



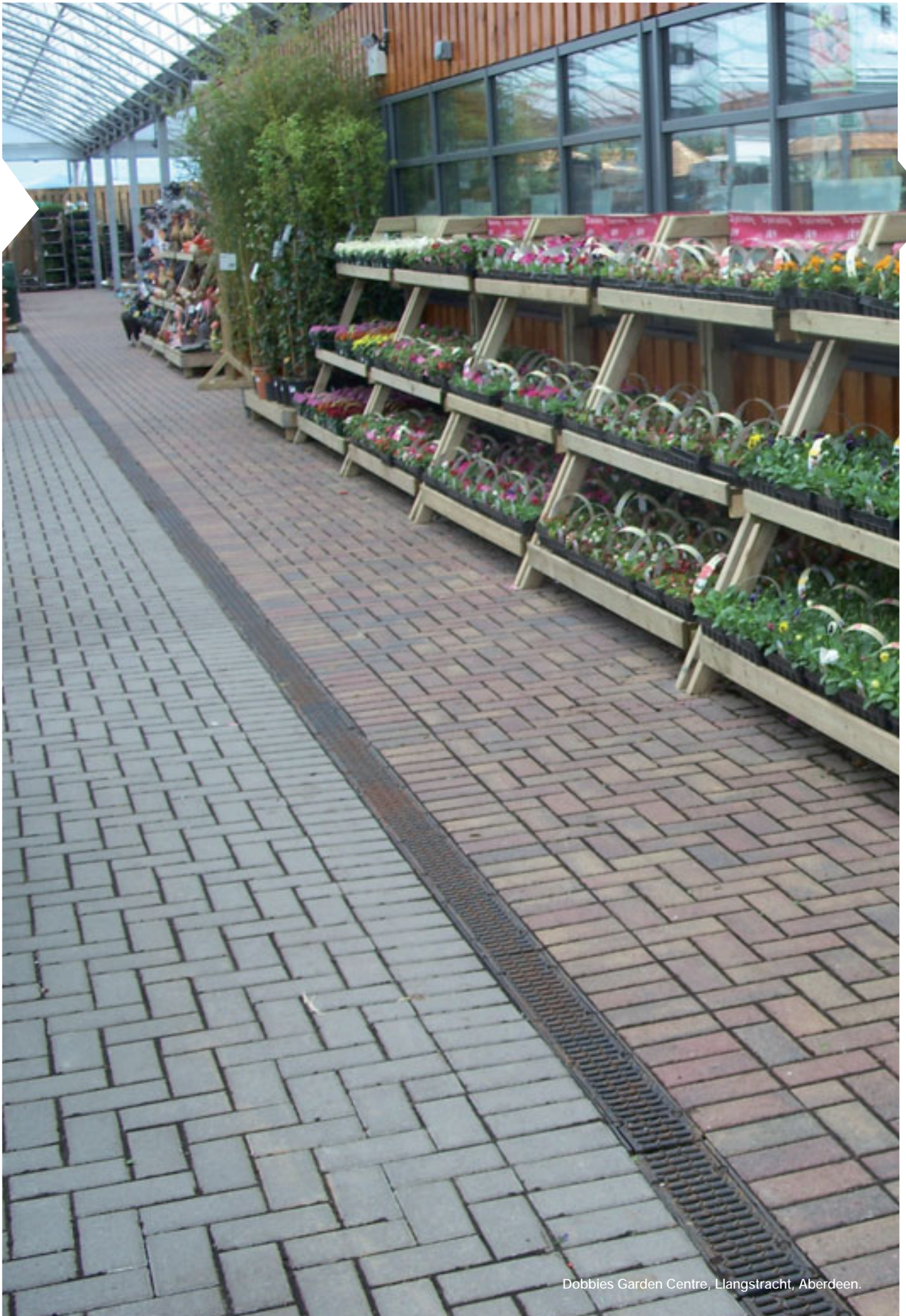
# CONCRETE

PAVING AND ACCESSORIES

[www.hardscape.co.uk](http://www.hardscape.co.uk)



Manufactured and tested at state-of-the-art facilities, Hardscape can now supply an extensive range of flags, setts and kerbs suitable for every hard landscaping scheme, large or small.



Dobbies Garden Centre, Llangstracht, Aberdeen.

# BLOCK PAVING

Newgrange

Newgrange Setts

Tara

Mellifont

Mellifont Setts

Inish

Corrib

Lismore

Lismore Setts

Slane

## **CASE STUDY**

– Dobbies, Speke, Liverpool



# Newgrange

Textured granite finish block paving



Q24 10  
Q24 115  
Q24 112  
Q24 113

## Features

- Concrete Block Paving
- Available in 3 colour finishes
- Straight edge contemporary finish with no chamfer
- Lightly textured premium granite aggregate finish
- Various depths available for different traffic loadings
- Normally supplied in a three size mix, single sizes can be obtained separately
- Normally supplied with no spacer nibs
- Can be laid in a variety of laying patterns depending on unit size selected



## Product Range

Range	Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Newgrange 3 size mixes	<b>3 size x 50</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>35</b>	<b>11.52</b>	<b>403</b>	<b>12</b>	<b>1210</b>
	<b>3 size x 60</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>35</b>	<b>9.6</b>	<b>350</b>	<b>10</b>	<b>1205</b>
	<b>3 size x 80</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>35</b>	<b>6.72</b>	<b>245</b>	<b>7</b>	<b>1190</b>
Newgrange 60mm	<b>120 x 160 x 60</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>52</b>	<b>9.6</b>	<b>500</b>	<b>10</b>	<b>1185</b>
	<b>160 x 160 x 60</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>40</b>	<b>8.92</b>	<b>350</b>	<b>10</b>	<b>1125</b>
	<b>240 x 160 x 60</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>27</b>	<b>9.6</b>	<b>250</b>	<b>10</b>	<b>1195</b>
Newgrange 80mm	<b>120 x 160 x 80</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>52</b>	<b>6.72</b>	<b>350</b>	<b>7</b>	<b>1170</b>
	<b>160 x 160 x 80</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>40</b>	<b>6.3</b>	<b>245</b>	<b>7</b>	<b>1045</b>
	<b>240 x 160 x 80</b>	<b>Silver Granite, Black Granite, Buff Granite</b>	<b>27</b>	<b>6.72</b>	<b>175</b>	<b>7</b>	<b>1075</b>

**Bold text** = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Lightly textured granite aggregate finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - USRV 65
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb, Newgrange Setts, Newgrange Flag

Permeable option	Yes, refer to the 'Clima-Pave Brochure'
Application & Trafficking	Product suitable for both pedestrian and car traffic use when installed in conjunction with the correct sub base design. Not suitable for truck / commercial vehicle traffic. For further information on design and loading please see installation standards section on pages 68-69.
Chamfer	No
Joint	Newgrange Paving has a narrow finished joint of 1mm approx. this product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing. Note that silver granite kiln dried jointing sand is required for Silver and Buff Granite colourblock paving
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008

# Newgrange Setts

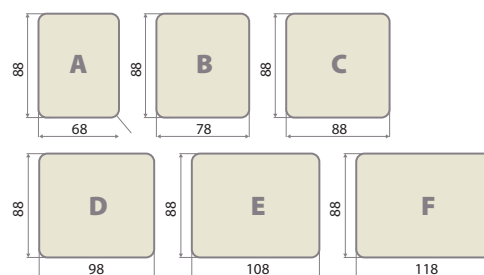
Textured granite finish sett paving



Q24 10  
Q24 115  
Q24 112  
Q24 113

## Features

- Concrete Block Paving
- Available in 3 colour finishes
- Straight edge contemporary finish with no chamfer
- Lightly textured premium granite aggregate finish
- Standard smooth surface finish
- Suitable for use on patios, pathways, pedestrian zones, domestic driveways and car trafficked areas only
- Six size co-ordinating mix of block paving units
- No spacer nibs providing a narrow joint spacing
- Can be laid in random stretcher bond



## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
<b>6 size x 60</b>	Silver Granite, Black Granite, Buff Granite	<b>108</b>	<b>9.68</b>	<b>1140</b>	<b>11</b>	<b>1175</b>
6 size x 80	Silver Granite, Black Granite, Buff Granite	108	7.04	828	8	1240

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete Block Paving	Permeable option	Yes, refer to the 'Clima-Pave Brochure'
Product Standard	BS EN 1338:2003	Application & Trafficking	Product suitable for both pedestrian and car traffic use when installed in conjunction with the correct sub base design. Not suitable for truck / commercial vehicle traffic. For further information on design and loading please see installation standards section on pages 68-69.
Manufacturing Method	Hydraulically pressed semi-dry concrete	Chamfer	No
Finish	Lightly textured granite aggregate finish	Joint	Newgrange Sett Paving has a narrow finished joint of 1mm approx. This product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing. Note that silver granite kiln dried jointing sand is required for Silver and Buff Granite colour block paving
Packaging Information	Baled, strapped and plastic cover	BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub base.
Slip/Skid Resistance	Low potential - USRV 65	Certification	ISO 9001:2008
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$		
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb, Newgrange Setts, Newgrange Flag		

# Tara

Heavy texture surface block paving



Q24 10  
Q24 110  
Q24 112  
Q24 113

## Features

- Concrete Block Paving
- Available in 4 colour finishes
- Pin hammered textured surface and edges
- Suitable for use on patios, pathways, domestic driveways and areas where car traffic or occasional heavier commercial vehicles use the surface
- Various depths available for different traffic loadings
- Supplied in a three size mix, single sizes can be obtained separately in 60mm and 80mm depth only and are made to order
- Supplied with no spacer nibs. Individual sizes only in the 60mm and 80mm depths are available to order with integral spacer nibs
- Can be laid in a variety of laying patterns depending on unit size selected



## Product Range

Range	Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Tara - 3 size mixes	3 size x 60	Rustic, Curragh Gold, Charcoal, Natural	35	9.6	350	10	1190
	3 size x 80	Rustic, Curragh Gold, Charcoal, Natural	35	6.72	245	7	1190
Tara 60mm	120 x 160 x 60	Rustic, Curragh Gold, Charcoal, Natural	52	9.6	500	10	1185
	160 x 160 x 60	Rustic, Curragh Gold, Charcoal, Natural	40	8.92	350	10	1125
	240 x 160 x 60	Rustic, Curragh Gold, Charcoal, Natural	27	9.6	250	10	1195
Tara 80mm	120 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	52	6.72	350	7	1170
	160 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	40	6.3	245	7	1045
	240 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	27	6.72	175	7	1075

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Pin hammered textured finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Very Low potential - Typical USRV 70
Strength	Typical tensile splitting strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	No
Application & Trafficking	Product suitable for both pedestrian, vehicular use and commercial traffic when correct block thickness is used in conjunction with the correct sub base design. For further information on design and loading please see installation standards section on pages 68-69.
Chamfer	No
Joint	Tara Paving has a 1.5 to 3mm approx. irregular finished joint width. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008





Kilsaran display gardens

# Mellifont

Traditional distressed edge block paving



Pedestrian Traffic



Car & Light Vehicle Traffic

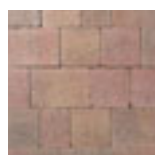


Heavy Duty Traffic

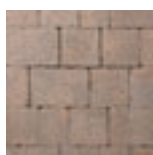
Q24 10  
Q24 110  
Q24 112  
Q24 113

## Features

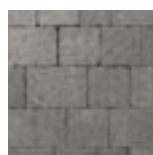
- Antiqued edges and surface gives the effect of time worn cobble
- Available in 4 colours
- Tumbled effect finish to edges and surface
- Suitable for use on patios, driveways, domestic and commercial applications
- Various depths available for different traffic loadings
- Normally supplied in a three size mix, single sizes can be obtained separately in 60mm and 80mm depth only and are made to order
- Normally supplied with no spacer nibs. Individual sizes only in the 60mm and 80mm depths are available to order with integral spacer nibs
- Can be laid in a variety of laying patterns depending on unit size selected



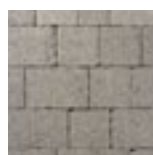
Rustic



Curragh Gold



Charcoal



Natural

## Product Range

Range	Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Mellifont 3 size mixes	3 size x 40	Rustic, Curragh Gold, Charcoal, Natural	35	13.44	490	14	1140
	3 size x 50	Rustic, Curragh Gold, Charcoal, Natural	35	11.52	403	12	1210
	3 size x 60	Rustic, Curragh Gold, Charcoal, Natural	35	9.6	350	10	1205
	3 size x 80	Rustic, Curragh Gold, Charcoal, Natural	35	6.72	245	7	1190
Mellifont 60mm	120 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	52	9.24	480	12	1175
	160 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	40	9.24	360	12	1140
	240 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	27	9.24	240	12	1135
Mellifont 80mm	120 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	52	6.93	360	9	1170
	160 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	40	6.93	270	9	1150
	240 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	27	6.93	180	9	1135

