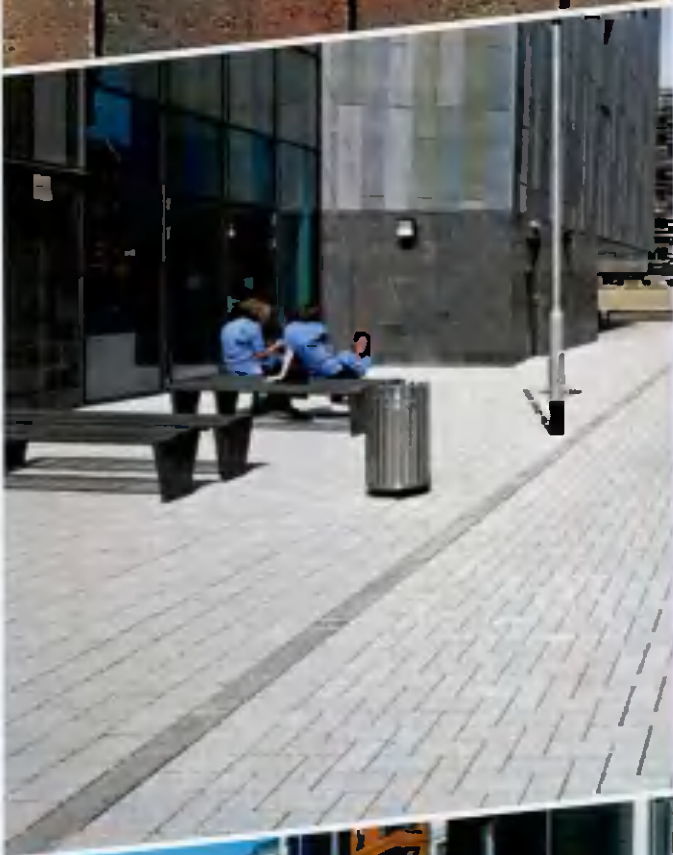


v 1.2  
March 2018







**Tobermore**

WORLD CLASS PAVING & WALLING



# hydropave permeable paving

[www.tobermore.co.uk](http://www.tobermore.co.uk) | 0844 800 5736 |    



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world class

# hydropave permeable paving

Tobermore offer an extensive variety of Hydropave Permeable Paving products. With all the versatility and aesthetic qualities of our standard and most popular paving products, the Hydropave range allows the creation of spectacular hard landscaping features with environmentally friendly products that reduce the risk of flooding and pollution.

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# hydropave tegula



timeless elegance

- Functions as a SUDS paving system
- Tumbled to give an aged, antique appearance
- Evokes timeless style and elegance
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Suitable for both modern or period properties

## product specifications

<b>Product type</b>	Concrete Paving Block
<b>Manufactured to</b>	BS EN 1338:2003
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	<b>60mm:</b> 5% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate <b>80mm:</b> 6% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	<b>60mm:</b> 29,000 litres/sec/hectare <b>80mm:</b> 35,000 litres/sec/hectare
<b>Strength</b>	> 3.6MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-3:2005
<b>BS Plus</b>	Q24 115
<b>Applications</b>	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British Standard.
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	<b>60mm:</b> 24kgCO <sub>2</sub> e/m <sup>2</sup> <b>80mm:</b> 34kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green rating</b> www.bre.co.uk	<b>60mm:</b> <b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved by using a recycled sub-base. <b>80mm:</b> <b>B</b> according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> , can be achieved by using a recycled sub-base.

Tobermore products are manufactured in accordance with an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO 14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance with BS EN ISO 14021:2001.

## colours



The swatches below are for colour reference only. The actual block profile for Hydropave Tegula Duo will be as per swatches above.



Hydropave Tegula Duo Bracken

product	size (mm)	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE TEGULA 200	200 x 100 x 80	Bracken, Charcoal, Heather	YES	9.6	1.6	50	480	1732
HYDROPAVE TEGULA 240 BIM	240 x 120 x 80	Bracken, Charcoal, Slate	YES	10.08	2.02	34.72	350	1761
HYDROPAVE TEGULA DUO BIM	208 x 173 x 60	Bracken, Cedar, Charcoal, Heather, Natural, Slate	YES	12.87	0.99	30	195	1721
	173 x 173 x 60						195	

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

Refer to all instructions and warnings on our website

# hydropave fusion

## modular granite paving



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

### Important Information

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

### product specifications

<b>Product type</b>	Concrete Paving Block
<b>Manufactured to</b>	BS EN 1338:2003
<b>Surface Layer</b>	Hard wearing surface layer with a minimum layer of 40mm and >350kgs/m <sup>3</sup> cement
<b>Granite Content in Surface Layer</b>	Not less than 53% of granite aggregate in surface layer for Silver, Graphite and Mid Grey; not less than 45% of granite aggregate in surface layer for Sandstone.
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	3.8% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	30,000 litres/sec/hectare
<b>Strength</b>	> 3.6MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-3:2005
<b>BS Plus</b>	CR4 115
<b>Applications</b>	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British Standards.
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	34kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Recycled Content</b>	Not less than 8% (Azure Blue, Graphite, Jade Green, Mid Grey, Russet, Silver)
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided.
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green rating</b> www.bre.co.uk	<b>B</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2006. <b>A</b> , can be achieved by using a recycled sub-base.

