CL804	100	2

Laying the blocks

- 1 Remove the nib from the base of the blocks to be used on the first course using a bolster and club hammer.
- 2 Using a spirit level, ensure your first row of blocks are level as this will dictate the general appearance of the finished wall.
- 3 Leave a gap of 2-3mm between the blocks to maintain perpendicular joint alignment and to allow for any movement of the ground.
- 4 Before laying subsequent layers, brush the top surface of the blocks to remove any debris which may affect the wall level.
- 5 Build the wall up at five courses at a time to the required height and backfill. Use a spirit level to ensure the blocks are level as you build each row.
- 6 To install copings place two strips of adhesive cord 50mm from the front and rear faces of the blocks on the final two rows of walling. This cord should be dry or slightly damp (never wet). Alternatively copings can be glued on using an appropriate concrete adhesive.

It is good practice to use a spirit level and straight edge frequently during the construction of the wall. This will help to ensure the wall is built correctly.



Backfilling and drainage

- 1 Backfill the wall with graded granular filter, maximum stone size 20mm, to improve drainage. This should be 125mm wide and be finished 300mm below the top of the finished wall.
- 2 Please note the wall should be backfilled every four courses to avoid undue deformation of the wall.
- 3 Fill in remainder of area with clean soil.

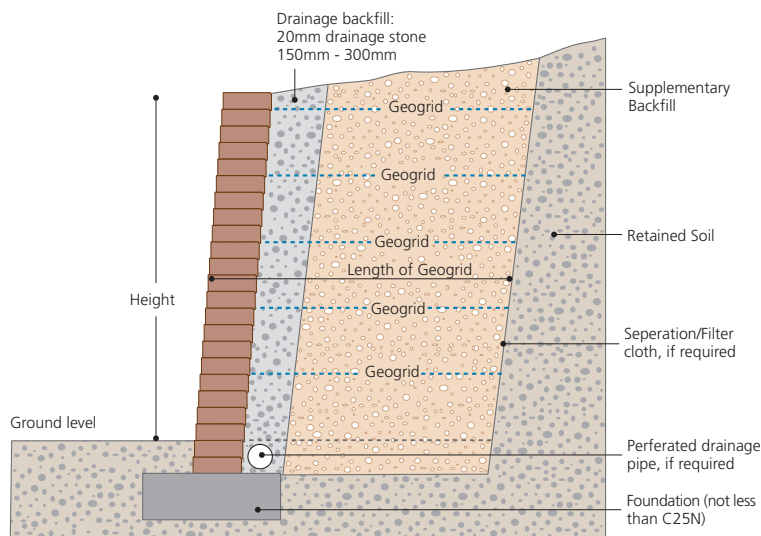
Notes

- When the angle of the upper slope is greater than 30° the retaining wall height should be reduced or soil reinforcement introduced.
- A hammer and chisel or circular saw can be used to cut or split blocks. Eye protection should be worn at all times when using any of these tools.
- Always use a coping to cap the top of the wall.

guidelines for constructing a reinforced wall above 1.25m

secura major

A typical cross section.



Foundations and drainage pipe

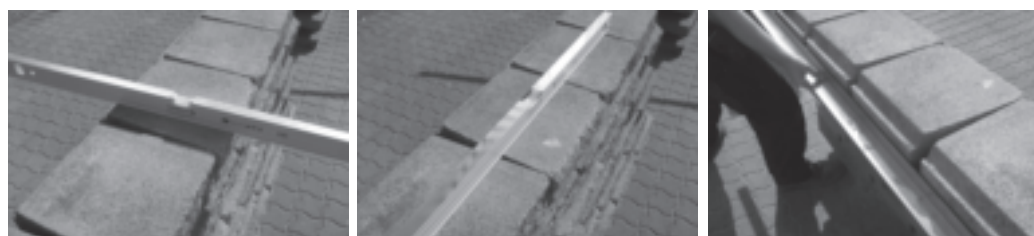
- 1 Prepare the foundation, excavating any unsuitable material and replacing it with acceptable compacted material. Please refer to the table below for typical foundation details. An engineers' site specific design should be followed at all times. (Please refer to the table below for dimensions and recommended block courses below ground)
- 2 Cast a mass concrete footing using C25N plain concrete or a compacted DTP Type 1 (or Clause 804 unbound mixture) levelling pad as specified.
- 3 Lay the drainage pipe at the back of the wall and cover with granular filter, maximum stone size 20mm.

product	max. gravity wall height	min. internal radius	max. external radius	typical trench width (mm)	typical trench depth (mm)	foundation material	typical foundation depth (mm)	block courses below ground
SECURA MAJOR	1.25m	3m	3m	600	350	Type 1/CL804	100	2

Laying the blocks

- 1 Remove the nib from the base of the blocks to be used on the first course using a bolster and club hammer.
- 2 Using a spirit level, ensure your first row of blocks are level as this will dictate the general appearance of the finished wall.
- 3 Leave a gap of 2-3mm between the blocks to maintain perpendicular joint alignment and to allow for any movement of the ground.
- 4 Before laying subsequent layers, brush the top surface of the blocks to remove any debris which may affect the wall level.
- 5 To achieve a staggered bond, place a block approximately half a block width from its final position and slide sideways into place. Ensure the nib at the back of the block is placed against the block below.
- 6 Build the wall up four courses at a time, placing Geogrid on top of each specified block layer and backfilling until you reach the required height. Use a spirit level to ensure the blocks are level as you build each row. (See guidelines on page 119 for using Geogrid, backfilling and drainage)
- 7 Place two strips of adhesive cord 50mm from the front and rear faces of the blocks on the final two rows of walling. This cord should be dry or slightly damp (never wet). Alternatively copings can be glued on using an appropriate concrete adhesive.

It is good practice to use a spirit level and straight edge frequently during the construction of the wall. This will help to ensure the wall is built correctly.



Notes

- A hammer and chisel or circular saw can be used to cut or split blocks. Eye protection should be worn at all times when using any of these tools.