**Bold text** = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Mechanically distressed edges to provide an aged look
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typical USRV 60
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$
Complimentary Products	Kerb sets, kerb blocks, Heritage kerb, Mellifont kerb, Mellifont Circle and Mellifont size sets

Permeable option	Yes, refer to the 'Clima-Pave Brochure'
Application & Trafficking	Product suitable for both pedestrian, vehicular use and commercial traffic when correct block thickness is used in conjunction with the correct sub base design. For further information on design and loading please see installation standards section on pages 68-69.
Chamfer	No
Joint	Mellifont Paving has a narrow finished joint of 1mm approx., this product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand - see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008

# Mellifont Setts

Traditional distressed edge sett paving



Pedestrian Traffic



Car & Light Vehicle Traffic

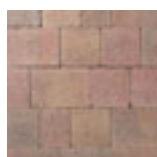


Not Suitable for Heavy Duty Traffic

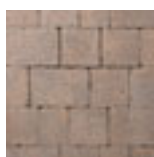
Q24 10  
Q24 115  
Q24 112  
Q24 113

## Features

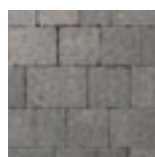
- Concrete Block Paving
- Available in four colour finishes
- Tumbled effect finish to edges and surface give the effect of time worn cobble
- Standard smooth surface finish
- Suitable for use on patios, pathways, pedestrian zones, domestic driveways and car trafficked areas only
- Six size co-ordinating mix of block paving units
- No spacer nibs providing a narrow joint spacing
- Can be laid in random stretcher bond



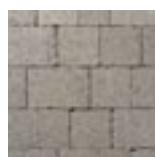
Rustic



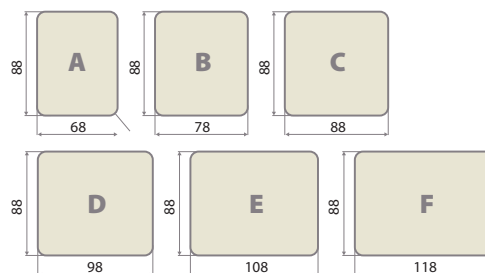
Curragh Gold



Charcoal



Natural



## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
6 size x 60	Rustic, Curragh Gold, Charcoal, Natural	108	9.68	1140	11	1175
6 size x 80	Rustic, Curragh Gold, Charcoal, Natural	108	7.04	828	8	1240

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete Block Paving	Permeable option	No
Product Standard	BS EN 1338:2003	Application & Trafficking	Product suitable for both pedestrian and car traffic use when installed in conjunction with the correct sub base design. Not suitable for truck / commercial vehicle traffic. For further information on design and loading please see installation standards section on pages 68-69.
Manufacturing Method	Hydraulically pressed semi-dry concrete	Chamfer	No
Finish	Mechanically distressed edges to provide an aged look	Joint	Mellifont Sett Paving has a narrow finished joint of 1mm approx. this product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing.
Packaging Information	Baled, strapped and plastic cover	BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub base.
Slip/Skid Resistance	Low potential - Typical USRV 60	Certification	ISO 9001:2008
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$		
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb, Mellifont block paving		



Chester Zoo

# Inish

Old World Charm From A Bygone Era



Pedestrian Traffic



Car & Light Vehicle Traffic

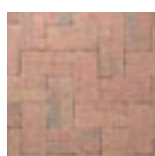


Not Suitable for Heavy Duty Traffic

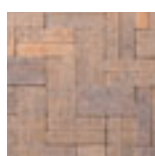
Q24 10  
Q24 110  
Q24 112  
Q24 113

## Features

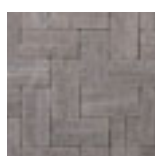
- Concrete Block Paving
- Available in three colour finishes
- Available in standard sharp edged finish or aged worn tumbled edge finish
- Smooth surface finish
- Suitable for use on patios, pathways, domestic driveways and areas where car traffic only uses the surface
- 200x50mm size units with no spacer nibs
- Can be laid in herringbone, stretcher bond and basketweave pattern depending on traffic that will use the area



Rustic



Curragh Gold



Charcoal



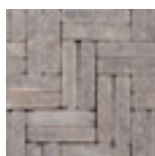
Natural



Rustic Tumbled



Curragh Gold Tumbled



Charcoal Tumbled



Natural Tumbled

## Product Range

Range	Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Inish	200 x 50 x 60	Rustic, Curragh Gold, Charcoal, Natural	100	9	900	10	1060
Inish Tumbled	200 x 50 x 60	Rustic, Curragh Gold, Charcoal, Natural	100	9	900	10	1060

**Bold text = in stock**    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Smooth or tumbled finish
Packaging Information	Baled, strapped & plastic cover. Tumbled finish supplied in tote bag
Slip/Skid Resistance	Low potential - Typical USRV 60
Strength	Typical tensile splitting strength of $\geq 3,6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	Not available
Application & Trafficking	Product suitable for both pedestrian and car traffic use when installed in conjunction with the correct sub base design. Not suitable for truck / commercial vehicle traffic. For further information on design and loading please see installation standards section on pages 68-69.
Chamfer	No
Joint	Inish Paving has a narrow finished joint of 1mm approx. this product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008

# Corrib

## Contemporary Block Paving



Q24 10  
Q24 110  
Q24 112  
Q24 113

### Features

- Single size block paving units
- Available in 6 colour finishes
- Suitable for use on patios, driveways, domestic and commercial applications
- Smooth surface or lightly textured surface
- Can be laid in stretcher bond



### Product Range

Range	Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Corrib 60mm smooth	210 x 170 x 60	Rustic, Curragh Gold, Charcoal, Natural	28	9	252	9	1220
Corrib 60mm textured	210 x 170 x 60	Silver Granite, Black Granite	28	9	252	9	1220
Corrib 80mm smooth	210 x 170 x 80	Rustic, Curragh Gold, Charcoal, Natural	28	6	168	6	1130
Corrib 80mm textured	210 x 170 x 80	Silver Granite, Black Granite	28	86	168	6	1130

**Bold text** = in stock    Light text = Made to order (Minimum order quantity applies).

### Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Smooth finish for standard, textured finish for silver and black granite colours.
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typical USRV 60
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	No
Application & Trafficking	Product suitable for both pedestrian, vehicular use and occasional commercial goods traffic when correct block thickness is used in conjunction with the correct sub base design. For further information on design and loading please see installation standards section on pages 68-69.
Chamfer	Standard chamfer of approximately 3mm.
Joint	Corrib Paving has a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009 over prepared sub base. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008

# Lismore

## Contemporary Block Paving



Pedestrian Traffic



Car & Light Vehicle Traffic

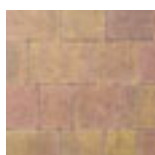


Not Suitable for Heavy Duty Traffic

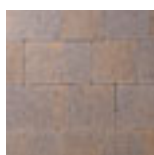
Q24 10  
Q24 110  
Q24 112  
Q24 113

### Features

- Concrete Block Paving
- Available in 4 colour finishes
- Standard smooth surface finish
- Suitable for use on patios, pathways, domestic driveways and areas where car traffic use the surface
- Various depths available for different traffic loadings
- Normally supplied in a three size mix, single sizes can be obtained separately in 60mm and 80mm depth only and are made to order
- Normally supplied with no spacer nibs. Individual sizes only in the 60mm and 80mm depths are available to order with integral spacer nibs
- Can be laid in a variety of laying patterns depending on unit size selected



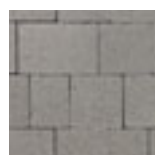
Rustic



Curragh Gold



Charcoal



Natural

### Product Range

Range	Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Lismore 3 size mixes	3 size x 40	Rustic, Curragh Gold, Charcoal, Natural	35	13.44	490	14	1140
	3 size x 50	Rustic, Curragh Gold, Charcoal, Natural	35	11.52	403	12	1210
	3 size x 60	Rustic, Curragh Gold, Charcoal, Natural	35	9.6	350	10	1205
	3 size x 80	Rustic, Curragh Gold, Charcoal, Natural	35	6.72	245	7	1190
Lismore 60mm	120 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	52	9.24	480	12	1175
	160 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	40	9.24	360	12	1140
	240 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	27	9.24	240	12	1135
Lismore 80mm	120 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	52	6.93	360	9	1170
	160 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	40	6.93	270	9	1150
	240 x 160 x 80	Rustic, Curragh Gold, Charcoal, Natural	27	6.93	180	9	1135

**Bold text** = In stock    Light text = Made to order (Minimum order quantity applies).

### Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Standard smooth finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typical USRV 60
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$
Complimentary Products	Kerb sets, kerb blocks, Heritage kerb, Mellifont kerb, Lismore Circle and Lismore six size sets

Permeable option	No
Application & Trafficking	Product suitable for both pedestrian and car traffic use when installed in conjunction with the correct sub base design. Not suitable for truck / commercial vehicle traffic. For further information on design and loading please see installation standards section on page 68-69.
Chamfer	No
Joint	Lismore Paving has a narrow finished joint of 1mm approx. this product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008

# Lismore Setts

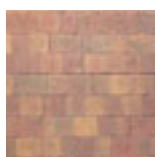
## Contemporary Block Paving



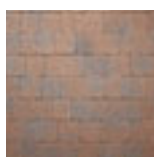
Q24 10  
Q24 115  
Q24 112  
Q24 113

### Features

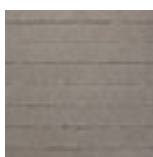
- Concrete Block Paving
- Available in four colour finishes
- Sharp edged contemporary finish
- Standard smooth surface finish
- Suitable for use on patios, pathways, pedestrian zones, domestic driveways and car trafficked areas only
- Six size co-ordinating mix of block paving units
- No spacer nibs providing a narrow joint spacing
- Can be laid in random stretcher bond



Rustic



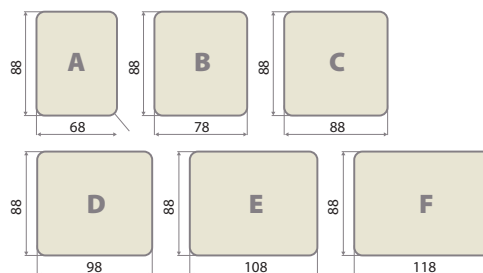
Curragh Gold



Charcoal



Natural



### Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
6 size x 60	Rustic, Curragh Gold, Charcoal, Natural	N/A	9.68	1140	11	1175
6 size x 80	Rustic, Curragh Gold, Charcoal, Natural	N/A	7.04	828	8	1240

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

### Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Standard smooth finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typical USRV 60
Strength	Typical tensile splitting strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb, Lismore block paving

Permeable option	No
Application & Trafficking	Product suitable for both pedestrian and car traffic use when installed in conjunction with the correct sub base design. Not suitable for truck / commercial vehicle traffic. For further information on design and loading please see installation standards section on page 68-69.
Chamfer	No
Joint	Lismore Sett Paving has a narrow finished joint of 1mm approx. this product has no integral spacer nib and no chamfer and is suited to lower maintenance areas. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009, 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008





Dobbies Garden Centre, Speke, Liverpool

# Slane

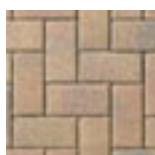
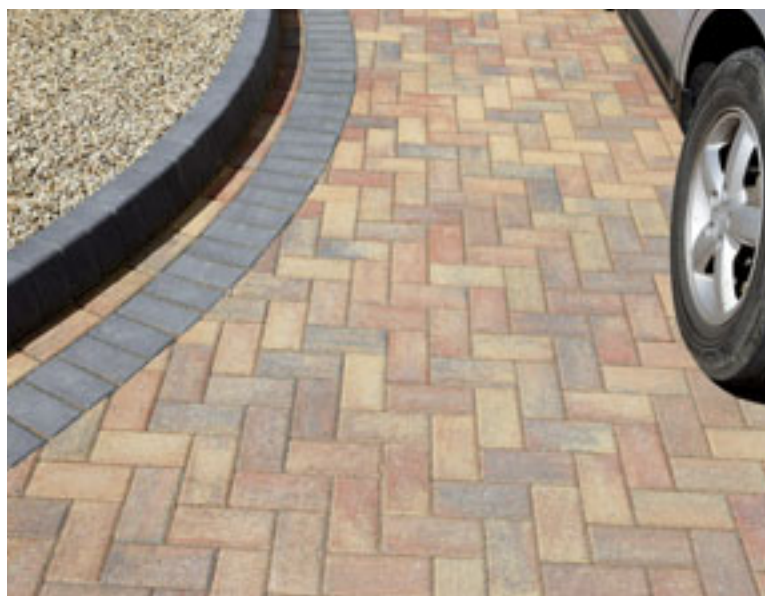
## Traditional Block Paving