Tobermore products are manufactured in accordance with 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 with BS EN ISO 14021:2001

### colours



Hydropave Fusion Sandstone & Silver

product	size (mm)	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE FUSION	200 x 100 x 80	Graphite, Mid Grey, Silver	YES	9.6	1.6	50	480	1739
	300 x 200 x 80	Blanc, Graphite, Mid Grey, Noir, Sandstone, Silver	MADE TO ORDER	9.6	2.4	16.66	160	1756
	300 x 300 x 80	Blanc, Graphite, Mid Grey, Noir, Sandstone, Silver	MADE TO ORDER	10.8	2.7	11.11	120	1973
	600 x 300 x 80	Blanc, Graphite, Mid Grey, Noir, Sandstone, Silver	MADE TO ORDER	10.8	5.4	5.55	60	1973

Refer to all instructions and warnings on our website

# hydropave sienna



vibrant granite appearance

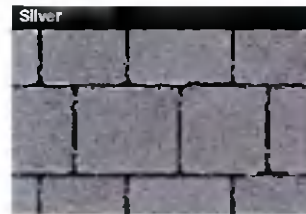
- Functions as a SUDS paving system
- Manufactured with sparkling natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Creates a striking, contemporary look

## product specifications

<b>Product type</b>	Concrete Paving Block
<b>Manufactured to</b>	BS EN 1338:2003
<b>Surface Layer</b>	Hard wearing surface layer with a minimum layer of 4mm and >350kg/m <sup>3</sup> cement
<b>Granite Content</b>	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.
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	7% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	29,000 litres/sec/hectare
<b>Strength</b>	> 3 MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRM)
<b>Installed to</b>	BS 7533-3:2005
<b>BS5 Plus</b>	034 115
<b>Applications</b>	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British Standard.
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	<b>Silver:</b> 24kgCo <sub>2</sub> e/m <sup>2</sup> <b>Sandstone:</b> 26kgCo <sub>2</sub> e/m <sup>2</sup> <b>Graphite:</b> 26kgCo <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Recycled Content</b>	Not less than 6% recycled materials included (Silver & Graphite only)
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided.
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green list rating</b> <a href="http://www.bim.co.uk">www.bim.co.uk</a>	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved by using a recycled sub-base.

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## colours



### Important Information

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

The swatches below are for colour reference only. The actual block profile will be as per swatch above.



Hydropave Sienna Duo Silver

product	size (mm)	colours available	In stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE SIENNA DUO BIM <small>(both sides in one pack)</small>	208 x 173 x 60 173 x 173 x 60	Graphite Sandstone, Silver	YES	12.87	0.99	30	195 195	1800

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

Refer to all instructions and warnings on our website



# hydropave shannon



delightful smooth finish

- Functions as a SUDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence

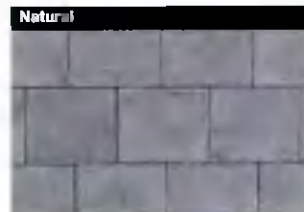
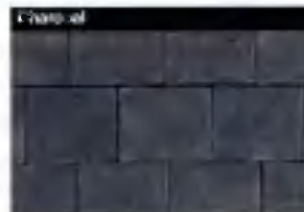
## product specifications

<b>Product type</b>	Concrete Paving Block
<b>Manufactured to</b>	BS EN 1338:2003
<b>Surface Layer</b>	Hard wearing surface layer with a minimum layer of 4mm and >350kg/m <sup>2</sup> cement
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	5% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	29,000 litres/sec/hectare
<b>Strength</b>	> 3.6MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-3 2005
<b>BSI Plus</b>	Q24 115
<b>Applications</b>	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British Standard
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	22kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided.
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green rating</b>	<b>A</b> according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> can be achieved by using a recycled sub-base.
<p>For more products we manufactured in accordance with an accredited ISO 9001 2008 quality system. Manufacturing facilities are accredited to ISO 14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance with BS EN ISO 14021:2001.</p>	

## colours



The swatches below are for colour reference only. The actual block profile will be as per swatches above.