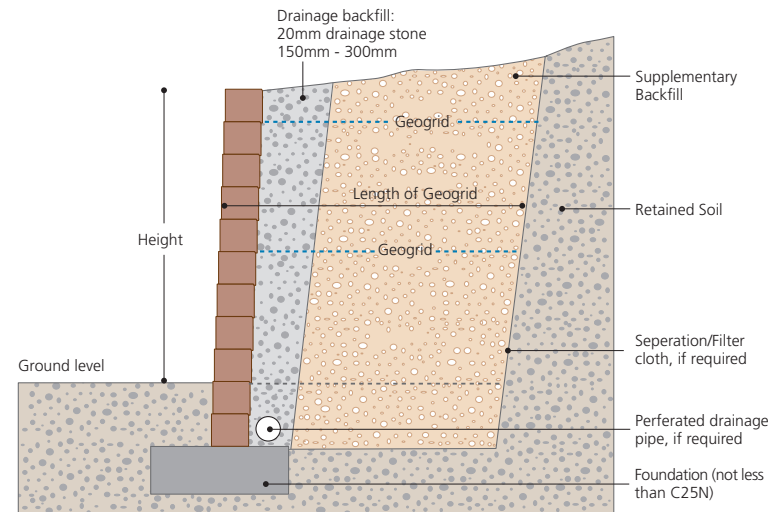
guidelines for constructing a reinforced wall above 1.2m

secura grand

Foundations and drainage pipe

- 1 Prepare the foundation, excavating any unsuitable material and replacing it with acceptable compacted material. Please refer to the table below for typical foundation details. An engineers' site specific design should be followed at all times. *(Please refer to the table below for dimensions and recommended block courses below ground)*
- 2 Cast a mass concrete footing using C25N plain concrete or a compacted DTP Type 1 (or Clause 804 unbound mixture) levelling pad as specified.
- 3 Lay the drainage pipe at the back of the wall and cover with granular filter, maximum stone size 20mm.

A typical cross section.



product	max. gravity wall height	min. internal radius	max. external radius	typical trench width (mm)	typical trench depth (mm)	foundation material	typical foundation depth (mm)	block courses below ground
SECURA GRAND	1.2m	3m	3m	600	500	Type 1/CL804	200	2

Laying the blocks

- 1 Remove the nib from the base of the blocks to be used on the first course using a bolster and club hammer.
- 2 Using a spirit level, ensure your first row of blocks are level as this will dictate the general appearance of the finished wall.
- 3 Leave a gap of 2-3mm between the blocks to maintain perpendicular joint alignment and to allow for any movement of the ground.
- 4 Before laying subsequent layers, brush the top surface of the blocks to remove any debris which may affect the wall level.
- 5 To achieve a staggered bond, place a block approximately half a block width from its final position and slide sideways into place. Ensure the nib at the back of the block is placed against the block below.
- 6 Build the wall up four courses at a time, placing Geogrid on top of each specified block layer and backfilling until you reach the required height. Voids should be filled after each row is built. Use a spirit level to ensure the blocks are level as you build each row. *(See guidelines on page 119 for using Geogrid, backfilling and drainage)*
- 7 Place two strips of adhesive cord 50mm from the front and rear faces of the blocks on the final two rows of walling. This cord should be dry or slightly damp (never wet). Alternatively copings can be glued on using an appropriate concrete adhesive.

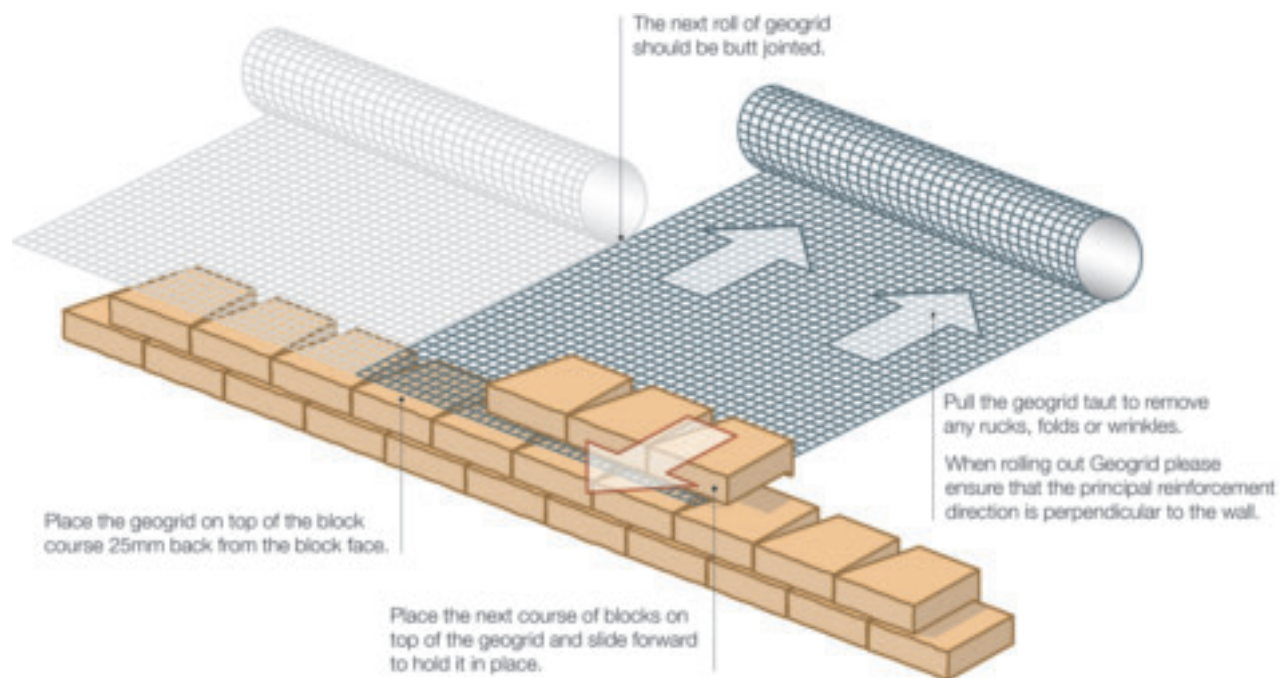
It is good practice to use a spirit level and straight edge frequently during the construction of the wall. This will help to ensure the wall is built correctly.