Q24 10  
Q24 115  
Q24 112  
Q24 113

### Features

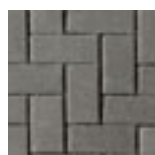
- Concrete Block Paving
- Available in 6 colour finishes
- Chamfered profile edge
- Smooth surface finish
- Suitable for use on patios, driveways, domestic, commercial and heavy duty applications.
- Various depths available for all traffic loadings
- 200x100 size units with spacer nibs
- Can be laid in a variety of laying patterns including herringbone, stretcher bond and basket-weave pattern
- Machine Lay version available



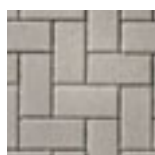
Rustic



Curragh Gold



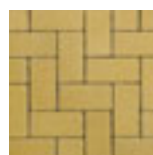
Charcoal



Natural



Red



Buff

### Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
100 x 100 x 60	Rustic, Curragh Gold, Charcoal, Natural	100	8	800	10	1020
200 x 100 x 50	Rustic, Curragh Gold, Charcoal, Natural, Red, Buff	50	11.2	560	14	1230
200 x 100 x 60	Rustic, Curragh Gold, Charcoal, Natural, Red, Buff	50	10.4	520	13	1150
200 x 100 x 80	Rustic, Curragh Gold, Charcoal, Natural, Red, Buff	50	7.2	630	9	1195

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

### Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Standard smooth finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - USRV 60
Strength	Typical tensile splitting strength of $\geq 3.6\text{MPa}$ and a failure load of $\geq 250\text{N/mm}$
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	Yes, refer to the 'Clima-Pave Brochure'
Application & Trafficking	Product suitable for both pedestrian, vehicular use and commercial goods traffic when correct block thickness is used in conjunction with the correct sub base design. For further information on design and loading please see installation standards section on pages 68-69.
Chamfer	Standard chamfer of approximately 4mm.
Joint	Slane Paving has a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Klin dried jointing sand – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008



## CASE STUDY

# Dobbies Garden World, Speke, Liverpool

Extensive block paving both internal and external

**CLIENT:** Dobbies Garden Centre, Speke

**CONTRACTOR:** Gilbert Ash

**DURATION:** 6 months





## ➤ The Challenge

In 2011, Kilsaran supplied in excess of 8000sqm of block paving to Dobbies Garden World in Speke, Liverpool. Kilsaran is the approved supplier to all Dobbies new build stores.

The use of a concrete block paver within the internal sales area of the store was one design feature that required the use of a specialist block. This area had to delivery no trolley movement and low noise. The use of our Natural colour Lismore block met these criteria perfectly. This block has no nib which allows for easy, rattle-free trolley movement across its surface.

The second area was the outside sales display, here Dobbies chose our Slane 200x100x60mm block paver in both Rustic and Charcoal colour, as a both practical and cost effective solution.

## ➤ The Solution

The final product selection met the requirements of planning condition PPS25 and the allowance for a sustainable urban drainage system (Suds). Here Dobbies chose our permeable paving system, Clima-pave Slane in Rustic. This product is a 200x100x80mm block which was laid in a 90 degree herringbone pattern to the parking bay area at the front of store. Not only did this product lift the aesthetical appeal of the project but also performed a practical and cost effective solution to the issue of surface water runoff, by allowing it to filter naturally back to ground.





Carrickmacross Civic Offices and Library, Co. Monaghan

# PAVING FLAGS

Shelbourne

Pembroke

Newgrange

Kileen

Belvedere

Cashel

Tara

Classic

**CASE STUDY** - T2 Dublin Airport



Enniskillen Hospital

# Shelbourne

Contemporary ground finish flag paving



Pedestrian Traffic



Not suitable for car traffic



Not Suitable for Heavy Duty Traffic

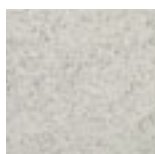


Part of the Eco Paving Range

Q25 315  
Q25 31

## Features

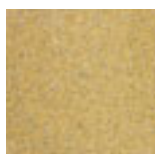
- Concrete flag paving
- Elegant ground surface with premium granite aggregate
- Available in 3 colours
- Contemporary finish with standard chamfer detail
- Suitable for use on patios, paths and commercial pedestrian areas
- Can be laid in stack bond or stretcher bond depending on selected unit size(s)



Silver Granite



Black Granite



Buff Granite

## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
400 x 400 x 40	Silver Granite, Black Granite, Buff Granite	6.25	13.44	84	14	1180
400 x 400 x 50	Silver Granite, Black Granite, Buff Granite	6.25	10.56	66	11	1170
600 x 400 x 50	Silver Granite, Black Granite, Buff Granite	4.16	9.6	40	10	1105
400 x 400 x 63	Silver Granite, Black Granite, Buff Granite	6.25	8.64	54	9	1200
400 x 400 x 80	Silver Granite, Black Granite, Buff Granite	6.25	6.72	42	7	1130
600 x 400 x 80	Silver Granite, Black Granite, Buff Granite	4.16	6.72	42	7	1160

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Ground finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Medium to low - Typically USRV52
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	No
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths. For further information on design and loading please see installation standards section on page 73.
Chamfer	Standard chamfer of approximately 4mm. Some unit sizes are available with a square edge, please contact the Technical team for more details.
Joint	Shelbourne Flags have a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing. Note that silver granite kiln dried jointing sand is required for Silver and Buff Granite colour flag paving
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008



# Pembroke Flags

## Premium Flag Range



Q25 315  
Q25 31

### Features

- Concrete Flag Paving
- Available in 4 colours
- 5 size co-ordinating size mix
- Available in three finishes, standard smooth, ground and textured
- Suitable for use in on paths, footways, commercial pedestrian applications and light vehicular over-run with suitable sub base design
- Supplied in 80mm depth
- Rectangular units with spacer nibs
- Transverse or longitudinal stretcher bond laying pattern



Slate

Curragh Gold

Silver Granite

Black Granite



Unit sizes as supplied.

### Product Range

Range	Dimensions (mm) (5 size mix only)	Colours	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Pembroke (Standard)	5 Co-ordinating Mixed Sizes as shown above	Slate, Curragh Gold	6.96	104	8	1170
Pembroke (Shotblast)		Silver Granite, Black Granite	6.96	104	8	1170
Pembroke (Ground)		Silver Granite, Black Granite	6.96	104	8	1170

**Bold text = in stock** Light text = Made to order (Minimum order quantity applies).

### Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Standard smooth, lightly textured and ground finish.
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Medium to low - Typically USRV65 for textured, USRV52 for ground, USRV60 for standard.
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	No
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths, light car only over-run can be accommodated in conjunction with the correct site specific sub base design. For further information on design and loading please see installation standards section on page 73.
Chamfer	No
Joint	Pembroke Flags have a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing. Note that silver granite kiln dried jointing sand is required for lighter colour Pembroke flag paving to avoid staining
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008

# Killeen Flags

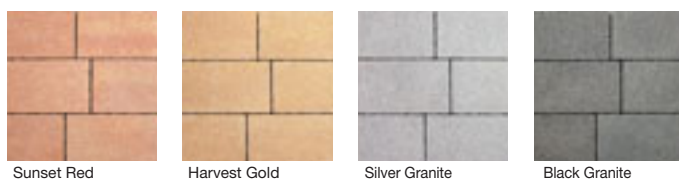
Premium Flag Range



Q25 315  
Q25 31

## Features

- Concrete Flag Paving
- Available in 4 colours
- Irregular edge profile
- Available in antiqued (distressed edges) finish or ground finish
- Suitable for use on patios, paths and commercial pedestrian areas
- Supplied as a mixed pack of 4 sizes
- Laid in a random bond pattern
- Supplied in 70mm depth



Sunset Red

Harvest Gold

Silver Granite

Black Granite



Unit sizes as supplied.

## Product Range

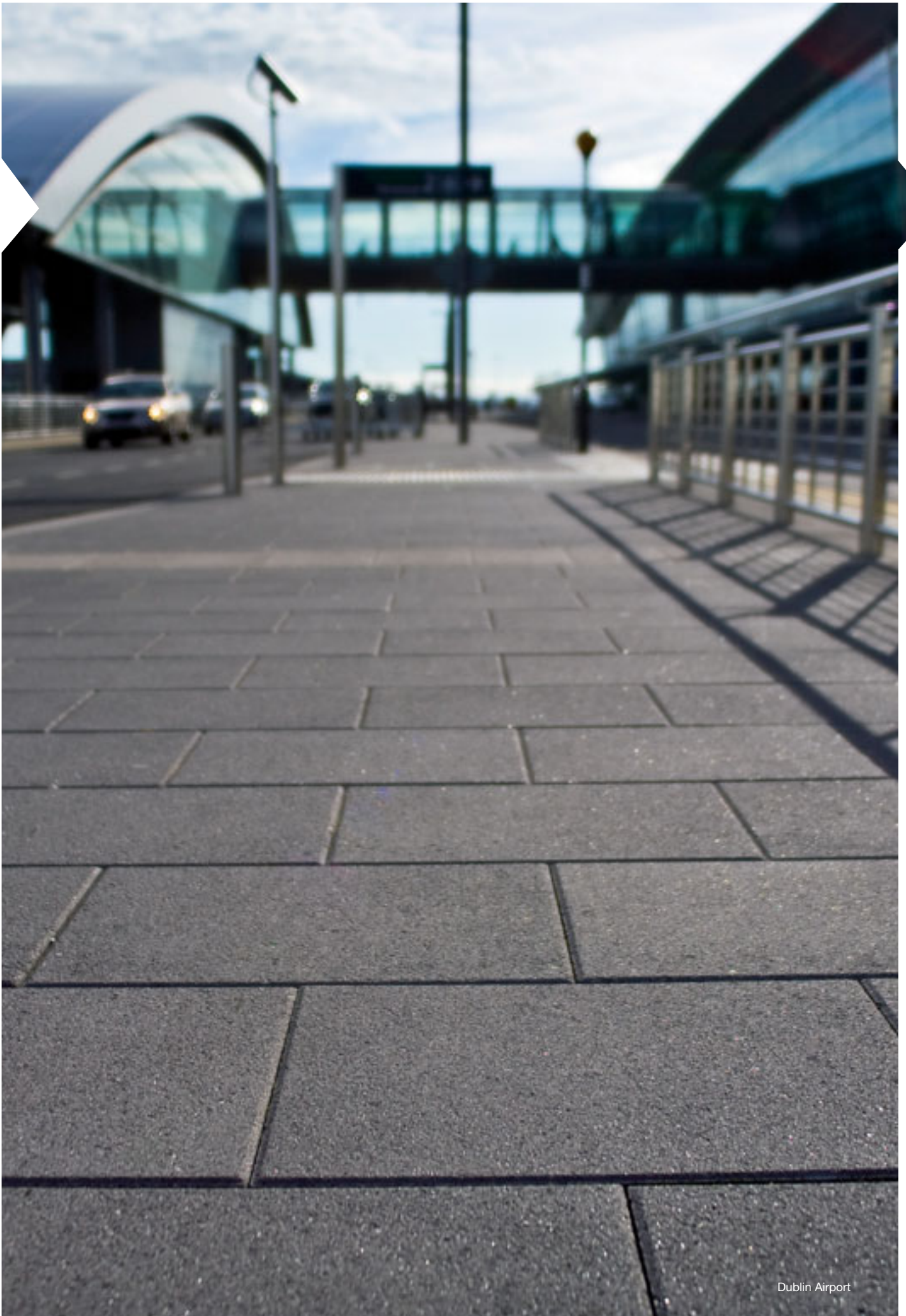
Range	Dimensions (mm) (4 size mix only)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Killeen (Standard)	4 Co-ordinating	Sunset Red, Harvest Gold	N/A	7.56	72	9	1180
Killeen (Antiqued)	Mixed Sizes	Sunset Red, Harvest Gold	N/A	7.56	72	9	1180
Killeen (Ground)	as shown above	Sunset Red, Harvest Gold, Silver Granite, Black Granite	N/A	7.56	72	9	1180

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Antiqued finish (distressed edges) or ground finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Medium to low - Typically USRV 60 for antiqued, typically USRV 52 for ground finish.
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	Yes see Clima Pave section
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths, light car only over-run can be accommodated in conjunction with the correct site specific sub base design. For further information on design and loading please see installation standards section on page 73.
Chamfer	No
Joint	Killeen Paving has a 4-6mm approx. integral spacer nib which will give a resulting irregular profile joint width of approx. 6-8mm when laid. Joints should be filled with Kin dried jointing sand or PermaJoint 200 if laid on rigid construction – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008



Dublin Airport

# Newgrange

Textured granite finish concrete flag paving



Pedestrian Traffic



Very occasional light Car Traffic\*



Not Suitable for Heavy Duty Traffic



Part of the Eco Paving Range

Q25 315

Q25 31

## Features

- Concrete Flag Paving
- Available in 3 colour finishes
- Contemporary finish with standard chamfer detail
- Lightly textured premium granite aggregate finish
- Suitable for use on patios, pathways, and commercial pedestrian areas
- Can be laid in stack bond or stretcher bond depending on selected unit size(s)