Hydropave Shannon Duo Bracken

product	size (mm)	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE SHANNON DUO BIM	205 x 175 x 60 173 x 173 x 60	Bracken, Charcoal, Heather	YES	12.67	0.99	30	185 195	1764

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

Refer to all instructions and warnings on our website

# hydropave pedestals



beautiful vibrant colours

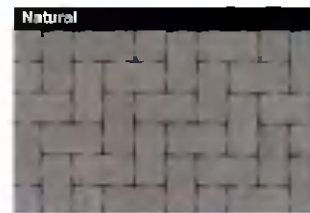
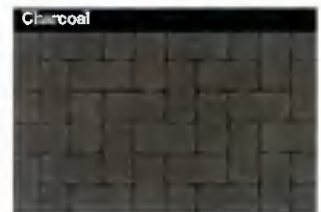
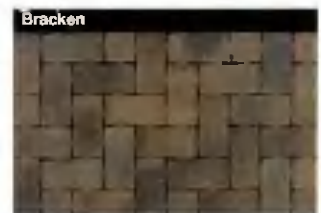
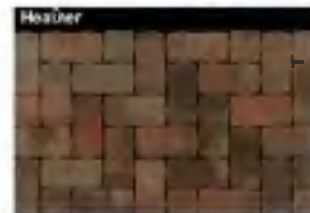
- Functions as a SUDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence

## product specifications

<b>Product type</b>	Concrete Paving Block
<b>Manufactured to</b>	BS EN 1338:2003
<b>Surface Layer</b>	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m <sup>3</sup> cement
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	±5% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	32,000 litres/sec/hectare
<b>Strength</b>	> 3.6MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-3:2005
<b>BS5Plus</b>	Q24 116
<b>Applications</b>	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British Standard
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	<b>60mm:</b> 22kgCO <sub>2</sub> e/m <sup>2</sup> <b>80mm:</b> 34kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green rating</b> www.bre.co.uk	<b>60mm:</b> <b>A</b> according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> can be achieved by using a recycled sub-base. <b>80mm:</b> <b>B</b> according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> can be achieved by using a recycled sub-base

Tobermore products are manufactured in accordance with an accredited ISO 9001:2008 quality system. Manufacturing facilities are accredited to ISO 14001:2004 Environmental Management. The company publish Environmental labels and declarations in accordance with BS EN ISO 14021:2001.

## colours



Hydropave Pedesta Brindle & Natural

product	size (mm)	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE PEDESTAL BIM	200 x 100 x 60	Bracken, Brindle, Charcoal, Heather, Natural	YES	18.44	2.24	90	672	1878
	200 x 100 x 80	Bracken, Brindle, Charcoal, Heather, Natural	YES	9.6	1.1	90	480	1732

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

Refer to all instructions and warnings on our website



# hydropave 240



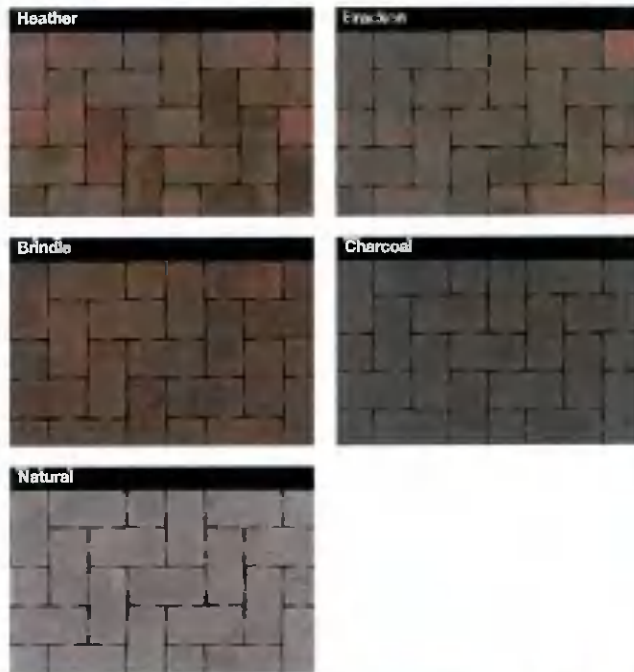
large block size

- Functions as a SUDS paving system
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence

## product specifications

<b>Product type</b>	Concrete Paving Block
<b>Manufactured to</b>	BS EN 1338 2003
<b>Surface Layer</b>	Hard wearing surface layer with a minimum layer of 4mm and >350kgs/m <sup>3</sup> cement
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	6% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	35,000 litres/sec/hectare
<b>Strength</b>	> 3.6MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-3:2005
<b>BS Plus</b>	Q24 115
<b>Applications</b>	Residential and Commercial when used in conjunction with the correct sub-base design in accordance with the latest British Standard
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	34kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided.
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green rating</b>	<b>B</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A</b> can be achieved by using a recycled sub-base.
<p>To be more products are manufactured in accordance with 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 with BS EN ISO 14021:2001.</p>	

## colours



Hydropave 240 Charcoal & Natural

product	size (mm)	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE 240 BIM	240 x 120 x 80	Bracken, Charcoal	YES	14.08	2.02	34.72	350	1811

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

Refer to all instructions and warnings on our website

# hydropave mayfair flags



## vibrant granite appearance

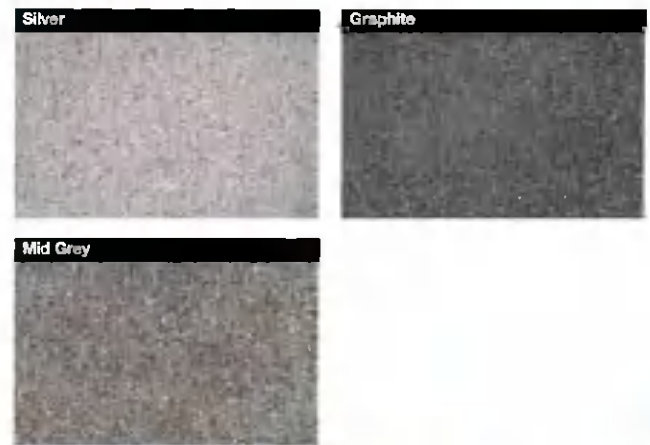
- Functions as a SUDS paving system
- Manufactured with sparkling natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Creates a striking, contemporary look