Notes

- Secura Grand has two voids in the block. We recommend filling these voids using graded granular filter, with a maximum stone size 20mm. These voids should be filled before building the next row. When using Secura Grand it is advisable to use a coping to finish off the wall due to the voids in the blocks.
- A hammer and chisel or circular saw can be used to cut or split blocks. Eye protection should be worn at all times when using any of these tools.

guidelines for drainage, geogrid & backfill



Drainage

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

Geogrid

For all reinforced retaining walls using Tobermore Secura products we would recommend a Fortrac Geogrid. No substitutes allowed. Fortrac Geogrids are available from Tobermore.

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

Backfilling

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

Notes

- The above diagram illustrates the construction of straight walls using Geogrid. *(For the construction of curved walls please contact Tobermore)*
- Backfill material should be used in accordance with 6I & 6J - See table on page 120.

Geogrid guidelines

For all reinforced retaining walls using Tobermore Secura products we would recommend a Fortrac Geogrid. No substitutes allowed. Fortrac Geogrids are available from Tobermore.

The following tables are based on a retained soil friction angle of 35° and surcharge loading of 100 P.S.F. These and others factors will have an impact on the design specifications. Therefore we would always advise that an independent engineer be consulted prior to construction.

secura major

wall height (mm)	number of layers of geogrid	geogrid length (mm)	geogrid elevation above top of footing (mm)			
			layer 1	layer 2	layer 3	layer 4
2125	4	1700	250	875	1375	1875
1875	3	1500	375	1000	1625	
1500	2	1200	500	1125	-	-
1250	Maximum gravity wall height					

secura grand

wall height (mm)	number of layers of geogrid	geogrid length (mm)	geogrid elevation above top of footing (mm)			
			layer 1	layer 2	layer 3	layer 4
2600	4	2100	400	1000	1600	2200
2000	3	1600	400	1000	1600	
1600	2	1300	600	1200	-	-
1200	Maximum gravity wall height					

Higher walls

Retaining walls of a greater height can be constructed using Secura Major or Grand. If you have any project of this nature please contact Tobermore for further assistance.

Acceptable earthworks materials for supplementary backfill:

classification & compaction requirements

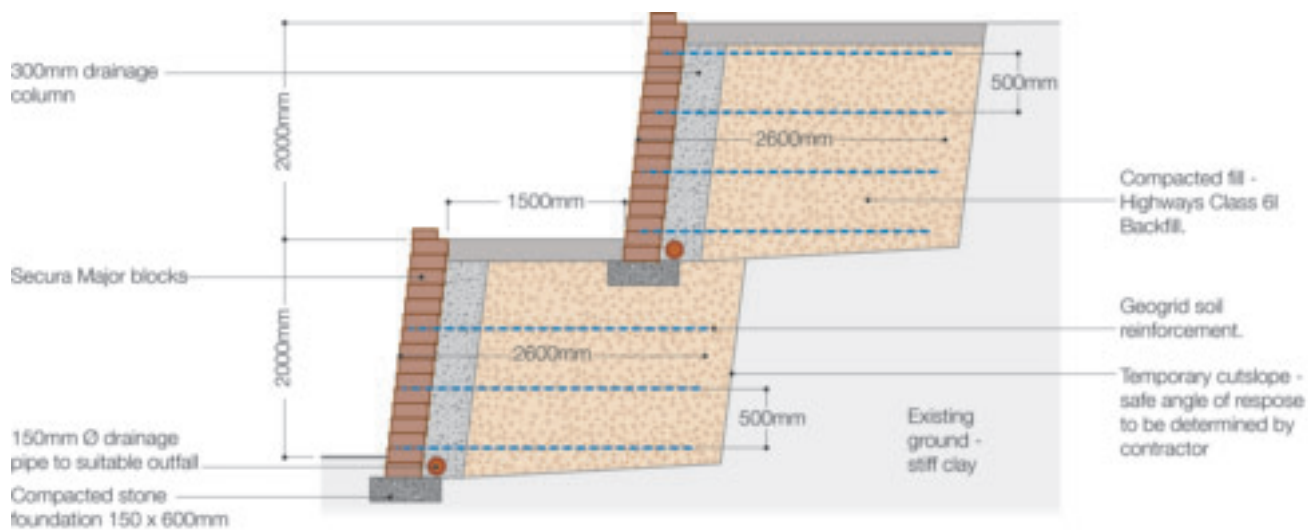
class	size (mm)		size (mm) BS Series													size (microns) BS Series				size (microns)	class
	500	300	125	90	75	37.5	28	20	14	10	6.3	5	3.35	2	1.18	600	300	150	63	2	
6I & 6J	-	-	100	-	85-100	-	-	-	25-100	-	-	-	-	15-100	-	9-100	-	-	<15	-	6I & 6J