\* with 63mm or 80mm flag only



Silver Granite



Black Granite



Buff Granite

## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
400 x 400 x 40	<b>Silver Granite, Black Granite, Buff Granite</b>	6.25	13.44	84	14	1180
400 x 400 x 50	<b>Silver Granite, Black Granite, Buff Granite</b>	6.25	10.56	66	11	1170
450 x 450 x 50	Silver Granite, Black Granite, Buff Granite	4.94	10.89	54	9	1215
600 x 300 x 50	<b>Silver Granite, Black Granite, Buff Granite</b>	5.55	8.66	48	8	1175
600 x 400 x 50	<b>Silver Granite, Black Granite, Buff Granite</b>	4.16	9.6	40	10	1105
600 x 500 x 50	Silver Granite, Black Granite, Buff Granite	3.33	8.4	28	14	882
600 x 600 x 50	<b>Silver Granite, Black Granite, Buff Granite</b>	2.77	10.82	30	15	1180
400 x 400 x 63	Silver Granite, Black Granite, Buff Granite	6.25	8.64	54	9	1200
600 x 600 x 63	Silver Granite, Black Granite, Buff Granite	2.77	8.66	24	12	100
400 x 400 x 80	Silver Granite, Black Granite, Buff Granite	6.25	6.72	42	7	1130
600 x 400 x 80	Silver Granite, Black Granite, Buff Granite	4.16	6.72	28	7	1160

**Bold text = in stock**    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Lightly textured granite aggregate finish.
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typically USRV 65.
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb sets, kerb blocks, Heritage kerb, Mellifont kerb, Newgrange Block Paving

Permeable option	No
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths, light vehicular over-run can be accommodated using the correct thickness of flag (63mm or 80mm) used in conjunction with the correct site specific sub base design. For further information on design and loading please see installation standards section on page 73.
Chamfer	Standard chamfer of approximately 4mm. Some unit sizes are available with a square edge, please contact the Technical team for more details.
Joint	Newgrange Flags have a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing. Note that silver granite kiln dried jointing sand is required for Silver and Buff Granite colour flag paving
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008



Kilsaran Showroom Gardens

# Belvedere

Riven finish flags



Pedestrian Traffic



Very Light Car Traffic\*

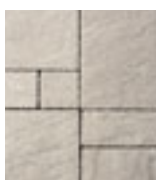


Not Suitable for Heavy Duty Traffic

Q25 315  
Q25 31

## Features

- Concrete Flag Paving
- Available in 6 colours
- Irregular edge profile
- Riven surface finish
- Supplied in 60mm depth only
- Suitable for use on patios, paths and commercial pedestrian areas
- A mixed pack of 4 sizes
- Laid in a random bond pattern



Silver Granite



Black Granite



Stone



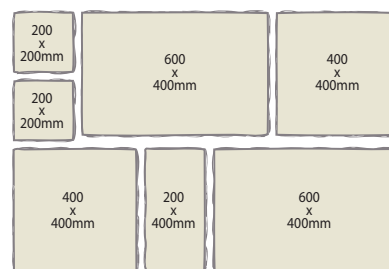
Rustic



Buff



Curragh Gold



Unit sizes as supplied.

## Product Range

Range	Dimensions (mm) (4 size mix only)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
Belvedere (Curled)	4 Co-ordinating Mixed Sizes	Silver Granite, Black Granite, Stone	N/A	9.6	70	10	1270
Belvedere	as shown above	Rustic, Buff, Curragh Gold	N/A	9.6	70	10	1270

**Bold text** = in stock    **Light text** = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Riven
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	Yes, see Clima-Pave section
Application & Trafficking	* Product suitable for pedestrian areas and commercial footpaths, light car only over-run can be accommodated in conjunction with the correct site specific sub base design. Not suitable for driveway use. For further information on design and loading please see installation standards section on page 73.
Chamfer	Rounded irregular chamfer of approximately 4-6mm.
Joint	Belvedere Paving has a 4-6mm approx. integral spacer nib which will give a resulting standard joint width of approx. 6-8mm when laid. Joints should be filled with Kiln dried jointing sand or PermaJoint 200 if laid on rigid construction – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008

# Tara Flags

Heavy texture concrete flag paving



Pedestrian Traffic



Car & Light Vehicle Traffic



Not Suitable for Heavy Duty Traffic

Q25 315  
Q25 31

## Features

- Concrete Flag Paving
- Available in 2 colour finishes
- Pin hammered textured surface and edges
- Suitable for use on patios, pathways and commercial pedestrian areas
- Can be laid in stack bond or stretcher bond depending on selected unit size(s)

\* with 63mm or 80mm flag only



Silver Granite



Black Granite

## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
400 x 400 x 50	Silver Granite, Black Granite	6.25	10.56	66	11	1170
600 x 300 x 50	Silver Granite, Black Granite	5.55	8.66	48	8	1175
400 x 400 x 63	Silver Granite, Black Granite	6.25	8.64	54	9	1200
400 x 400 x 80	Silver Granite, Black Granite	6.25	6.72	42	7	1130

**Bold text = in stock**    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Pin-hammered textured finish
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typically USRV 70
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellfont kerb, Newgrange Block Paving

Permeable option	No
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths, light vehicular over-run can be accommodated using the correct thickness of flag (63mm or 80mm) used in conjunction with the correct site specific sub base design. For further information on design and loading please see installation standards section on page 73.
Chamfer	Standard chamfer of approximately 4mm. Some unit sizes are available with a square edge, please contact the Technical team for more details.
Joint	Tara Flags have a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand – see page 75 for further details on jointing. Note that silver granite kiln dried jointing sand is required for Silver and Buff Granite colour flag paving
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008

# Cashel Flags

Riven Finish Flag Paving



Q25 315  
Q25 31

## Features

- Concrete Flag Paving
- Riven surface finish
- Available In two colours
- Suitable for use on patios, paths and pedestrian areas
- Cost effective solution
- Can be laid in stack bond or stretcher bond
- Chamfered edge profile



Natural



Raven

## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
400 x 400 x 40	Silver Granite, Black Granite	6.25	13.44	84	14	1180

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

## Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Riven finish.
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typically USRV 60.
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	No
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths. For further information on design and loading please see installation standards section on page 73.
Chamfer	Standard chamfer of approximately 4mm
Joint	Cashel Flags have a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand or if laid on a mortar bedding then a mortar joint should be used – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008





M3 Motorway

# Classic

## Traditional Flag Paving



Pedestrian Traffic



Very light car traffic\*



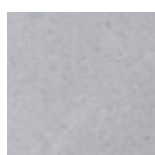
Not Suitable for Heavy Duty Traffic

Q25 315  
Q25 31

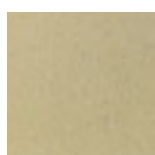
### Features

- Concrete Flag Paving
- Smooth surface finish
- Suitable for use on patios, paths and commercial pedestrian areas
- Cost effective solution
- Can be laid in stack bond or stretcher bond depending on unit size(s)
- Available in 6 colours
- Normally supplied in chamfered edge profile

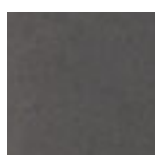
\* with 63mm or 80mm flag only



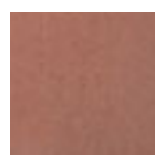
Natural



Buff



Charcoal



Red



Rustic



Curragh Gold

### Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
400 x 400 x 40	Natural, Buff, Charcoal, Red, Rustic, Curragh Gold	6.25	12.8	80	20	1120
400 x 400 x 50	Natural, Buff, Charcoal, Red, Rustic, Curragh Gold	6.25	10.56	66	11	1170
450 x 450 x 50	All Colours	4.94	10.89	54	9	1215
600 x 300 x 50	Natural	5.55	8.64	48	16	1175
600 x 400 x 50	Natural, Charcoal, Rustic, Curragh Gold	4.16	10.56	44	11	1170
600 x 500 x 50	All Colours	3.33	8.4	28	14	882
600 x 600 x 50	Natural, Charcoal, Rustic, Curragh Gold	2.77	10.8	30	15	1180
400 x 300 x 63	All Colours	8.33	8.63	72	12	1085
400 x 400 x 63	All Colours	6.25	8.64	72	9	1200
600 x 600 x 63	All Colours	2.77	8.66	24	12	1200
400 x 400 x 80	All Colours	6.25	6.72	42	7	1130
600 x 400 x 80	All Colours	4.16	6.72	28	7	1160

Bold text = in stock    Light text = Made to order (Minimum order quantity applies).

### Technical & Performance Data

Product Type	Concrete flag paving
Product Standard	BS EN 1339:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Smooth standard finish.
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential - Typically USRV 60.
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Permeable option	No.
Application & Trafficking	Product suitable for pedestrian areas and commercial footpaths, light vehicular over-run can be accommodated using the correct thickness of flag (63mm or 80mm) used in conjunction with the correct site specific sub base design. For further information on design and loading please see installation standards section on page 73.
Chamfer	Standard chamfer of approximately 4mm. Some unit sizes are available with a square edge, please contact the Technical Team for further details.
Joint	Classic Flags have a 1.5mm approx. integral spacer nib which will give a resulting standard joint width of approx. 2mm when laid. Joints should be filled with Kiln dried jointing sand or if laid on a mortar bedding then a mortar joint should be used – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009. 'A+' rated when used in conjunction with a prepared recycled sub base.
Certification	ISO 9001:2008



## CASE STUDY

# Dublin Airport

Manufacture and installation of paving Flags, and tactile paving



**CLIENT:** Dublin Airport

**ARCHITECT:** Pascall + Watson

**DURATION:** 12 months

## Project Details

Kilsaran were asked to provide a flag unit that would be aesthetically pleasing but still provide a durable surface and be able to withstand loading from sweeping and maintenance vehicles.

Kilsaran supplied 10,000m<sup>2</sup> of its Newgrange Silver and Black Granite paving flags for the forecourt area at Terminal Two. The flags were manufactured with special fibre reinforcement, to help withstand the extra loading from maintenance vehicles.



Newgrange Black Granite



## Product Expertise

This process of shot-blasting gives a fine textured feel to paving. Kilsaran's state-of-the-art manufacturing facility has six secondary finishing lines, including shot-blasting facilities. 10,000m<sup>2</sup> of Kilsaran's Newgrange Paving Flags (600x400x80) with fibre reinforcement made to order was used around the Airport.

Tactile Flags were also specially designed and produced for the project in a bespoke colour and finish.

Kilsaran also supplied a full range of products from the Kilsaran Streetscape Range, of high strength bedding concrete, slurry bonding and grout products were supplied to the project for both the forecourt paving and the indoor tiling contract.

**'Kilsaran supplied  
10,000m<sup>2</sup> of its  
Newgrange Silver  
and Black Granite paving  
flags for the forecourt  
area and foot paths  
around the Airport.'**