### product specifications

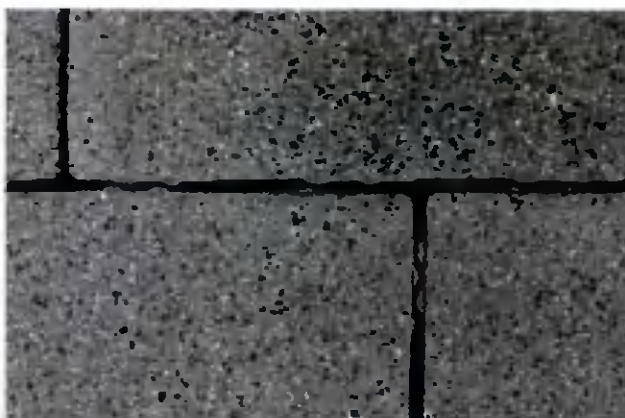
<b>Product type</b>	Concrete Paving Flag
<b>Manufactured to</b>	BS EN 1339:2003
<b>Surface layer</b>	Hard wearing surface layer with a minimum of 4mm and >390kgs/m <sup>2</sup> cement
<b>Frost protection</b>	Yes
<b>Granite content</b>	Not less than 57% of granite aggregate in surface layer for Graphite, Mid Grey & Silver
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	2.7% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	15,000 litres/sec/hectare
<b>Strength</b>	> 3.5MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-4 2006
<b>BS Plus</b>	2003 316
<b>Applications</b>	Suitable for all pedestrian areas and traffic-free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS 7533-8 2003 for guidance on the correct flag size to suit your application
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	24kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Recycled content</b>	Not less than 12%
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green Guide</b>	A according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. A+ can be achieved by using a recycled sub-base

Tobermore products are manufactured in accordance with 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 with BS EN ISO 14021:2001.

### colours



Mayfair Flags Silver (for colour reference only)



product	size (mm)	finish	edge	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE MAYFAIR FLAGS	400 x 400 x 65	GRANITE TEXTURE	PERFORATED	Graphite Mid Grey Silver	SPECIAL ORDER	10.56	0.25	0.75	60	150.6

Refer to all instructions and warnings on our website

# hydropave textured flags



beautiful granular surface

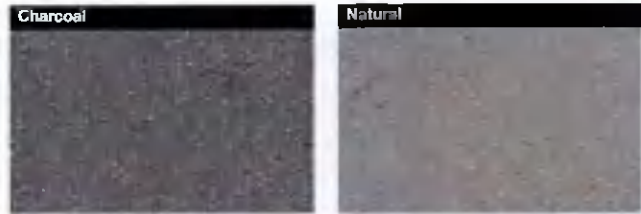
- Functions as a SUDS paving system
- Superb hard-wearing textured surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence
- Manufactured with a unique granular surface
- Natural appearance

## product specifications

<b>Product type</b>	Concrete Paving Flag
<b>Manufactured to</b>	BS EN 13339:2003
<b>Surface layer</b>	hard wearing surface layer with a minimum of 4mm and >390kgs/m <sup>3</sup> cement
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	2.7% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	15,000 litres/sec hectare
<b>Strength</b>	> 3.5MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533-4:2006
<b>NSFPlus</b>	G25 S16
<b>Applications</b>	Suitable for all pedestrian areas and traffic-free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS 7533-8:2003 for guidance on the correct flag size to suit your application.
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	28kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Green Building</b>	A, according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. A+, can be achieved by using a recycled sub base.

Tobermore products are manufactured in accordance with 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 with BS EN ISO 14021:2001.

## colours



Textured Flags Natural (for colour reference only)



product	size (mm)	finish	edge	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE TEXTURED FLAGS	400 x 400 x 65	TEXTURED	CHAMFERED	Charcoal, Natural	ORDER	10.50	2.52	6.25	66	1366

Refer to all instructions and warnings on our website

# hydropave standard flags



## smooth finish

- Functions as a SUDS paving system
- Non-slip finish
- Superb hard-wearing surface
- Vibrant long-lasting colours
- Significantly reduced efflorescence