typical secura drawings

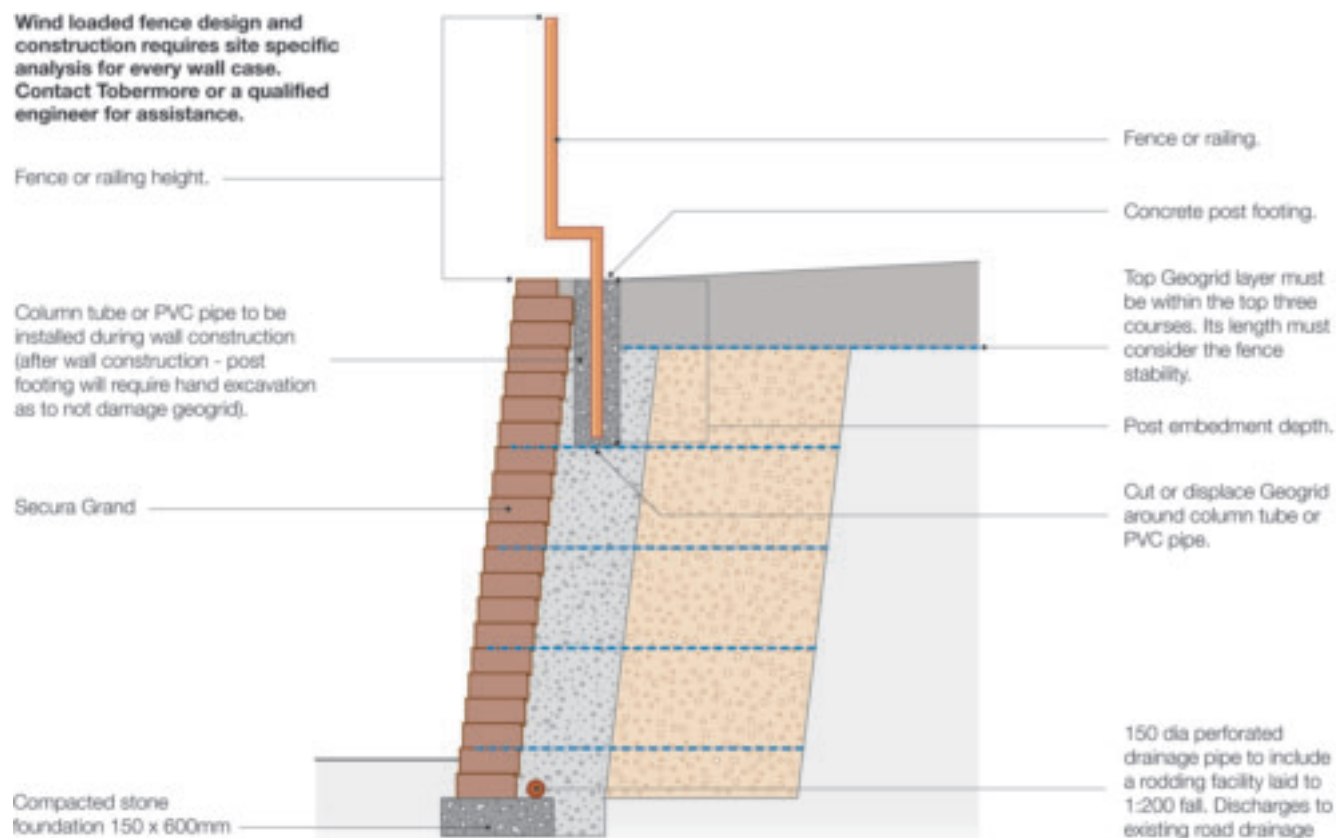
catalogue of designs

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

2 + 2 Metre Tiered Wall



Cantilever Fence Wall



No Wind Fence Wall

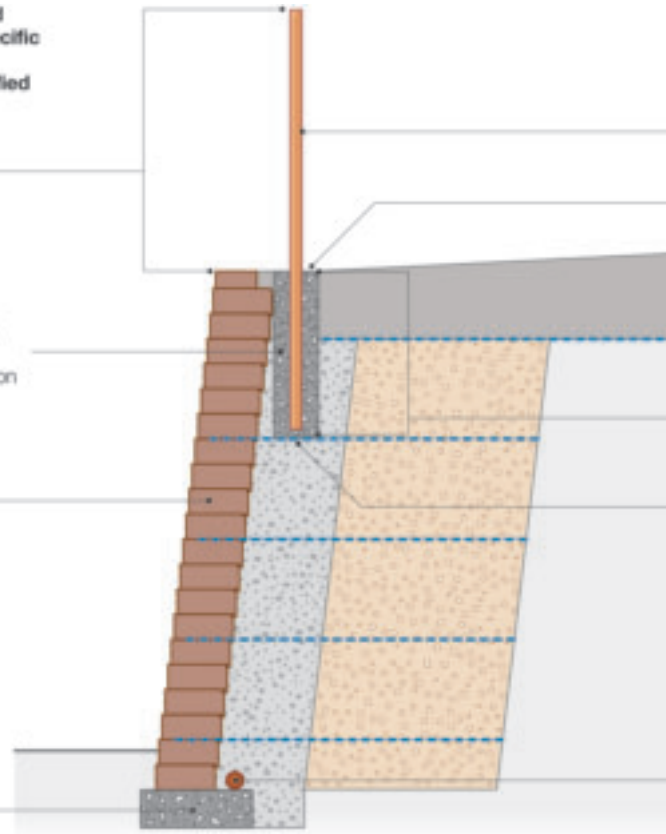
Wind loaded fence design and construction requires site specific analysis for every wall case. Contact Tobermore or a qualified engineer for assistance.

Fence or railing height.

Column tube or PVC pipe to be installed during wall construction (after wall construction - post footing will require hand excavation as to not damage geogrid).

Secura Grand

Compacted stone foundation 150 x 600mm



Non-wind loaded fence or railing.

Concrete post footing.

Top Geogrid layer must be within the top three courses. Its length must consider the fence stability.

Post embedment depth.

Cut or displace Geogrid around column tube or PVC pipe.

150 dia perforated drainage pipe to include a rodding facility laid to 1:200 fall. Discharges to existing road drainage

Wind Fence Wall

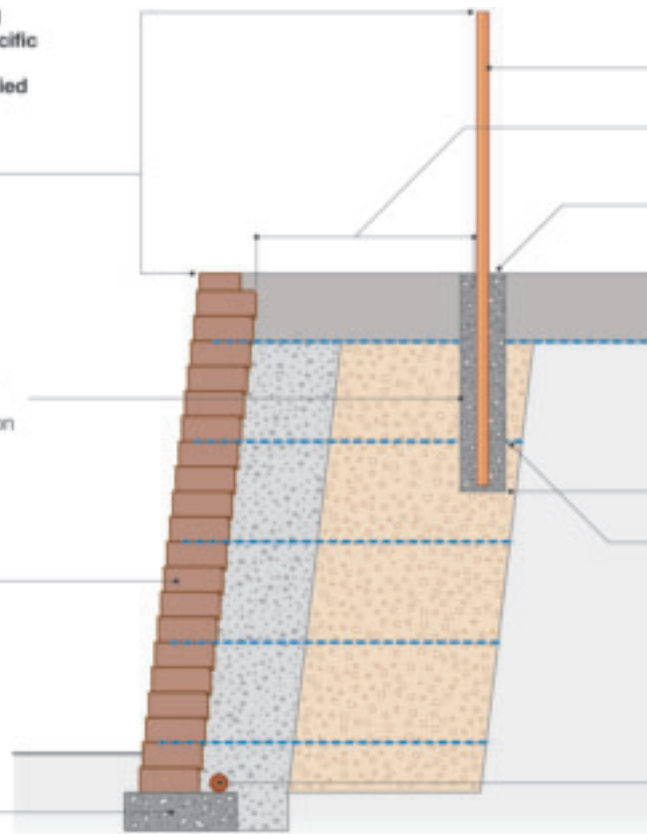
Wind loaded fence design and construction requires site specific analysis for every wall case. Contact Tobermore or a qualified engineer for assistance.