# PERMEABLE PAVING SOLUTIONS

Sustainable Urban Drainage Systems

Advantages of Permeable Paving

Paving for your project

## Clima-pave Permeable Paving

### Product Range

Slane

Lismore

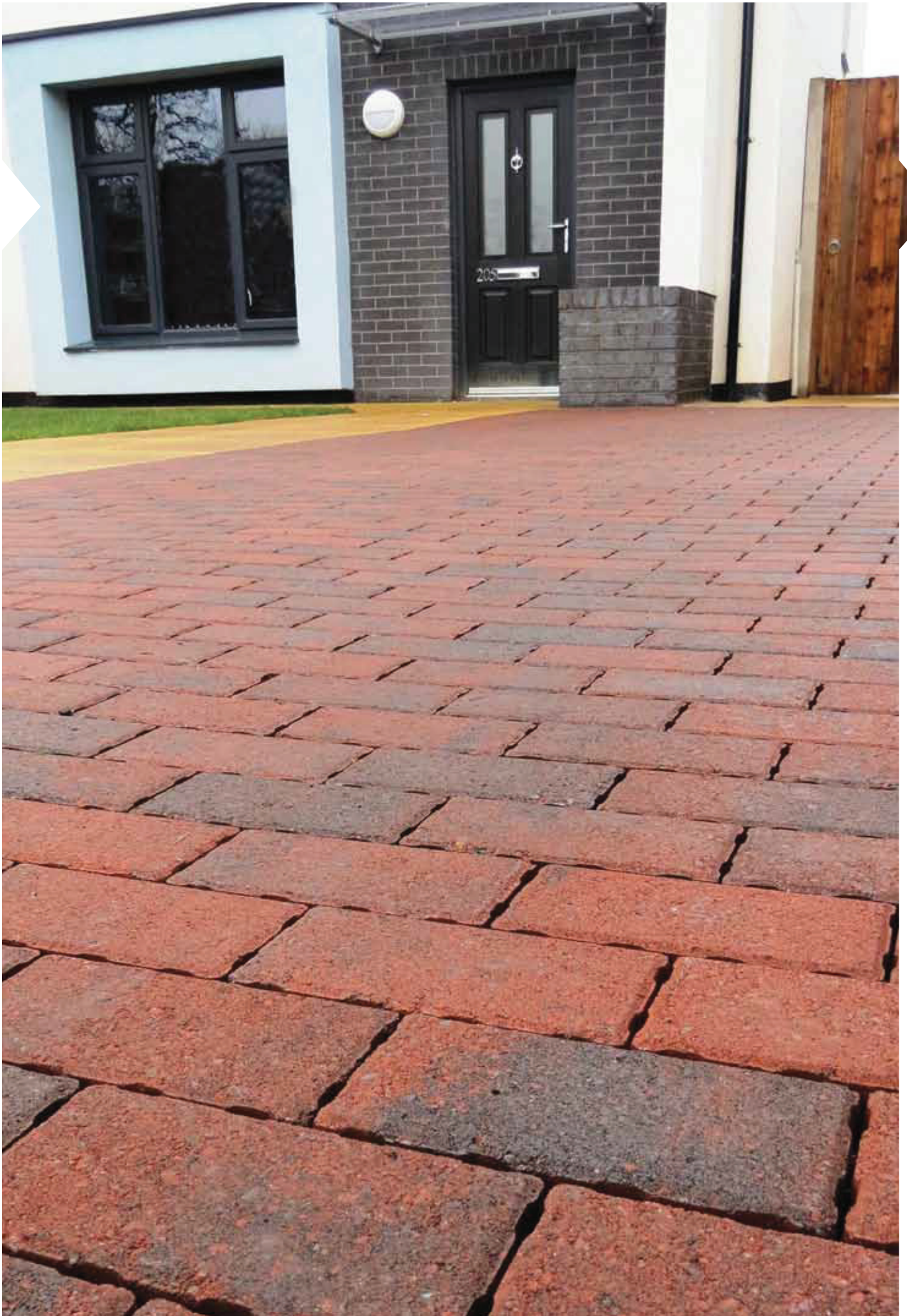
Mellifont

Newgrange

Boyne

Killeen Flags

Belvedere Flags





# Sustainable Urban Drainage Systems and Water Source Control

The rapid development of previously green-field sites and the associated creation of impermeable areas such as roofs, car parks and footpaths will mean that at project conception stage there will be potentially large volumes of surface water to be dealt with. Traditionally this has been done by piping the surface water into storage tanks or discharging it into nearby streams or surface water drainage. This method of drainage is not currently favoured by planners and designers, as it simply moves the surface water downstream where it still has to be dealt with. This is especially important where large volumes of water need to be handled during heavy rainfall events. Piping large volumes of water into streams and rivers increases the risk of flooding and also allows for the potential pollution of local water courses and drinking water supplies.

Planners are encouraging the use of Sustainable Urban Drainage Systems (SUDS) in all new developments. In particular the use of appropriate source control techniques is important as this allows for the containment of the surface water collected on the site, and for this surface water to be dealt with on-site as opposed to traditionally draining it off-site. SUDS, as a sustainable development approach to Surface Water Design Techniques, has the aim of attaining the following:

- 1 To manage water run-off from developed areas to similar quantities prior to development (Source Control)
- 2 Reduce and avoid incidences of downstream flooding
- 3 To protect or enhance water quality of the run-off
- 4 To improve or enhance the amenity where possible

## Advantages of Permeable Paving

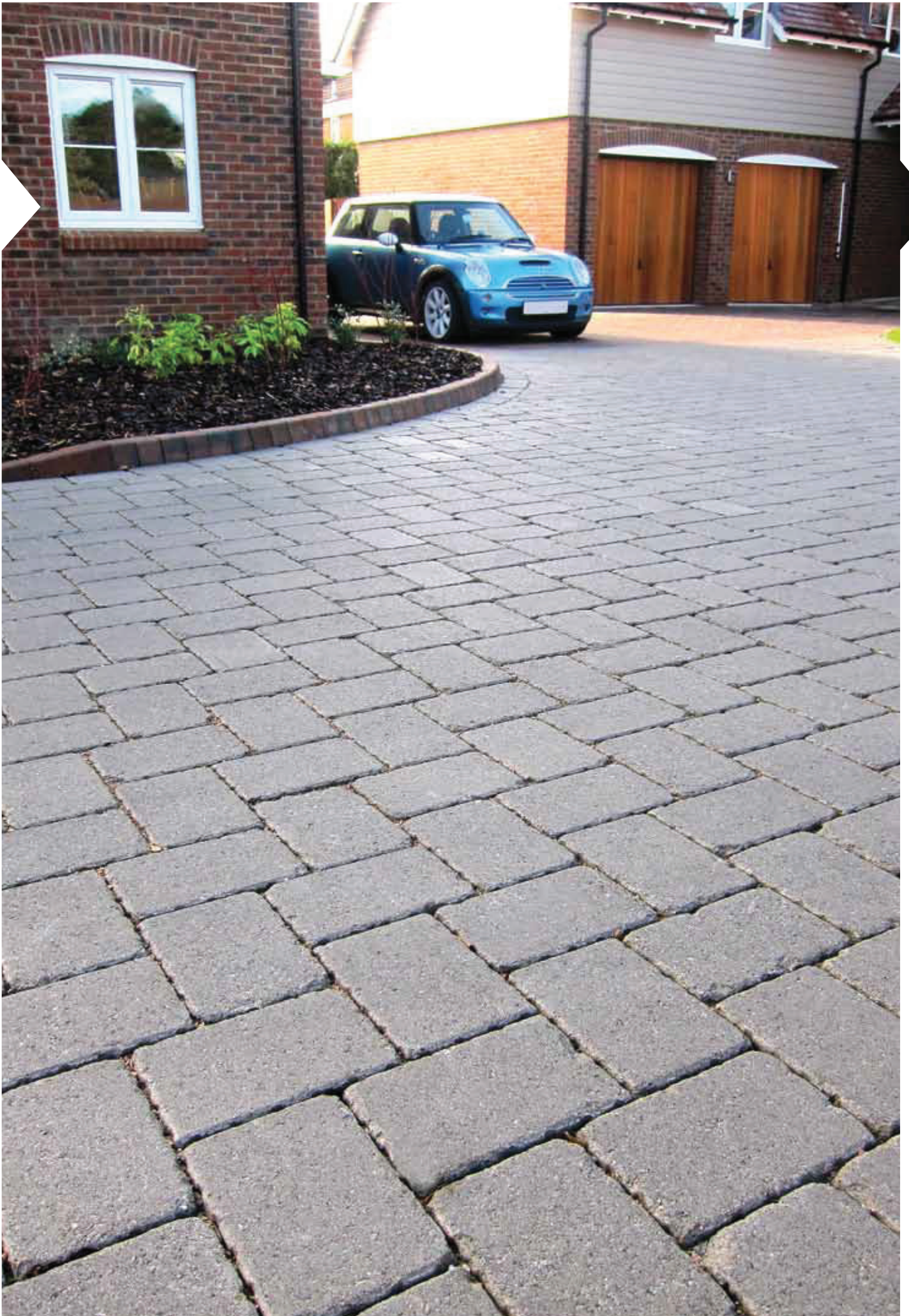
- Permeable paving is a 'source control' method. Water is managed and dealt with on-site without piping off to storage tanks or surface water treatment systems
- The Water Framework Directive (Directive 2000/60/EC) requires that surface water discharges are managed to ensure that risk of contamination or pollution are mitigated. Permeable paving systems filter contaminants by microbial action. There is no requirement for additional filtering/polishing with permeable paving in normal use
- Separate attenuation tank systems are not required
- No need for gullies or channels or conventional drainage
- Recharges ground water
- Roofs, roads and other non-permeable areas can be discharged into permeable paving (no gullies required)
- No ponding or surface water
- Collected water can potentially be re-used for non-potable purposes
- Improves water quality

Clima-pave Permeable Paving offers an advantage over traditional SUDS techniques, such as storm water attenuation tanks. This is because the stone based sub-base, which needs to be installed for any type of surfacing material, is adapted to an open graded material in permeable paving systems. This allows the water collected from the site to be stored in the pavement and either infiltrated back into the ground or discharged at a controlled rate into the surface water drainage system.

The Clima-pave system is constructed using our specially engineered permeable paving block, which has enlarged joints on all sides, typically 4-8mm in width. When the blocks have been laid, a corresponding slot is formed between the paving blocks which are then filled with a clean 3mm aggregate. This allows water to rapidly drain from the surface down into the pavement.

## Advantages of Clima-pave Permeable Paving For Your Project

Clima-pave offers one of the widest ranges of permeable paving products for use in commercial, retail and civic projects. Kilsaran can also offer a full site-specific permeable paving design for your project, taking into account the siteground conditions, drainage requirements and structural and traffic loading requirements for the site.

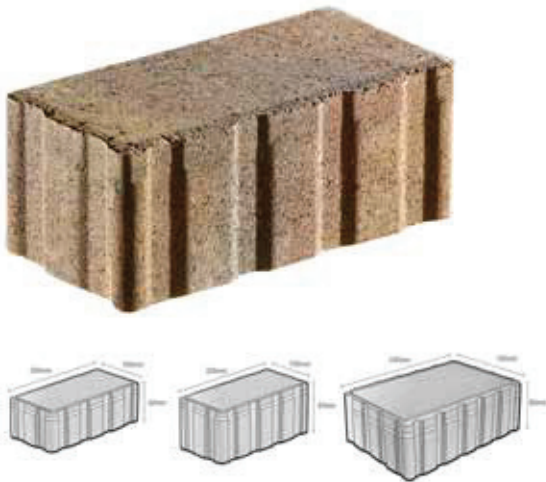




# Clima-pave Slane

## Benefits

- Unique spacer design maximises drainage whilst maintaining a smaller finished joint, i.e., the paved area is safer for heels etc. and easier to maintain
- Traditional 200 x 100 size unit
- Suitable for laying in stretcher course and herringbone pattern for heavier use
- Machine lay option available



## Technical & Performance Data

<b>Sizes</b>	200x100x60/80mm, 240x160x80mm
<b>Manufacturing Standard</b>	BS EN 1338:2003
<b>Manufacturing Method</b>	Hydraulically pressed semi-dry concrete
<b>Constituents</b>	Aggregates, cement, admixture and colour pigment
<b>Strength</b>	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
<b>Permeability</b>	1800 litres/second/hectare
<b>Slip/Skid Resistance</b>	Low potential - Typical USRV 60
<b>Finish</b>	Standard
<b>Applications</b>	Domestic, Civic, Commercial and Heavy Industrial



Natural



Charcoal



Rustic



Curragh Gold



Brindle



Red

# Clima-pave Lismore

## Benefits

- Clean, sharp edges
- No chamfer: Ideal for areas where trollies are used
- 3 Size mix
- Available in a range of colours



## Technical & Performance Data

<b>Sizes</b>	Single Size: 240x160x80mm 3 Size Mix: 240x160x80mm, 160x160x80mm, 120x160x80mm The 3 size mix also comes in a 60mm depth
<b>Manufacturing Standard</b>	BS EN 1338:2003
<b>Manufacturing Method</b>	Hydraulically pressed semi-dry concrete
<b>Constituents</b>	Aggregates, cement, admixture and colour pigment
<b>Strength</b>	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
<b>Permeability</b>	1800 litres/second/hectare
<b>Slip/Skid Resistance</b>	Low potential - Typical USRV 60
<b>Finish</b>	Standard
<b>Applications</b>	Domestic, Civic, Commercial and Commercial



Natural



Charcoal



Rustic

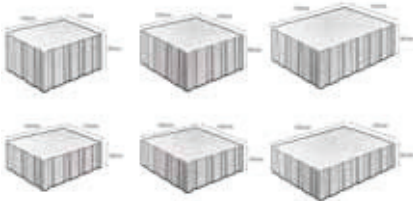


Curragh Gold

# Clima-pave Mellifont

## Benefits

- Antiqued finish gives the look of time-worn cobble
- 3 Size mix
- Available in a range of colours



## Technical & Performance Data

<b>Sizes</b>	Single Size: 240x160x80mm 3 Size Mix: 240x160x80mm, 160x160x80mm, 120x160x80mm The 3 size mix also comes in a 60mm depth
<b>Manufacturing Standard</b>	BS EN 1338:2003
<b>Manufacturing Method</b>	Hydraulically pressed semi-dry concrete
<b>Constituents</b>	Aggregates, cement, admixture and colour pigment
<b>Strength</b>	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
<b>Permeability</b>	1800 litres/second/hectare
<b>Slip/Skid Resistance</b>	Low potential - Typical USRV 60
<b>Finish</b>	Standard
<b>Applications</b>	Domestic, Civic, Commercial and Commercial



Natural



Charcoal



Rustic



Curragh Gold

# Clima-pave Newgrange



## Benefits

- Textured granite-effect finish
- 3 size mix
- Available in a range of colours
- Textured granite-effect finish
- Part of the eco paving range