## product specifications

<b>Product type</b>	Concrete Paving Flag
<b>Manufactured to</b>	BS EN 1338:2003
<b>Surface layer</b>	Hard wearing surface layer with a minimum of 4mm and >390kgs/m <sup>3</sup> cement
<b>Frost Protection</b>	Yes
<b>Efflorescence</b>	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
<b>Drainage Void Width</b>	2.7% to accommodate correct grit grading, reduced maintenance and maximise drainage flow rate
<b>Permeability</b>	15,000 litres/sec/hectare
<b>Strength</b>	> 3.5MPa
<b>Slip/Skid resistance</b>	Extremely Low (>75 USRV)
<b>Installed to</b>	BS 7533
<b>NSIPus</b>	G26 S15
<b>Applications</b>	Suitable for all pedestrian areas and traffic-free zones. Some of these specific sizes are suitable for occasional vehicular overrun. Always refer to BS 7533-8:2003 for guidance on the correct flag size to suit your application.
<b>Energy used</b>	100% renewable energy
<b>Water used</b>	100% water used from rainwater harvesting system
<b>Carbon Footprint</b>	28kgCO <sub>2</sub> e/m <sup>2</sup>
<b>Recyclable</b>	100% of this product can be recycled
<b>Design Life</b>	25 years - The correct design and aggregates must be used in accordance with the relevant British Standard or any design guidance provided
<b>Manufacturing location</b>	Produced in the UK with locally sourced materials
<b>Tobermore rating</b> <a href="http://www.tobermore.co.uk">www.tobermore.co.uk</a>	<b>A</b> , according to the Green Guide to Specification, 4 <sup>th</sup> Edition 2009. <b>A+</b> , can be achieved by using a recycled sub-base.

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



## colours



Standard Flags Non-Slip Charcoal (for colour reference only)

product	size (mm)	finish	edge	colours available	in stock	m <sup>2</sup> per pack	m <sup>2</sup> per slice	no. per m <sup>2</sup>	no. per pack	weight (kg) per pack
HYDROPAVE STANDARD FLAGS	400 x 400 x 65	NON-SLIP SMOOTH	CHAMFERED	Charcoal, Natural	IN STOCK	1.56	3.52	6.25	66	1056

Refer to all instructions and warnings on our website





GEOMAN LIMITED

# permeable paving design service

**3.0 Proposed Section**

The proposed section shows the permeable paving to be installed in accordance with the design of the proposed section. The permeable paving is to be installed in accordance with the design of the proposed section. The permeable paving is to be installed in accordance with the design of the proposed section.

**3.1 Alternative - Edge**

The alternative edge design is shown in the drawing. The alternative edge design is shown in the drawing. The alternative edge design is shown in the drawing.

**3.2 Factors to be applied to system retention device**

The factors to be applied to the system retention device are shown in the drawing. The factors to be applied to the system retention device are shown in the drawing. The factors to be applied to the system retention device are shown in the drawing.

**3.3 Retention for 3 in AGC Pavement**

The retention for 3 in AGC pavement is shown in the drawing. The retention for 3 in AGC pavement is shown in the drawing. The retention for 3 in AGC pavement is shown in the drawing.

**3.4 Site Analysis Parameters**

The site analysis parameters are shown in the drawing. The site analysis parameters are shown in the drawing. The site analysis parameters are shown in the drawing.

**5.0 Structural Design**

The structural design is shown in the drawing. The structural design is shown in the drawing. The structural design is shown in the drawing.

**5.1 Permeable Paving Requirements**

The permeable paving requirements are shown in the drawing. The permeable paving requirements are shown in the drawing. The permeable paving requirements are shown in the drawing.

**Appendix B - Installation**



The installation instructions are shown in the drawing. The installation instructions are shown in the drawing. The installation instructions are shown in the drawing.

**Appendix C - Additional Geoman Services**

The additional geoman services are shown in the drawing. The additional geoman services are shown in the drawing. The additional geoman services are shown in the drawing.

# hydropave design service

Tobermore work with a UK based geotechnical and civil engineering partner who specialise in permeable pavement design. They can provide a preliminary design for appraisal or a formal PI design if required. As part of their service they will provide full specification details for the sub-base design and the aggregates required for a successful scheme.

		<b>GEOMAN LTD.</b> 44 Elmwood Avenue Belfast BT9 6AZ Phone: 02890 664 941 www.geoman.co.uk
<b>Preliminary Permeable Paving Design</b>		
<b>Heartlands Whitburn Edinburgh</b>		
<b>Location Address:</b>	Heartlands Whitburn, Edinburgh, Scotland	
<b>Designed:</b>	Geoman Ltd.	
<b>Date:</b>	21/10/2013	
<b>Design Reference Number/Version:</b>	13-5456	
<b>Type of Design:</b>	Attenuation Permeable Paving Design	
 <b>Tobermore Sales Executive Contact:</b>	Craig McBride	
<b>Technical Support and Back Up</b>		
If you have any questions relating to this design please contact the people listed below		
<b>Contact:</b>	<b>Contact Number:</b>	<b>Email Address:</b>
Andrew McKinstry (Geoman Ltd.)	028 90 664941	geoman@geoman.co.uk
Craig McBride (Tobermore Ltd.)	+44(0)7850050062	c.mcbride@tobermore.co.uk

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5.1 Petrol Interceptor requirements .....	5
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### 1.0 Proposed Section