Fence or railing height

Column tube or PVC pipe to be installed during wall construction (after wall construction - post footing will require hand excavation as to not damage geogrid).

Secura Grand

Compacted stone foundation 150 x 600mm



Fence or railing.

1m minimum.

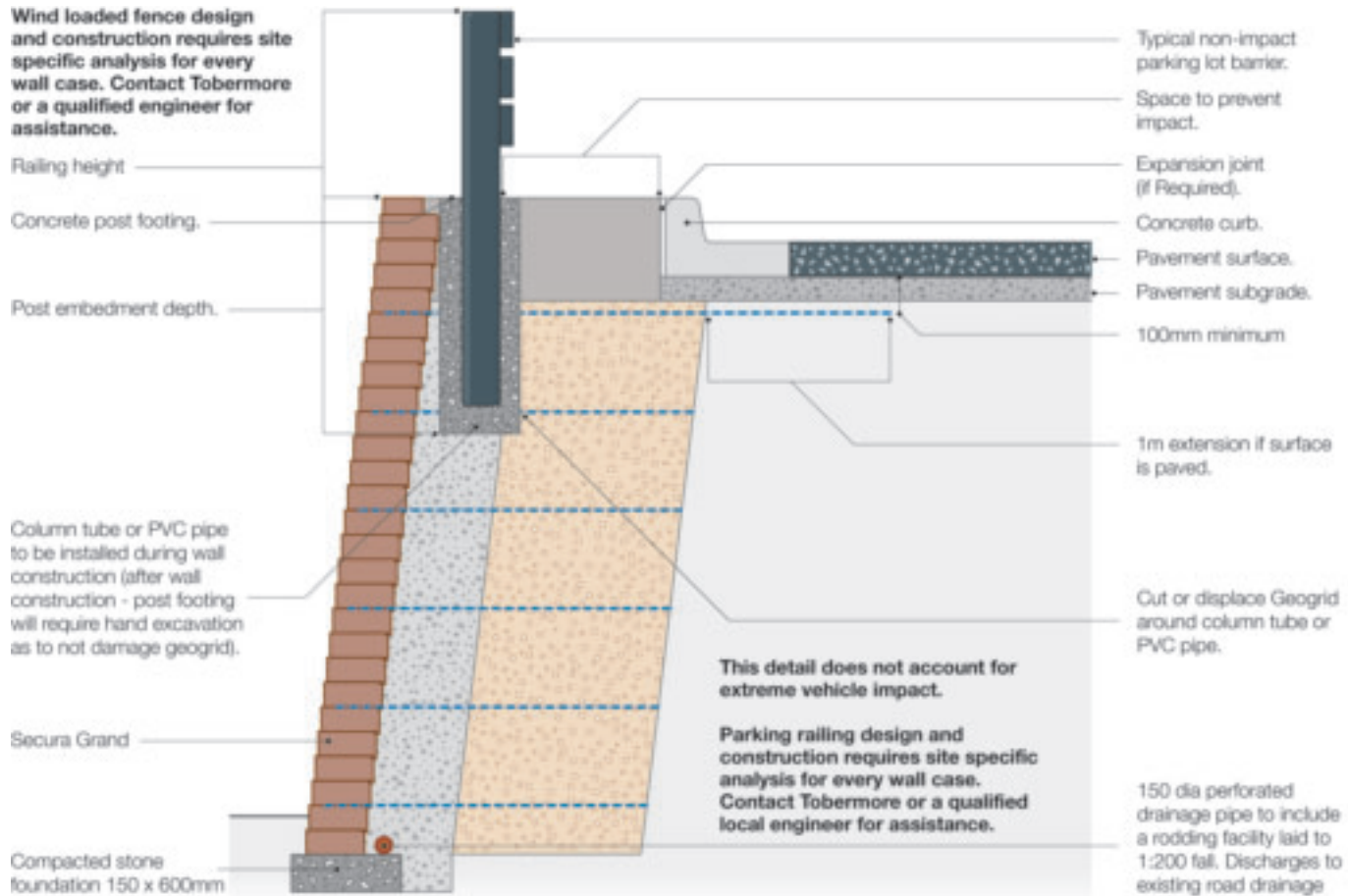
Concrete post footing.

Post embedment depth.