## Technical & Performance Data

<b>Sizes</b>	Single Size: 240x160x80mm 3 Size Mix: 240x160x80mm, 160x160x80mm, 120x160x80mm The 3 size mix also comes in a 60mm depth
<b>Manufacturing Standard</b>	BS EN 1338:2003
<b>Manufacturing Method</b>	Hydraulically pressed semi-dry concrete
<b>Constituents</b>	Aggregates, cement, admixture and colour pigment
<b>Strength</b>	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
<b>Permeability</b>	1800 litres/second/hectare
<b>Slip/Skid Resistance</b>	Low potential - Typical USRV 65
<b>Finish</b>	Standard
<b>Applications</b>	Domestic, Civic, Commercial and Commercial



Silver Granite



Black Granite



Buff Granite

# Clima-pave Boyne

## Benefits

- Cobble-effect paving stone
- Embossed finish
- Larger spacer unit



## Technical & Performance Data

Sizes	192x132x60mm, 157x132x60mm
Manufacturing Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Constituents	Aggregates, cement, admixture and colour pigment
Strength	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
Permeability	1800 litres/second/hectare
Slip/Skid Resistance	Low potential
Finish	Embossed
Applications	Domestic, Civic and Commercial



Natural



Charcoal



Rustic

# Clima-pave Killeen Flags



## Benefits

- Sharp edge
- 4 co-ordinating sizes
- Granite-effect finish available
- 70mm depth
- Part of our Eco Range

Technical & Performance Data



## Technical & Performance Data

Sizes	4 size mix: 490x260x70mm, 410x260x70mm
Manufacturing Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Constituents	Aggregates, cement, admixture and colour pigment
Strength	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
Permeability	1800 litres/second/hectare
Slip/Skid Resistance	Low potential - Typical USRV 60
Finish	Ground or Antiqued finish
Applications	Domestic, Civic and Commercial



Black Granite



Silver Granite



Autumn Harvest



Sunset Red

# Clima-pave Belvedere Flags

## Benefits

- Embossed riven finish
- 4 co-ordinating sizes
- Random pattern
- 60mm depth



## Technical & Performance Data

Sizes	4 size mix: 600x400x60mm, 400x400x60mm
Manufacturing Standard	BS EN 1338:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Constituents	Aggregates, cement, admixture and colour pigment
Strength	Typical Tensile Splitting Strength of $\geq 3.6$ MPa and a failure load of $\geq 250$ N/mm
Permeability	1800 litres/second/hectare
Slip/Skid Resistance	Low potential
Finish	Standard or Curled (selected colours)
Applications	Domestic and Pedestrian



Stone



Silver Granite



Yellow



Curragh Gold



Rustic



# Clima-pave

## Design Guidance

Clima-pave Permeable Paving provides a structural pavement suitable for both pedestrian and vehicular traffic depending on design. The water management and permeable functionality of the pavement is largely dependent on the correct specification and design of the pavement to meet the unique requirements of the individual site. The correct specification, testing and installation of aggregates is of paramount importance with any permeable paving system to ensure the finished pavement meets both initial and long term design requirements.

We advise that all permeable pavements require a site-specific design which should be carried out in accordance with BS 7533-13:2009 Pavements constructed with clay, natural stone or concrete pavers: Guide for the design of permeable pavements constructed with concrete paving blocks and flags, natural stone slabs and setts and clay pavers.

We can provide a design service to customers who require a site specific design to be carried out for their project. In order to create a site specific design we will require the following information to be emailed to: [specification@kilsaran.ie](mailto:specification@kilsaran.ie)

The information required includes:

- Drawings of proposed site layout in AutoCad
- Full existing and proposed site levels for the pavement
- Full site investigation report to establish ground conditions and soaked CBR values of the sub-grade at formation level
- Infiltration values from soak-pit testing to BRE 365
- Overall drainage design strategy for the site
- Planning requirements or conditions for the site relating to paving and drainage (e.g., discharge limits)
- Any other pertinent site specific information or client / contractor requirements

## Design Guidance Basics

The below information is provided for guidance purposes only at project conception stage to allow appraisal of a permeable pavement system. Full independent advice should be sought from both the Consulting Engineer and the Contractor prior to the commencement of works. A full site-specific design will always be required in accordance with the above guidelines and BS 7533-13:2009.

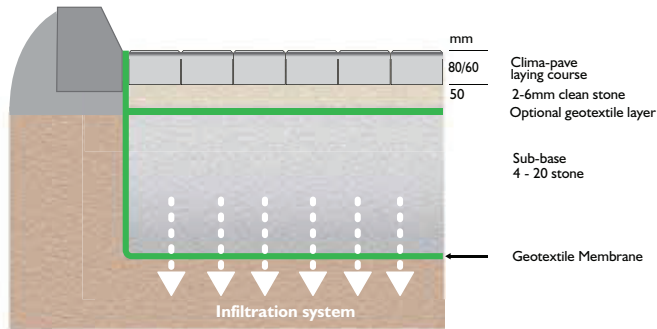


# Clima-pave

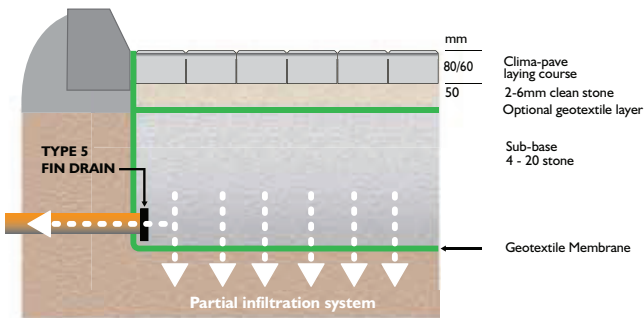
The design information below is based on BS 7533-13:2009 which should also be consulted at project appraisal stage.

## Types of Permeable Pavement

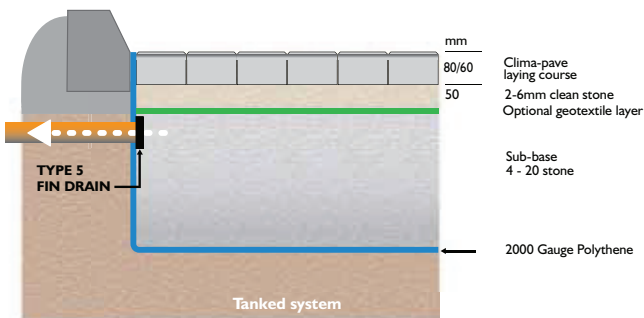
There are three main types of permeable pavement commonly used on sites:



**System A - Full Infiltration:** All water from the pavement is infiltrated to the ground. Suitable for sites with good ground conditions, higher CBR values and soils which will readily allow water to dissipate through the ground. These favourable conditions are rarely encountered on larger sites.



**System B - Partial Infiltration:** Most water infiltrated to ground with excess water piped off. Suitable for sites with medium ground conditions. The sub-grade soil will infiltrate some of the water in the system. When storm events occur and water builds up in the system due to the soil being at capacity for drainage, perforated pipes are laid in the bottom of the sub-base to deal with the excess, taking it to the surface water drainage system. This is the most commonly used type of permeable pavement.



**System C - Fully Tanked System:** No water is allowed to infiltrate to ground. This type of system is used where poor sub-grade drainage conditions exist (heavy clays and brown field sites), where the stability of the sub-grade would diminish if extra surface water was introduced, or where ground water levels are within 1 metre of the formation level (system could gain water). In this system the sub-base acts essentially as an attenuation tank, wrapped in an impermeable polythene membrane and all water is piped out.

The diagrams above are typical build-up details for permeable pavement systems based on BS 7533-13:2009. These diagrams are based on ideal site conditions for drainage and CBR values of 5% or greater. The diagrams are for project appraisal purposes only and in all cases a site specific design in accordance with BS 7533-13:2009 will be required.

## Sloping Sites

Where sloping sites are unavoidable due to site layout, it will be necessary to reduce any sharp falls to maintain the water attenuation capacity of the system. This can be achieved by creating 'dams' in the sub-base of the pavement which will 'step' the pavement sub-base and reduce the overall falls. On extreme slopes, the pavement can be terraced with a step down and a dam between the two levels to restrict water flow.

# Clima-pave

## Selection of Pavement Type

The type of permeable pavement system to be adopted is based primarily on site ground conditions, site suitability and the permeability values of the sub-grade encountered on site from infiltration soak-pit testing. Table 1 gives guidance on the suitability of the three types of permeable pavement system.

**Table 1: Guidance on selection of a pavement system**

		System A Total Infiltration	System B Partial Infiltration	System C No Infiltration
Permeability of sub-grade defined by coefficient of permeability, k (m/s)	10-6 to 10-3	3	3	3
	10-8 to 10-6	7	3	3
	10-10 to 10-8	7	7	3
Highest recorded water table within 1000mm of formation level		7	7	3
Pollutants present in sub-grade		7	7	3

**Table 2: Loading categories**

1 DOMESTIC PARKING	2 CAR	3 PEDESTRIAN	4 SHOPPING	5 COMMERCIAL	6 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	Hotel Parking	Fire Station Yard	Footway with regular overrun	Roundabout
-	-	Airport Car Park with no bus pickup	Airport Car Park with bus to terminal	Airport landside roads	Bus Lane
-	-	Sports Centre	Sports Stadium access route/ forecourt	-	-

msa = millions of standard 8,000 kg axles

The design of the sub-base for the permeable pavement should take into account the traffic loadings likely to use the pavement. It is essential to take into account any future increase in traffic volume and any HGV traffic which may use the pavement irrespective of how frequent. The correct loading category should be then selected from Table 2 taking into account the above considerations. It should be noted that no layers of the permeable pavement are designed for site traffic to use them and when finished the permeable pavement surface should not be trafficked by site traffic vehicles which are heavier than that for which the pavement was designed. It is advisable to complete paving works after all other work in the vicinity has been completed.

## Sub-Base Thickness For Water Storage

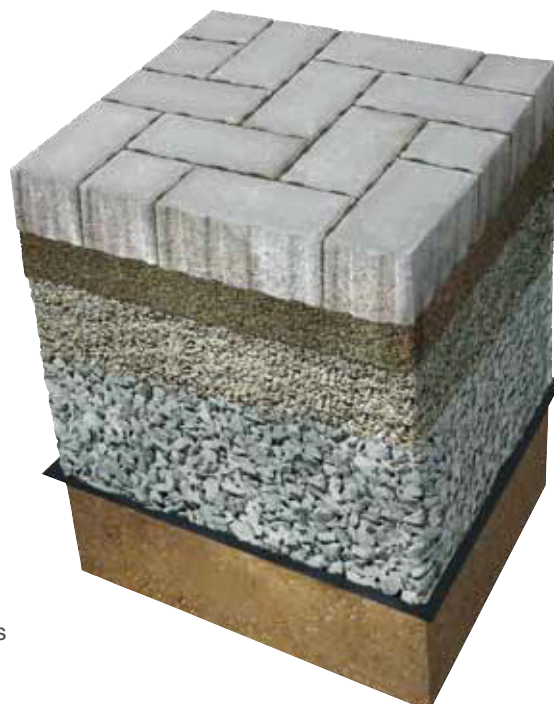
The sub-base depth must also take into consideration the water storage requirements for the site. The depth of sub-base may have to be adjusted to allow for increased site specific water storage. Further guidance on hydraulic factors can be found in BS 7533-13:2009 section 5.4.