It is proposed to install **Hydropave Permeable Paving** as shown on the drawings to approximately **50%** of the area indicated by the hatched area. The **Hydropave Permeable Paving** shall be installed over the existing concrete or asphalt pavement. The **Hydropave Permeable Paving** shall be installed in accordance with the following specifications:

The proposed **Hydropave Permeable Paving** shall be installed in accordance with the following specifications:

- 1.1 Installation - Hydropave Summary**
  - Hydropave Permeable Paving shall be installed in accordance with the following specifications:
  - Hydropave Permeable Paving shall be installed in accordance with the following specifications:
- 1.2 Subgrade Preparation**
  - The subgrade shall be prepared in accordance with the following specifications:
  - The subgrade shall be prepared in accordance with the following specifications:
- 1.3 Hydropave Installation**
  - The Hydropave Permeable Paving shall be installed in accordance with the following specifications:
  - The Hydropave Permeable Paving shall be installed in accordance with the following specifications:

### 2.0 Table A - CBM for Pavement Design

For additional pavement design for the site use please refer to the drawings.

CBM for 1m	Subgrade	Subbase	Base	Surface	CBM for 1m	Subgrade	Subbase	Base	Surface
1.2	1.5	1.8	2.1	2.4	1.2	1.5	1.8	2.1	2.4
1.2	1.5	1.8	2.1	2.4	1.2	1.5	1.8	2.1	2.4

### 3.0 Site Details

The site details shall be taken from the following drawings:

The layout level of the permeable paving should be at least 150mm above the finished ground level. The permeable paving shall be installed in accordance with the following specifications:

### 4.0 Hydraulic Design

The hydraulic design shall be taken from the following drawings:

Flow (l/s)	Flow (m <sup>3</sup> /hr)	Flow (m <sup>3</sup> /day)	Flow (m <sup>3</sup> /week)	Flow (m <sup>3</sup> /month)
1.2	4.3	12.9	38.7	117.2
1.5	5.4	16.2	48.6	145.8
1.8	6.5	19.5	58.5	174.4

### 4.1 Table 1: Rainfall for 1m x 1m Year Storm

For additional pavement design for the site use please refer to the drawings.

Storm Duration (min)	Intensity (mm/hr)	Volume (mm)	Volume (mm)	Volume (mm)	Volume (mm)
10	1.2	12.0	12.0	12.0	12.0
15	0.8	12.0	18.0	24.0	30.0
20	0.6	12.0	24.0	36.0	48.0
30	0.4	12.0	36.0	48.0	60.0
45	0.3	12.0	54.0	72.0	90.0
60	0.2	12.0	72.0	96.0	120.0
90	0.1	12.0	108.0	144.0	180.0
120	0.1	12.0	144.0	192.0	240.0
150	0.1	12.0	180.0	240.0	300.0
180	0.1	12.0	216.0	288.0	360.0
210	0.1	12.0	252.0	336.0	420.0
240	0.1	12.0	288.0	384.0	480.0

### 4.1 Critical Storm Duration Calculation

The critical storm duration shall be taken from the following drawings:

Storm Duration (min)	Intensity (mm/hr)	Volume (mm)	Volume (mm)	Volume (mm)	Volume (mm)
10	1.2	12.0	12.0	12.0	12.0
15	0.8	12.0	18.0	24.0	30.0
20	0.6	12.0	24.0	36.0	48.0
30	0.4	12.0	36.0	48.0	60.0
45	0.3	12.0	54.0	72.0	90.0
60	0.2	12.0	72.0	96.0	120.0
90	0.1	12.0	108.0	144.0	180.0
120	0.1	12.0	144.0	192.0	240.0
150	0.1	12.0	180.0	240.0	300.0
180	0.1	12.0	216.0	288.0	360.0
210	0.1	12.0	252.0	336.0	420.0
240	0.1	12.0	288.0	384.0	480.0

### 5.0 Structural Design

The structural design shall be taken from the following drawings:

The structural design shall be taken from the following drawings:

The structural design shall be taken from the following drawings:

### 5.1 Construction Considerations

The construction considerations shall be taken from the following drawings:

The construction considerations shall be taken from the following drawings:

### Appendix A - Aggregates

The aggregates shall be taken from the following drawings:

The aggregates shall be taken from the following drawings:

### Appendix B - Installation

The installation shall be taken from the following drawings:

The installation shall be taken from the following drawings:

The installation shall be taken from the following drawings:

### Appendix C - Additional German Services

The additional German services shall be taken from the following drawings:

The additional German services shall be taken from the following drawings:

Hydropave Permeable Paving Design	Attenuation Design	Loading Category C																								
<p>Notes:</p> <ol style="list-style-type: none"> <li>1) All dimensions in mm unless otherwise specified.</li> <li>2) All paving should be installed in accordance with BS 5311 Part 2:2009 for a conventional paving contractor.</li> <li>3) All aggregates should be supplied in accordance with the material specifications below.</li> <li>4) The drainage must be laid in accordance with Geomem Ltd. preliminary design document 13-5458.</li> </ol> <p>Adjustment to thickness of CDA or alternative SP2 loading if more required based on subject's CDR</p> <table border="1"> <thead> <tr> <th>Subject's Additional thickness of CDA (mm)</th> <th>Depth of Coating required (mm)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>400</td> </tr> <tr> <td>2</td> <td>350</td> </tr> <tr> <td>3</td> <td>300</td> </tr> <tr> <td>4</td> <td>250</td> </tr> <tr> <td>5-10%</td> <td>50</td> </tr> <tr> <td>&gt;10%</td> <td>See design / alternative design / no access</td> </tr> </tbody> </table> <p><b>MATERIAL SPECIFICATION</b></p> <table border="1"> <thead> <tr> <th>Material</th> <th>Specification</th> </tr> </thead> <tbody> <tr> <td>80mm Hydropave block</td> <td>BS 1386:2003</td> </tr> <tr> <td>50mm laying course of graded 8/2.0mm grit</td> <td>BS EN 12620:13:2009</td> </tr> <tr> <td>20mm drainage course</td> <td>BS EN 12620:13:2009</td> </tr> <tr> <td>2000 gauge polythene impervious membrane</td> <td>For attenuation systems only</td> </tr> </tbody> </table> <p><b>FEASIBILITY ONLY - NOT FOR CONSTRUCTION</b></p> <p>This drawing, or design proposal, remains the copyright of Geomem Ltd and is not to be copied or otherwise disseminated without the prior written consent of Geomem Ltd. Any unauthorised copying or use of this drawing is strictly prohibited. Drawings are valid only for the attenuation system shown.</p>			Subject's Additional thickness of CDA (mm)	Depth of Coating required (mm)	1	400	2	350	3	300	4	250	5-10%	50	>10%	See design / alternative design / no access	Material	Specification	80mm Hydropave block	BS 1386:2003	50mm laying course of graded 8/2.0mm grit	BS EN 12620:13:2009	20mm drainage course	BS EN 12620:13:2009	2000 gauge polythene impervious membrane	For attenuation systems only
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<p>Geomem Ltd. 48 Broomfield Avenue, 175 BAA, Ta. 0206 896861 Fax: 0206 896877 geomem@geomem.co.uk</p> <p>Designed by: CM Date: 21/10/13 Project Title: Healside Whirlburn Edinburgh Client: Tobermore</p> <p>Checked by: BO Date: 21/10/13 Drawing No: 13-5458</p> <p>Approved: [Signature] Date: [Signature] Drawing No: 13-5458</p>																										

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Hydropave Permeable Paving Design	Attenuation Design	Loading Category B																								
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<p>Notes:</p> <ol style="list-style-type: none"> <li>1) All dimensions in mm unless otherwise specified.</li> <li>2) All paving should be installed in accordance with BS 5311 Part 2:2009 for a conventional paving contractor.</li> <li>3) All aggregates should be supplied in accordance with the material specifications below.</li> <li>4) The drainage must be laid in accordance with Geomem Ltd. preliminary design document 13-5458.</li> </ol> <p>Adjustment to thickness of CDA or alternative SP2 loading if more required based on subject's CDR</p> <table border="1"> <thead> <tr> <th>Subject's Additional thickness of CDA (mm)</th> <th>Depth of Coating required (mm)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>400</td> </tr> <tr> <td>2</td> <td>350</td> </tr> <tr> <td>3</td> <td>300</td> </tr> <tr> <td>4</td> <td>250</td> </tr> <tr> <td>5-10%</td> <td>50</td> </tr> <tr> <td>&gt;10%</td> <td>See design / alternative design / no access</td> </tr> </tbody> </table> <p><b>MATERIAL SPECIFICATION</b></p> <table border="1"> <thead> <tr> <th>Material</th> <th>Specification</th> </tr> </thead> <tbody> <tr> <td>80mm Hydropave block</td> <td>BS 1386:2003</td> </tr> <tr> <td>50mm laying course of graded 8/2.0mm grit</td> <td>BS EN 12620:13:2009</td> </tr> <tr> <td>20mm drainage course</td> <td>BS EN 12620:13:2009</td> </tr> <tr> <td>2000 gauge polythene impervious membrane</td> <td>For attenuation systems only</td> </tr> </tbody> </table> <p><b>FEASIBILITY ONLY - NOT FOR CONSTRUCTION</b></p> <p>This drawing, or design proposal, remains the copyright of Geomem Ltd and is not to be copied or otherwise disseminated without the prior written consent of Geomem Ltd. Any unauthorised copying or use of this drawing is strictly prohibited. Drawings are valid only for the attenuation system shown.</p>			Subject's Additional thickness of CDA (mm)	Depth of Coating required (mm)	1	400	2	350	3	300	4	250	5-10%	50	>10%	See design / alternative design / no access	Material	Specification	80mm Hydropave block	BS 1386:2003	50mm laying course of graded 8/2.0mm grit	BS EN 12620:13:2009	20mm drainage course	BS EN 12620:13:2009	2000 gauge polythene impervious membrane	For attenuation systems only
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<p>1. 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 8/2.0mm bedding and jointing grit as per the relevant British Standard specification (BS EN 12620:13:2009). In particular, the material should be categorised as L30L, F10 and M20 according to Table A.1, within this standard. The grit should be free from fines, hydrocarbon acid and should be naturally occurring material. In our experience, incorrect use of aggregate is one of the most common reasons for failure of a permeable paving design.</p> <p>2. 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 the joints are laid, they have wetted 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 100m<sup>2</sup> of 80mm paving.</p> <p>3. 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 any landscaping is carried out so that it does not cover the joints.</p>																										
<p>Geomem Ltd. 48 Broomfield Avenue, 175 BAA, Ta. 0206 896861 Fax: 0206 896877 geomem@geomem.co.uk</p> <p>Designed by: CM Date: 21/10/13 Project Title: Healside Whirlburn Edinburgh Client: Tobermore Ltd</p> <p>Checked by: BO Date: 21/10/13 Drawing No: 13-5458</p> <p>Approved: [Signature] Date: [Signature] Drawing No: 13-5458</p>																										