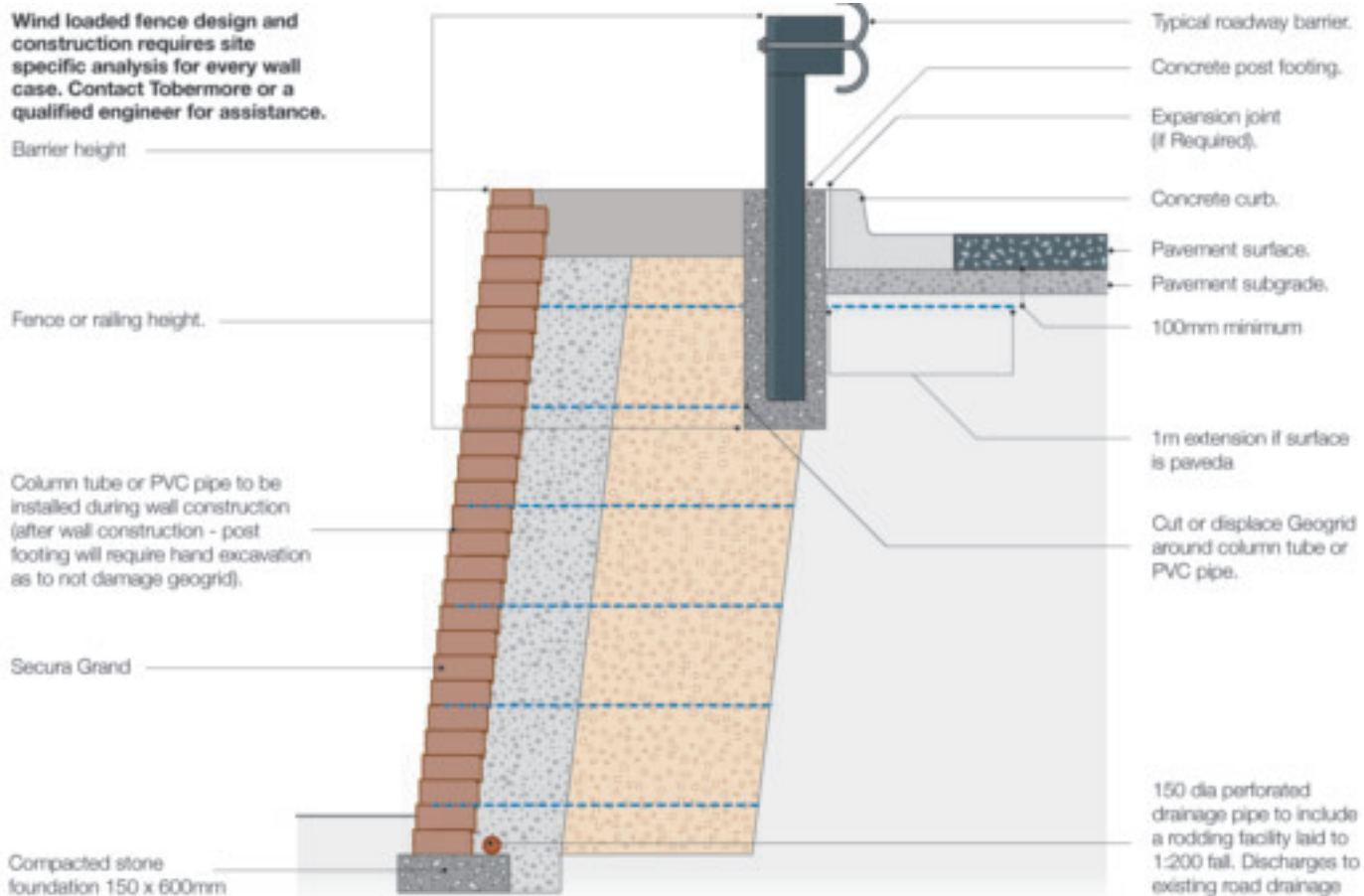
Cut or displace Geogrid around column tube or PVC pipe.

150 dia perforated drainage pipe to include a rodding facility laid to 1:200 fall. Discharges to existing road drainage

Non Impact Railing Wall



Impact Railing Wall





Tobermore offer an extensive range of eco products which have excellent rates of recycled contents and carbon footprint results.

eco paving products

eco block paving

■ Eco Pedesta	126
■ Eco Shannon	126
■ Eco Tegula Trio	127
■ Eco Sienna Duo	127

eco hydropave permeable paving

■ Eco Hydropave 240	128
■ Eco Hydropave Sienna 200	128

eco paving flags

■ Eco Mayfair Flags	129
■ Eco Textured Flags	129

eco fusion

■ Eco Fusion	130
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eco kerbs

■ Eco Country Kerb Granite	130
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eco walling

■ Eco Secura Grand	131
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eco pedestas

hard wearing surface, beautiful colours



See page 33 for all colour swatches.

product specifications

Size	200 x 100 x 80mm
Colours available	Heather, Bracken, Brindle, Natural, Charcoal, Golden, Chocolate, Red
Product type	Concrete Paving Block
Manufactured to	BS EN 1338:2003
Strength	> 3.6MPa
Slip/Skid resistance	Extremely low (>75 USRV)
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Installed to	BS7533-3:2005
BS Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	22 KgCO ₂ e/m ² (Awaiting formal approval by Carbon Trust)
Recyclable	100% of this product can be recycled
Recycled content	Not less than 64%
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco shannon

beautiful colours, smooth surface



See page 31 for all colour swatches.

product specifications

Size	208 x 173 x 80mm
Colours available	Heather, Bracken, Brindle, Natural, Charcoal
Product type	Concrete Paving Block
Manufactured to	BS EN 1338:2003
Strength	> 3.6MPa
Slip/Skid resistance	Extremely low (>75 USRV)
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Installed to	BS7533-3:2005
BS Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	22 KgCO ₂ e/m ² (Awaiting formal approval by Carbon Trust)
Recyclable	100% of this product can be recycled
Recycled content	Not less than 64%
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary Kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco tegula trio

tumbled aged appearance



Bracken

See page 19 for all colour swatches.

product specifications

Size	208 x 173 x 60mm 173 x 173 x 60mm 138 x 173 x 60mm	(comes with all three sizes pre-mixed)
Colours available	Heather, Bracken, Natural, Charcoal, Cedar, Slate	
Product type	Concrete Paving Block	
Manufactured to	BS EN 1338:2003	
Manufacturing process	Tumbled to give aged appearance	
Strength	> 3.6MPa	
Slip/Skid resistance	Extremely low (>75 USRV)	
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence	
Installed to	BS7533-3:2005	
BS Plus	Q24 110	
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.	
Energy used	100% renewable energy	
Water used	100% from rainwater harvesting system	
Carbon Footprint	20 KgCO ₂ e/m ² (Awaiting formal approval by Carbon Trust)	
Recyclable	100% of this product can be recycled	
Recycled content	Not less than 62%	
Manufacturing location	Produced in the UK with locally sourced materials	
Breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk	
Complementary kerbs	Kerbsett, Kerbstone, Country Kerb	

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco sienna duo

vibrant granite appearance



Silver

See page 25 for all colour swatches.