## Adjustment To Pavement Design For Low CBR Sub-Grade

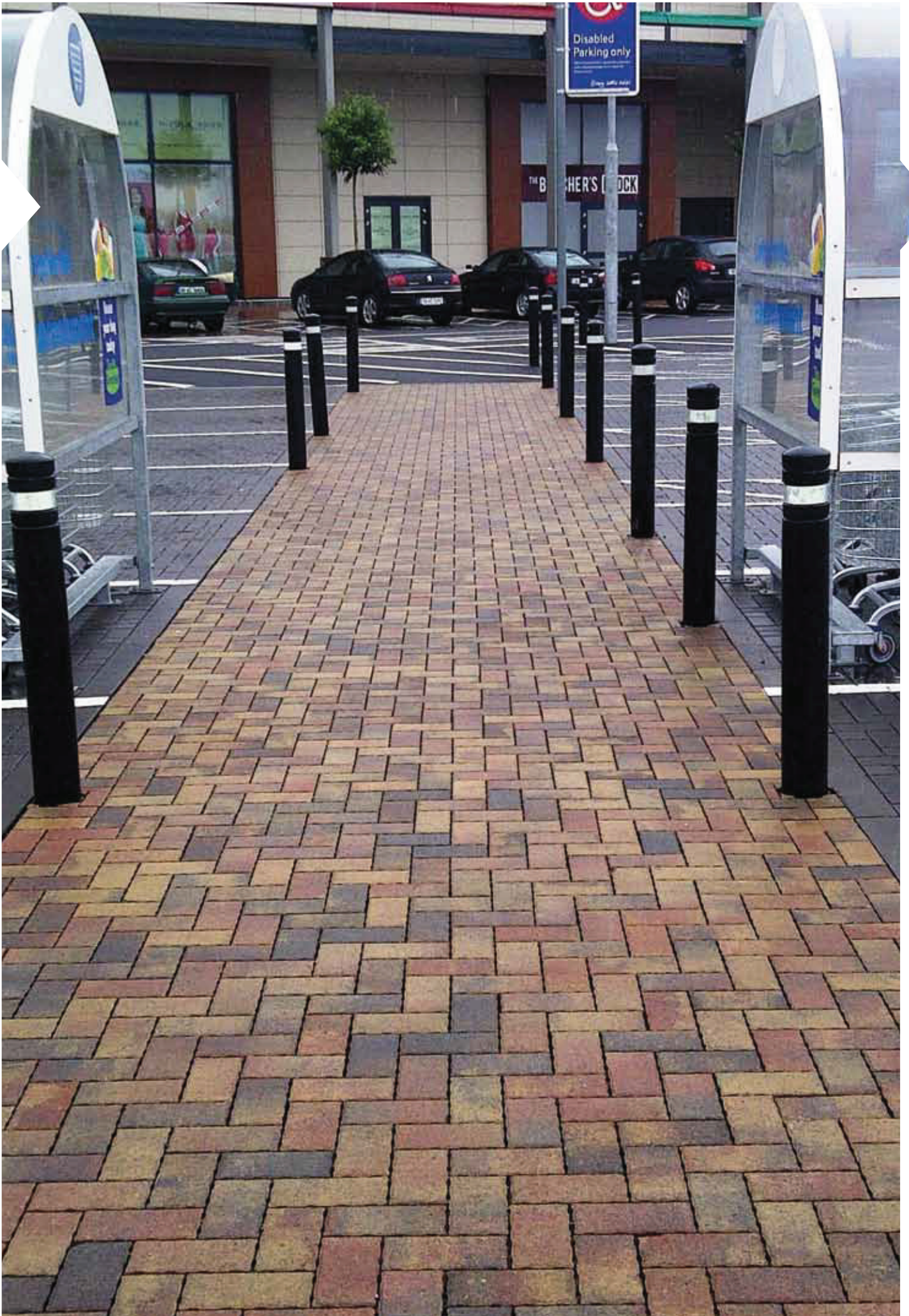
In the case of CBR values below 5%, either ground improvement work will be required for the site, or the thickness of the coarse graded aggregate sub-base will have to be adjusted in accordance with 5.6.3 and table 9 of BS 7533-13:2009.

## Construction & Maintenance Guidelines

To ensure correct performance and durability of a permeable pavement, a fully detailed design should be carried out in accordance with BS 7533-13:2009 taking into account all site specific requirements for the project. Construction should be carried out strictly in accordance with BS 7533-13:2009 and BS 7533-3 by a fully competent and experienced contractor, familiar with permeable paving standards and installation methodology. All materials to be used shall be tested for full compliance to the above standard both before supply and during construction. It is also advised not to use any of the layers of permeable pavement construction for site traffic unless the build-up has been specifically designed to accommodate this. Additionally site equipment such as tele-handlers and forklifts should not be used on the paving surface after construction has been completed unless the pavement has been designed to accommodate this.







# Clima-pave

## Maintenance

Kilsaran advise that all design, construction and maintenance be carried out to the full requirements of BS 7533-13:2009 and the Interpave 'Guide to the Construction and Maintenance of Concrete Block Permeable Pavements'. The contractor should ensure that all aspects of the aforementioned standard are adhered to at all times. Workmanship of the block paving at both installation stage and during subsequent site inspections should fully meet the requirements of BS 7533-3. Periodic visual inspection of the paving initially after 6-12 weeks from installation should be carried out to ensure all joints are full and no movement or damage to any localized areas. Afterwards a 6 to 12 month full visual inspection should be carried out to ensure continuing compliance with the BS 7533-13:2009 standard.

Permeable pavements should not be contaminated with soft landscaping materials, soil, detritus or general dirt as this may wash into the pavement. Also the pavement should not be trafficked by construction traffic or unsuitably heavy vehicles above that for which the pavement was designed.

To keep any growths or weeds to a minimum it is advised that the installed permeable paving be sealed with an appropriate sealer, such as Kilsaran Paving Sealer. Where the paved area is beneath overhanging trees or in a very damp area, an annual treatment of an environmentally friendly weedkiller can be applied. Note the weedkiller should be applied as directed by the supplier and only in very dry weather where rain is not expected, active weedkiller could be washed into the subsystem otherwise.

The pavement should be inspected on a routine basis as determined by local site factors, and carefully swept as required using a mechanical sweeper or by hand for smaller areas. The sweeping action may remove some of the jointing grit from the surface, the joints should be topped up after sweeping if required.

Should silting or blocking of the joints occur perhaps after a period of time, the use of a suitable jet wash and suction sweeper should be used to remove the defective material. It is likely that the jetting of the pavement will remove some jointing grit. This grit should be replaced immediately after cleaning to fill all joints.

As with conventional block pavements, depressions, rutting and cracked or broken blocks which may be a structural concern or a hazard to users should be remedied immediately in line with the above standards.

Permeable Pavements will drain relatively quickly compared with other types of surfacing, and are not as liable to freezing over of standing water, hoar frosts may occur which can cause surface slip on any material. The use of de-icing salts on permeable pavements, as with any other concrete surface, should be kept to a minimum as the chlorides in the salt will penetrate the concrete and excessive use will damage the surface. Where it is decided by the paving user to use de-icing material, any de-icing material applied should not cause blockage or clogging of the permeable pavement joints (if blockage occurs in localised areas this will need to be removed by suction sweeper and joints topped up with appropriate jointing grit). De-icing materials must always be applied prior to frost or snow forming on the surface ie the material should be spread on the surface the night before frost or snow occurs, de-icing materials are significantly less effective after freezing conditions have occurred on a surface and application to a surface which has already frozen over is likely to increase any potential damage caused to the surface through over-application and thermal shock to the surface. All de-icing materials should be swept off and fully cleaned off the surface immediately after the freezing conditions have passed. It should also be considered that any de-icing material used may drain into either the subgrade or the drainage system through the permeable pavement. Care should be taken to ensure no contamination of water courses or drainage systems.

It is of paramount importance that all permeable pavements should have jointing checked on an ongoing basis to ensure all joints are clear and free from dirt and debris and that any joints which are clogged or dirty are cleaned out fully. Joints should then be topped up fully at all times with suitably compliant jointing grit ensuring all joints are completely full. The frequency of inspection and top up of joints will depend on the usage of the pavement and cleaning regimes in place

## Presentations and Training

As a member of the RIBA accredited CPD provider's network, Kilsaran is offering a CPD seminar on the fundamentals of installing permeable paving. Kilsaran's experts will guide you through planning, design and the building constraints associated with installing a cost effective SuDs solution, including product selection and maintenance issues. If you are unsure of the potential of using permeable paving, ask for a presentation and discuss your requirements in more detail with a Kilsaran representative.





# KERBING

Heritage Kerb Range  
Kerb Block and Kerb Sett  
Mellifont Kerb Stone  
and Lismore Kerb Stone  
Channel Block

# Heritage Kerb Range

Traditional Granite Finish Concrete Kerbing

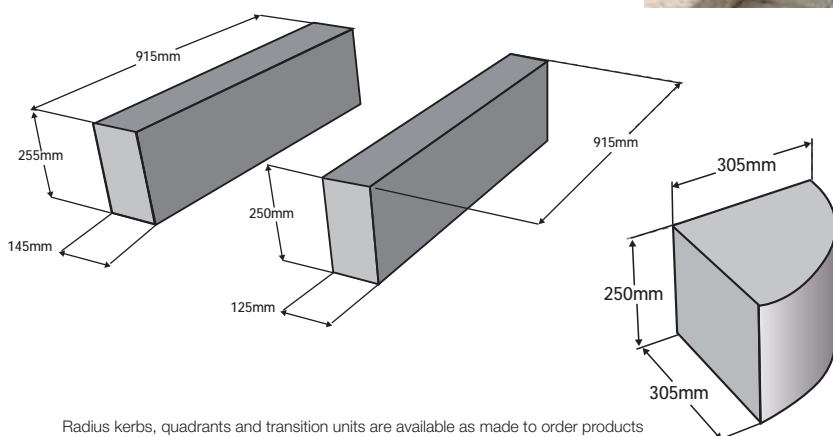


Q25 320  
Q10 110

## Features

The Heritage kerb is suited to use in commercial, industrial, retail, domestic and landscape developments. The textured finish offers an aesthetically pleasing and affordable alternative to natural granite.

The Heritage Kerb range is part of our Eco Paving range of hard landscaping products. A minimum of 55% non primary, recycled Aggregates and Environmentally Friendly cement alternatives are used in the manufacture of this product.



Black Granite



Granite

Radius kerbs, quadrants and transition units are available as made to order products for more information please contact a member of the Specification team

## Product Range

Dimensions (mm)	Colours	Pcs per Lin m <sup>2</sup>	Lin m <sup>2</sup> per bale	Pcs per bale	No. of layers per pack	Pack Weight (Kg)
915 x 250 x 125	Granite, Black Granite	0.915	14.64	16	4	1010
915 x 255 x 145mm	Granite, Black Granite	0.915	14.64	16	4	1125

Bold text = in stock

## Technical & Performance Data

Product Type	Precast concrete kerb
Product Standard	BS EN 1340:2003
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Textured granite aggregate effect
Packaging Information	Plastic straps on pallets.
Slip/Skid Resistance	Low potential – Typically USRV 68

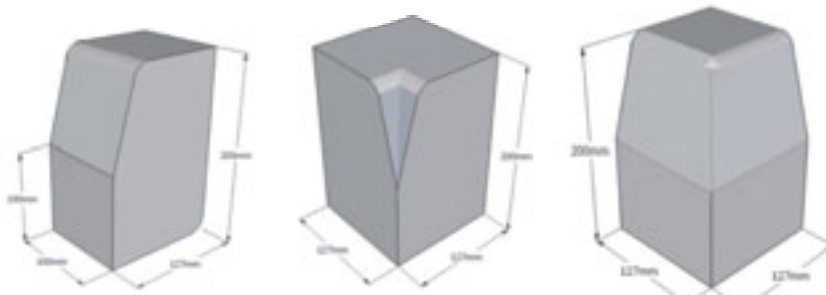
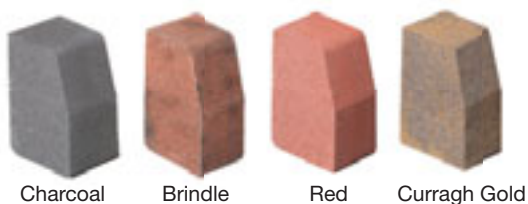
Strength	Compliant to BS EN 1340:2003
Complimentary Products	Lismore blocks, Mellifont blocks, Newgrange blocks, Newgrange Flag, Shelbourne Flag
Application	Residential and commercial.
Chamfer	No
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009
Certification	ISO 9001:2008

# Kerb Block

Traditional Bullnose Small Element Kerbs

## Features

- Standard Kerb block unit with bullnose profile
- Internal and external corners are available for high rise installation
- Available in 4 colours
- Suitable for domestic and commercial schemes



## Product Range

Dimensions (mm)		Pcs per Lin m <sup>2</sup>	Lin m <sup>2</sup> per bale	Pcs per bale	No. of layers per pack	Pack Weight (Kg)
200 x 127 x 100	Charcoal, Red, Brindle, Natural	10	24	240	8	1225

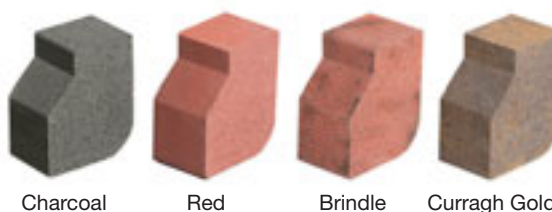
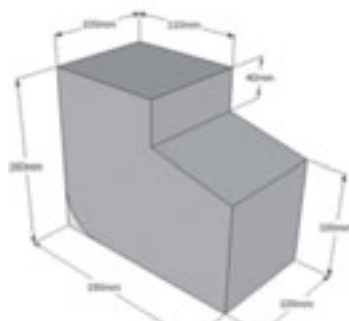
\*Any additional colours are made to order

# Kerb Sett

Small unit kerb block

## Features

- Kerb sett unit which can be laid in either high rise or low rise profile to give a different appearance
- Corners are not available for this product type
- Suitable for domestic and commercial schemes
- Available in 4 colours