# featured projects

Tobermore's world class collection of Featured Projects are designed to provide a look at some of our most beautiful and impressive commercial schemes. Our Featured Projects represent quality projects from the Public Realm, Commercial, Hotel, Leisure, Retail, Education, Housing, Religious and Healthcare sectors in each region of the UK and Ireland, as well as showcasing the paving and walling products supplied by Tobermore.



# #FeaturedProject | No: 10

## Sir Chris Hoy Velodrome

//// Glasgow



### Tobermore

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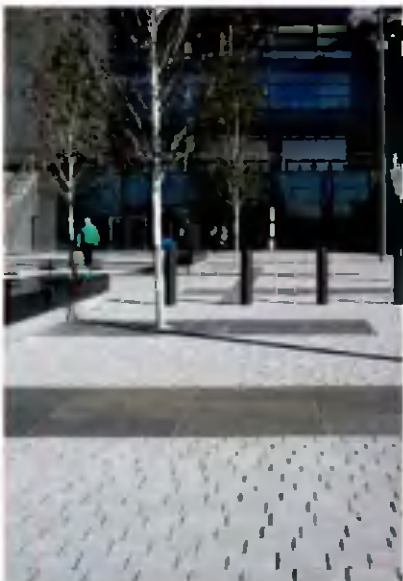
Sports & Leisure



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<http://bit.ly/2ep7r1e>



### Project details

**Architect:**

3DReid

**Main contractor:**

Sir Robert Alpine, Edinburgh

**Sub-contractor:**

Land Engineering, Glasgow

**Product details:**

**Sienna Duo** | Sandstone & Graphite

**Hydropave Sienna Duo** | Silver & Graphite

**Hydropave 240** | Bracken & Charcoal

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# #FeaturedProject | No: 77

## University of Hertfordshire

//// Hertfordshire



### Tobermore

WORLD CLASS PAVING & WALLING

Hydropave Permeable Paving

Education

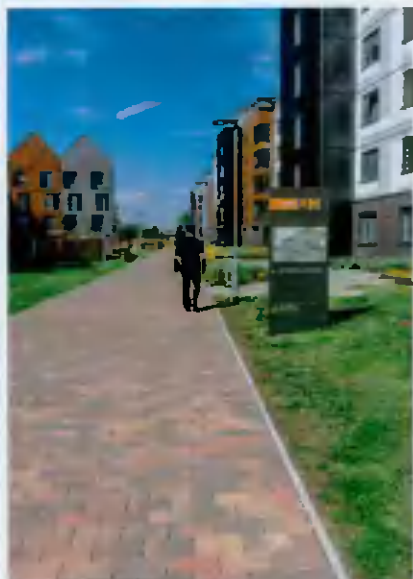


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<http://bit.ly/2e47wGs>



#### Project details

**Architect:**

The Landmark Practice

**Main contractor:**

Bouygues UK Limited Living





**Groundworker:**

Darby Groundworks

**Product details:**

**Eco Hydropave Pedesta** | Charcoal, Heather & Natural

**Eco Hydropave 240** | Charcoal, Heather & Natural

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# #FeaturedProject | No: 90

## Queen Elizabeth University Hospital //// Glasgow



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WORLD CLASS PAVING & WALLING

Medical & Healthcare



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### Project details

**Architect:**  
Gillespies  
| BMJ, Glasgow

**Main contractor:**  
Brookfield Multiplex  
| Land Engineering

**Groundworker:**  
Land Engineering

**Product details:**  
**Hydropave Fusion** | Silver,  
**Hydropave Sienna Duo** | Silver

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# #FeaturedProject | No: 91

## West Mill

//// Colinton Village, Edinburgh



### Tobermore

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Hydropave Permeable Paving

Housing

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<http://bit.ly/2eki7NM>



**West Mill** was named 'Apartment Development of the Year' at the 2015 Scottish Home Awards and 'Best Show Home' at the 2015 Glasgow Property Herald Awards.



#### Project details

**Developer:**  
Westpoint Homes

**Architect:**  
Fouin & Bell

**Product details:**  
**Hydropave Tegula 200** | Bracken  
**Historic Flags** | Bracken



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