product specifications

Size	208 x 173 x 80mm 173 x 173 x 80mm	(comes with both sizes in one bale)
Colours available	Silver, Sandstone, Graphite	
Product type	Concrete Paving Block	
Manufactured to	BS EN 1338:2003	
Strength	> 3.6MPa	
Slip/Skid resistance	Extremely low (>75 USRV)	
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement	
Surface finish	Textured granite aggregate	
Granite aggregate	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	
Installed to	BS7533-3:2005	
BS Plus	Q24 110	
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.	
Energy used	100% renewable energy	
Water used	100% from rainwater harvesting system	
Carbon Footprint	80mm Silver: 24kgCo ₂ e/m ² 80mm Sandstone: 28kgCo ₂ e/m ² 80mm Graphite: 26kgCo ₂ e/m ² (Awaiting formal approval by Carbon Trust)	
Recycled content	Not less than 70% recycled materials included (Silver & Graphite); Not less than 64% recycled materials included (Sandstone)	
Recyclable	100% of this product can be recycled	
Manufacturing location	Produced in the UK with locally sourced materials	
Breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk	
Complementary kerbs	Kerbsett, Kerbstone, Celtic Kerb, Country Kerb	

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco hydropave 240

hard wearing surface, beautiful colours



See page 33 for all colour swatches.

product specifications

Size	240 x 120 x 80mm
Colours available	Heather, Bracken, Brindle, Natural, Charcoal, Golden
Product type	Concrete Paving Block
Manufactured to	BS EN 1338:2003
Strength	> 3.6MPa
Slip/Skid resistance	Extremely low (>75 USRV)
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Frost protection	Yes
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Drainage void width	6% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate
Permeability	1800 litres/sec/hectare
Installed to	BS7533-3:2005
BS Plus	Q24 115
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon footprint	24 KgCO ₂ e/m ² (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 64%
Recyclable	100% of this product can be recycled
Design life	25 Years. The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided.
Manufacturing location	Produced in the UK with locally sourced materials
breeam rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco hydropave sienna 200

vibrant granite appearance



See page 25 for all colour swatches.

product specifications

Size	200 x 100 x 80mm
Colours available	Silver, Sandstone, Graphite
Product type	Concrete Paving Block
Manufactured to	BS EN 1338:2003
Strength	> 3.6MPa
Slip/Skid resistance	Extremely low (>75 USRV)
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Surface finish	Textured granite aggregate
Granite aggregate	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
Drainage void width	5.5% to accommodate correct grit grading, reduce maintenance and maximise drainage flow rate
Permeability	1800 litres/sec/hectare
Installed to	BS7533-3:2005
BS Plus	Q24 115
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	80mm Silver: 24kgCo ₂ e/m ² 80mm Sandstone: 28kgCo ₂ e/m ² 80mm Graphite: 26kgCo ₂ e/m ² (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 70% recycled materials included (Silver & Graphite); Not less than 64% recycled materials included (Sandstone)
Recyclable	100% of this product can be recycled
Design life	25 Years. The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided.
Manufacturing location	Produced in the UK with locally sourced materials
breeam rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132. All Eco products are **Special Order** items.

eco paving flags

direct web link:
www.tobermore.co.uk/ecoproducts
sales & technical line:
028 7964 2411 (for ROI change 028 to 048)

eco mayfair flags

vibrant granite appearance



Sandstone

See page 65 for all colour swatches.

product specifications

Size	450 x 450 x 50mm
Colours available	Silver, Sandstone, Graphite
Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Strength	> 3.5MPa
Slip/Skid resistance	Extremely low (>75 USRV)
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Surface finish	Textured granite aggregate
Granite aggregate	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
Installed to	BS7533-4:2006
BS Plus	Q25 215
Applications	Eco Mayfair Flags are suitable for all pedestrian areas and traffic free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS7533-8:2003 for guidance on correct flag size to suit your application.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	Silver: 16kgCo ² e/m ² Sandstone: 19kgCo ² e/m ² Graphite: 20kgCo ² e/m ² (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 82% recycled materials included (Silver & Graphite); Not less than 66% recycled materials included (Sandstone)
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.
All Eco products are **Special Order** items.

eco textured flags

unique granular surface



Buff

See page 69 for all colour swatches.

product specifications

Size	450 x 450 x 50mm
Colours available	Natural, Red, Charcoal, Buff, Golden
Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Strength	> 3.5MPa
Slip/Skid resistance	Extremely low (>75 USRV)
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >390kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Installed to	BS7533-4:2006
BS Plus	Q25 215
Applications	Eco Textured Flags are suitable for all pedestrian areas and traffic free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS7533-8:2003 for guidance on correct flag size to suit your application.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	18kgCo ² e/m ² (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 66% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary Kerbs	Kerbsett, Kerbstone, Country Kerb

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.
All Eco products are **Special Order** items.

eco fusion

eco fusion

vibrant granite appearance



See page 35 for all colour swatches.

product specifications

Product type	Concrete paving block/flag
Manufactured to	BS EN 1338:2003: 100 x 100 x 80mm 200 x 200 x 80mm 300 x 200 x 80mm BS EN 1339:2003: 300 x 300 x 80mm 600 x 300 x 80mm
Surface finish	Textured Granite Aggregate
Granite aggregate	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.
Surface layer	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m ³ cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	BS EN 1338:2003 = > 3.6MPa BS EN 1339:2003 = > 3.5MPa
Slip/Skid resistance	Extremely Low (>75 USRV)
Installed to	BS 7533-3:2005
BS Plus	Q24 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% water used from rainwater harvesting system
Carbon Footprint*	80mm Silver: 24kgCo ² e/m ² 80mm Mid Grey: 24kgCo ² e/m ² 80mm Sandstone: 28kgCo ² e/m ² 80mm Graphite: 26kgCo ² e/m ² (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 70% recycled materials included (Silver, Mid Grey & Graphite); Not less than 64% recycled materials included (Sandstone)
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk
Complementary Kerbs	Country Kerb Granite, Country Edge Granite

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco kerb

eco country kerb

vibrant granite appearance



See page 83 for all colour swatches.

product specifications

Size	250 x 125 x 915mm
Colours available	Granite Aggregate
Product type	Concrete Kerb
Manufactured to	BS EN 1340:2003
Strength	> 3.5MPa
Surface finish	Textured granite aggregate
Installed to	BS7533-6:1999
BS Plus	Q10 110
Applications	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British standard.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	10kgCo ² e/ea (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 55% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials

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See instructions and warnings on page 132.