# Mellifont Kerb Stone

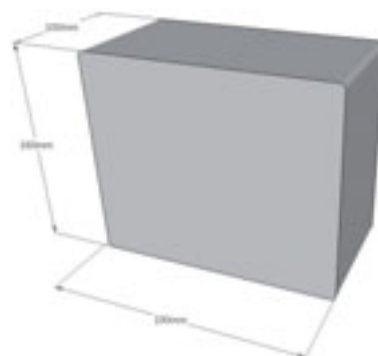
Small Element Kerbs

Q25 320  
Q10 110



## Features

- Tumbled finish kerb stone
- Designed to complement the Mellifont Block Paving Range and other Kilsaran Paving products
- Ideal for use as a border, edging or for step riser units
- Suitable for domestic and commercial schemes
- Available in 4 colours



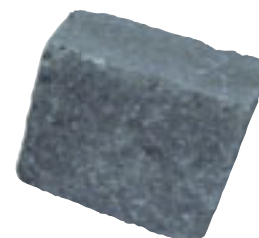
Natural



Curragh Gold



Rustic



Charcoal

## Product Range

Dimensions (mm)		Pcs per Lin m <sup>2</sup>	Lin m <sup>2</sup> per bale	Pcs per bale	No. of layers per pack	Pack Weight (Kg)
190 x 160 x 100	Natural, Curragh Gold, Rustic, Charcoal	5.25	33	175	7	1140

\*All Colours in Stock

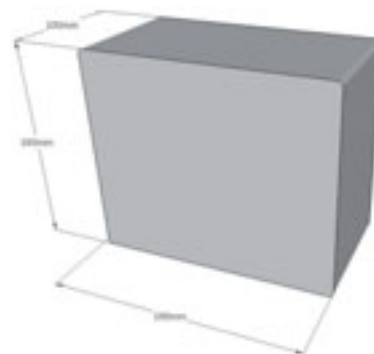
# Lismore Kerb Stone

Small Element Kerb Stone

Q25 320  
Q10 110

## Features

- Designed to complement the LismoreBlock Paving Range and other Kilsaran Paving Products
- Ideal for use as a border, edging or for step riser units
- Suitable for domestic and commercial use
- Clean line edges give a contemporary look
- 4 colours available



Natural



Rustic



Charcoal



Curragh Gold

## Product Range

Dimensions (mm)		Pcs per Lin m <sup>2</sup>	Lin m <sup>2</sup> per bale	Pcs per bale	No. of Layers per pack	Pack Weight (Kg)
190 x 160 x 100	Natural, Curragh Gold, Rustic, Charcoal	5.25	33	175	7	1140

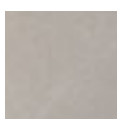
\*All Colours in Stock

# Channel Block

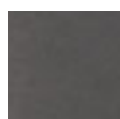
Traditional dished channel block unit

## Features

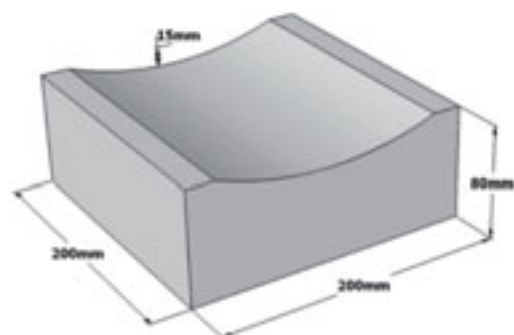
- Dished channel complimentary unit for all types of block paving
- Suitable for trafficking – 80mm in depth
- Available in 2 colours
- 200 x 200 unit – 5 required per linear metre



Natural



Charcoal







# TACTILE PAVING

Overview of Tactile Paving

Blister

Corduroy

Cycleway



# Overview of tactile paving

Tactile Paving is used to assist and guide the visually impaired in various situations including at pedestrian crossings and around hazards and obstructions

Tactile paving comes in 5 varieties – Blister, Directional Guidance, Corduroy Hazard Warning, Lozenge and Cycle-Way Tactile Paving.

Tactile paving is a functional as opposed to aesthetic product and as such the profile and colour of the tactile paving should be as specified by the Local Authority or client.

For detailed technical information and advice on using Tactile Flags in your project please contact our expert Technical team

## Blister Profile Tactile Paving

Provides a warning to visually impaired people who would otherwise, in the absence of a kerb upstand <25mm high, find it difficult to differentiate where the footway ends and the carriageway begins. The most extensively used tactile at almost all pedestrian crossings in urban and residential situations.

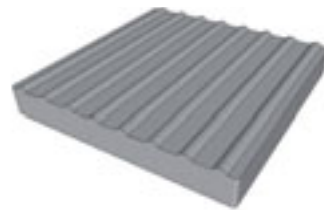


## Corduroy Hazard Warning Tactile Paving

Provides a warning to visually impaired people of the presence of specific hazards, eg steps, level crossings or the approach to on street light rapid transit platforms.

The most common use for the Corduroy Hazard Warning unit is at the top and bottom of steps.

Usually Laid in buff yellow colour

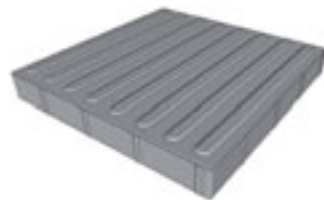


## Directional Guidance Tactile

Provides a guide to visually impaired people along a route when traditional cues, such as a property line or a kerb edge are not available. It can also be used to guide people around obstacles, for example street furniture in pedestrian areas.

This type of tactile is used sparingly to maximise its effectiveness

Usually laid in a buff yellow colour

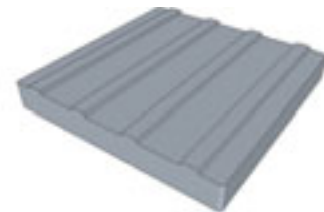


## Cycleway Tactile Paving

Provides a warning to visually impaired people of the presence of specific hazards, eg steps, level crossings or the approach to on street light rapid transit platforms.

The most common use for the Corduroy Hazard Warning unit is at the top and bottom of steps.

Usually Laid in buff yellow colour

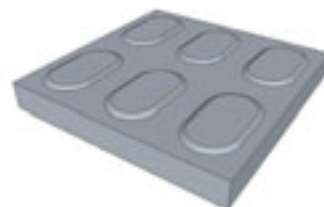


## Lozenge on-street Platform Edge Tactile Paving

Provides a warning to visually impaired people that they are approaching the edge of an on street light rapid transit platform or a bus stop.

Often on street light rapid transit platforms are shared with footways.

Usually laid in a buff yellow colour.



# Blister

## Concrete Tactile Paving Units



Pedestrian Traffic

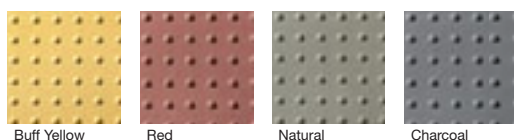


Not Suitable for Car & Light Vehicle Traffic

Q25 320

### Features

Blister tactile paving provides a profiled finish comprising of rows of flat top domes on the surface. The blister surface provides a warning to visually impaired people in the absence of a kerb up-stand at controlled and uncontrolled crossings.

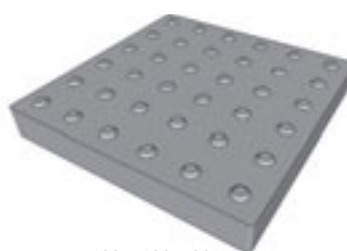


Buff Yellow

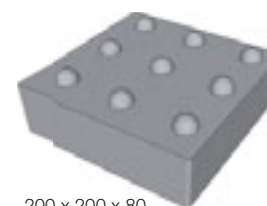
Red

Natural

Charcoal



400 x 400 x 80  
Blister Tactile Paving Unit Profile



200 x 200 x 80  
Blister Tactile Paving Unit Profile

### Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
200 x 200 x 80	Red, Buff Yellow	25	6.4	160	8	1140
400 x 400 x 50	Red, Buff Yellow	6.25	10.56	66	11	1226

Bold text = in stock

Natural, Charcoal and Textured finish available by special order

### Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1339:2003, BS7997 BS:2003, DDCEN-TS15209:2008
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Blister pattern. <i>Available in alternative textures and colours upon request.</i>
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Application & Trafficking	Product suitable for pedestrianized areas
Chamfer	No
Joint	Blister Tactile Paving has a narrow finished joint of 1mm approx. This product has no integral spacer nib and no chamfer. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand or if laid on a mortar bedding then a mortar joint should be used – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008

# Corduroy

Hazard Warning concrete tactile paving



Pedestrian Traffic



Not Suitable for Car & Light Vehicle Traffic

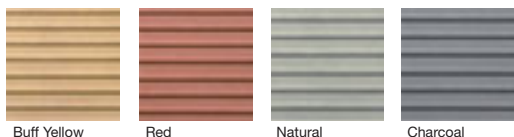
## Features

Corduroy Hazard Warning tactile flags are used to denote a hazard

Examples of typical use applications are:

- the top and bottom of a flight of steps
- level crossings

The flat top rods are laid parallel to the edge of the hazard at a distance of 400mm away



Buff Yellow

Red

Natural

Charcoal



400 x 400 x 50  
Corduroy Tactile Paving Unit Profile

## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
*400 x 400 x 50	Red, Buff Yellow, Natural, Charcoal	25	6.4	160	8	1140

\* Made to order. Minimum order quantity applies.

## Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1339:2003, BS7997 BS:2003, DDCEN-TS15209:2008
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Corduroy pattern. <i>Available in alternative textures and colours upon request.</i>
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Application & Trafficking	Product suitable for pedestrianized areas
Chamfer	No
Joint	Corduroy Hazard Warning Tactile Paving has a narrow finished joint of 1mm approx. This product has no integral spacer nib and no chamfer. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand or if laid on a mortar bedding then a mortar joint should be used – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008

# Cycleway

Shared cycle route concrete tactile paving



Pedestrian Traffic



Not Suitable for Car & Light Vehicle Traffic

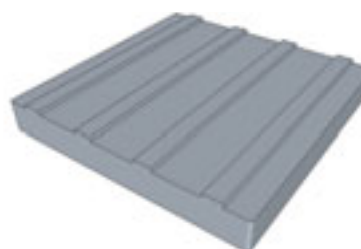
## Features

Cycleway Tactile paving is used to indicate the beginning and end of shared pedestrian and cycleway paths which are not differentiated by two levels.

Normally cycleway tactile paving is laid transverse to indicate the pedestrian surface and longitudinally to indicate the cycling surface at the start and end of shared path routes



Buff Yellow



400 x400 x 50  
Cycleway Tactile Paving Unit Profile

## Product Range

Dimensions (mm)	Colours	Pcs per m <sup>2</sup>	m <sup>2</sup> per pack	Pcs per pack	No. of layers per pack	Pack Weight (Kg)
*400 x 400 x 50	Buff Yellow, other colours made to order	6.25	10.56	66	11	1226

\* Made to order. Minimum order quantity applies.

## Technical & Performance Data

Product Type	Concrete Block Paving
Product Standard	BS EN 1339:2003, BS7997 BS:2003, DDCEN-TS15209:2008
Manufacturing Method	Hydraulically pressed semi-dry concrete
Finish	Cycleway pattern. <i>Available in alternative textures and colours upon request.</i>
Packaging Information	Baled, strapped and plastic cover
Slip/Skid Resistance	Low potential
Strength	Typically class 3 compliant to BS EN 1339:2003
Complimentary Products	Kerb setts, kerb blocks, Heritage kerb, Mellifont kerb

Application & Trafficking	Product suitable for pedestrianized areas
Chamfer	No
Joint	Cycleway Tactile Paving has a narrow finished joint of 1mm approx. This product has no integral spacer nib and no chamfer. Great care and attention must be paid when handling and installing to avoid chipping and damage to edges. Joints should be filled with Kiln dried jointing sand or if laid on a mortar bedding then a mortar joint should be used – see page 75 for further details on jointing.
BREEAM	'A' rated in accordance with the Green Guide Specification Edition 4, 2009 'A+' rated when used in conjunction with a prepared recycled sub-base.
Certification	ISO 9001:2008



For further information and product samples  
Telephone 0845 260 1748  
[enq@hardscape.co.uk](mailto:enq@hardscape.co.uk)

[www.hardscape.co.uk](http://www.hardscape.co.uk)



**Head Office**

Ashworth House  
Deakins Business Park  
Egerton  
Bolton BL7 9RP  
T 0845 260 1748  
F 0845 260 1749  
E [enq@hardscape.co.uk](mailto:enq@hardscape.co.uk)

**Southern Office**

Unit 25  
Long Marston Industrial Estate  
Long Marston  
Stratford Upon Avon CV37 8QR  
T 0845 260 1748  
F 0845 260 1749  
E [enq@hardscape.co.uk](mailto:enq@hardscape.co.uk)

**Northern Ireland Office**

Building C  
The Studios  
89 Holywood Road  
Belfast BT4 3BD  
T 0044 (0) 845 260 1748  
F 0044 (0) 845 260 1749

[www.hardscape.co.uk](http://www.hardscape.co.uk)