All Eco products are **Special Order** items.

eco segura grand
 retaining wall system



See page 111 for all colour swatches.

product specifications

Size	400 x 230 x 200mm
Colours available	Bracken, Heather, Slate
Product type	Concrete Block
Manufactured to	BS EN 6073-1
Strength	> 30N/mm ²
Manufacturing process	Processed to leave aged antique appearance
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Installed to	BS8002
NSP	D41 310
Batter	1:8
Applications	Residential and Commercial. Please consult the relevant British Standard for specific details.
Energy used	100% renewable energy
Water used	100% from rainwater harvesting system
Carbon Footprint	5 KgCO ₂ e/m ² (Awaiting formal approval by Carbon Trust)
Recycled content	Not less than 61% recycled materials included
Recyclable	100% of this product can be recycled
Manufacturing location	Produced in the UK with locally sourced materials
breem rating	A (In accordance with the Green Guide to Specification, 2nd edition 2009) A+ (can be achieved when used with recycled sub-base, in accordance with the Green Guide to Specification, 2nd edition 2009) www.bre.co.uk

Tobermore products are manufactured in accordance to an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance to BS EN ISO 14021:2001.



Secura Grand segmental retaining wall system
 BBA Roads and Bridges **certificate 10/R148**

See instructions and warnings on page 132.

All Eco products are **Special Order** items.

instructions and warnings

(As referred to in Tobermore's Conditions of Sale)

CORE TERMS (PAVING & WALLING)

Product

All products should be carefully inspected for defects or damage upon delivery and prior to being laid or fitted.

Product Information

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

Installation

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

Colour

Tobermore produces paving and walling products with excellent density and durability, however, as with all concrete products, slight colour variations and/or weathering may occur.

Although every effort is made to ensure consistency of product colour, variations between production batches can occur. Tobermore therefore recommends that when purchasing products, especially in larger quantities, they all come from the same batch and that products are thoroughly mixed on site by drawing from a minimum of 3 pallets.

The colour of new paving blocks, flags and walling products will inevitably vary compared to those which have been laid for a period of time.

All colour illustrations in Tobermore's brochures are as accurate as the printing process will allow. For a more accurate colour match, please refer to actual product samples available from any of Tobermore's Paving and Walling Centres.

It can be expected that colours may not be as pleasing or as well blended with machine laid product due to the manufacturing and laying process.

Efflorescence

Efflorescence is a white crystalline deposit that occurs naturally on the surface of concrete materials. If it occurs, efflorescence may mask the colour of the product for a period of time, but tends to be washed away gradually by rain.

Surface Scratches

Minor scuffs or bruises may occur during installation (for example, during any plate vibrating process). In Tobermore's experience, these marks usually weather off through time.

Ordering

To avoid waste, please ensure that your contractor accurately measures the area on site before ordering products. In Tobermore's experience, dimensions taken from a project plan can vary significantly from the final layout.

Manufacturing & Quality systems

Tobermore is a BS EN ISO 9001:2000 and BS EN ISO 14001 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.

Laying multi-blend coloured paving blocks, flags and walling products

To achieve an even blend of colour when laying multi-blend paving blocks, flags and walling products, it is desirable to mix from 3 or 4 different pallets.

Queries & Complaints

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

CORE TERMS (PAVING ONLY)

Product Maintenance

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

Initial Cleaning

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

General Cleaning

Paving requires regular maintenance, including regular sweeping to prevent the build up of detritus. Tobermore recommends that paving is cleaned 2-3 times per year.

For general cleaning of dirt and algae, vigorous brushing with a stiff yard brush with plenty of hot detergent solution (washing up liquid or non-bio washing powder), thoroughly rinsed with clean water, should suffice. Repeated treatment may be required for paved areas sited beneath trees or in permanent/near permanent shade.

A light power hose at medium pressure is generally all that is required to clean general dirt and grime. Any jointing material which is removed must be replaced. Do not use high pressure powerwashers as aggressive power-washing can damage the product surface. A trial area should be tested before large scale powerwashing takes place.

Moss, Lichen and Algae

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

Weeds

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

Block Paving Sealer

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

FOR HYDROPAVE PRODUCTS

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

- a permeable paving design relies heavily on using the correct aggregates. Prior to installation, Tobermore recommends that you 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 the standard. The grit should be insoluble in dilute hydrochloric acid and should be naturally occurring material. In Tobermore's experience, incorrect use of aggregates is one of the most common reasons for failure of a permeable paving design;
- 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. Tobermore recommends that after a few weeks of use, any joints which have settled and are not full, are topped up with grit. Joints should be kept filled at all times. You need approximately 1 ton of grit for every 100m² of 80mm paving;
- care should be taken that the permeable joints do not become contaminated as work on the scheme continues. Special care must be taken when soft landscaping is carried out so that soil does not enter the joints.

If any other design methodology is to be used, please take independent expert advice in advance.

FOR PIETRA PRODUCTS

All natural stone products are porous and are subject to variation in colour, density, dimension and quantity. These inherent variations cannot be controlled nor the precise shade of the stone guaranteed. Tobermore's selection process aims to ensure your natural stone products are as uniform in size and thickness as possible. However, because these are natural materials, the size and thickness may vary. This can normally be allowed for when the products are installed. Tobermore's recommends that you take independent expert advice in advance of installing the products.

Colour

Tobermore recommends that products are chosen from, and verified against, actual natural stone samples, rather than the photography in Tobermore's brochures.

It is fundamental to the character and appeal of natural stone that there are variations in texture, shade and tone between individual stones. For this reason, your contractor should use slabs or setts from several different packs to ensure a consistent blend of colours.

Weathering

As with all exposed materials, the products will weather over time. The nature and extent of any changes in appearance as a result of weathering will typically be dependent on a combination of: location; degree of exposure; prevailing weather conditions; and/or quality of installation.

Sealing

Please note that the sealing of granite or sandstone blocks and flags can help reduce staining from coffee, wine and efflorescence. Tobermore can supply sealing agents if required. The manufacturer's instructions should always be followed when using any sealing agent.

FOR PIETRA GRANITE FLAGS

Non-Slip: The flame textured finish accentuates the crystalline nature of the natural stone and at the same time gives good slip resistance. When laying these slabs, ensure that the textured surface is up.

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.

FOR SECURA PRODUCTS


Installation - Secura

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



Lisburn City Centre, Tegula 60mm Heather with Tegula Setts 60mm Charcoal and Sienna 60mm Silver





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