

# Beany® Block

## Combined Kerb and Drainage System



Beany Block installation, mechanically handled

- Beany Block carries the British Standard Kitemark.
- High capacity.
- Proven and trusted.
- Great problem solver.
- General installation detail ensures load classification E600.
- A full and comprehensive range.
- Withstands installation damage.

Beany Block is the original combined kerb and drainage system which has been on the market for over 25 years. This tried, tested and proven system provides a unique, flexible and cost-effective solution to highway drainage requirements. Mini Beany, Traffic Drain and Max-E-Channel further extend the use of this product.

### The System

Beany Block consists of base units of standard channel section and top units of inverted channel section, with an elliptical aperture in the centre of one side face. When installed they form a combined kerb and surface water drainage system strong enough to withstand loadings imposed by both road and construction traffic.

The system has excellent surface drainage efficiency which coupled with its large flow capacity, makes Beany Block superior to and much less expensive than conventional kerb and point drainage on many highway and non-highway schemes.

◀ Beany Block, Finniestone Bridge, Glasgow

### Versatile

Beany Block is suitable for inclusion in highway schemes (although the system is likely to be most cost-effective in flat areas), reconstruction works where existing drainage systems have failed or where there is no existing surface water drain. Beany Block has been installed in schemes ranging from a few metres to several kilometres, from motorways and trunk roads to estate roads, service yards and car parks throughout the UK, Ireland and mainland Europe.

Despite its simplicity, Beany Block has many important design features which give it significant engineering benefits over alternative systems.

### Note

Engineers wishing to incorporate Beany Block within a scheme should read this in conjunction with the Select Design and Install Guide or use our free, no obligation Design Service.



Beany Block installation, mechanically handled

# Cost Advantages

Beany Block is ideal where specific problems would arise with conventional drainage methods for example:

- Where there is insufficient fall to the outfall point.
- Where, in flat areas, either numerous, closely spaced gullies or false falls would be required in the carriageway.
- Where long gully connections would be needed.
- Where surface water drainage pipes would conflict with service mains and cables.
- Where ponding would occur at low points.
- Where traffic safety and control measures would be required when widening existing carriageway.

Beany Block is likely to be more economical than conventional kerb/point drainage where carriageways have crossfall, few vehicular crossings or where a surface water drain would be required for highway drainage purposes. Cost savings have been significant on highway and non-highway schemes incorporating lengths of the Beany Block system. For comparison purposes, conventional methods should include the following as appropriate:

- Surface water drain (including reinstatement).
- Gullies.
- Gully connections.
- Manholes.
- Kerbs.
- Channel Blocks.
- Extra 200mm width of footway plus a small amount of carriageway.
- Service diversions.
- Traffic safety and control (existing carriageways).



Beany Block is a simple two part system Straight Backed Top Unit and 295 Base

## High Capacity Performance

- Beany Block is a high capacity system able to store storm water. Where limitations are placed on outfall capacities, Beany can help eliminate the need for storage reservoirs or balancing ponds.
- Beany Block can be used in flat areas or steep gradients.
- Inlet apertures are 500mm apart, reducing running or fast flowing water on the carriageway and eliminating ponding.

## Construction Savings

- The Beany System combines water interception and transportation in one system. This minimises or eliminates the need for carrier drains, gullies and manholes, reducing construction costs and saving time.
- Simple two-part system – straightforward to design and detail, reducing design times and cost. Easy to set out and straightforward to install.
- The overall construction period can be reduced as carriageway materials may be laid in a continuous sequence. Unlike laying conventional drainage, excavations are kept to a minimum without exposing the formation and sub-base surfaces to possible periods of adverse weather.
- Underground cables and services can be avoided so contractual/insurance claims are likely to be much less than when laying conventional drainage.

## Low Maintenance

- Beany Block will require periodic inspection and emptying of Silt Traps, Outfalls and Catchpits. The number of Silt Traps and Outfalls are likely to be fewer than in a conventional drainage systems. If a blockage does occur, it can easily be located and rectified by rodding or jetting from an access point or through a top block aperture adjacent to the blockage.

# Special Finishes

## Conservation Beany Block

- A silver grey coarse textured finish top unit, manufactured with granite aggregate, complements perfectly areas of high architectural, historical and scenic value. This product complements Marshalls Silver Grey Conservation Paving Kerb and Edging along with Mistral Concrete Block Paving and Conservation Setts. Mini Beany is also available in Conservation.
- Conservation Beany is available with coarse texture to 2 or 3 faces and manufactured to order for an agreed quantity.



Textured Top Units – draining from both sides

# Engineering Benefits

## Manufacture

Principal components are manufactured from natural coloured, hydraulically pressed concrete.

The high inherent strength and durability of pressed concrete means the Beany System can:

- Allow complete compaction of surfacing materials adjacent to the channel during construction.

- Provide resistance to horizontal displacement by heavy vehicles when held rigidly in place on site by backing concrete and the road materials on the front face.
- Withstand de-icing salts and freeze/thaw effects reducing maintenance and increasing service life.
- The manufacturing process enables tight dimensional control which produces consistent units for ease of on-site construction.

### Top Blocks

- Symmetrical Top Units available to allow reversal of the units as appropriate to collect storm water from both sides of a run.
- Allows access for road rollers to fully compact carriageway surfacing material right up to the channels edge without damaging the units – of particular importance where carriageways have steep super elevation.

### Elliptical Water Inlet Aperture

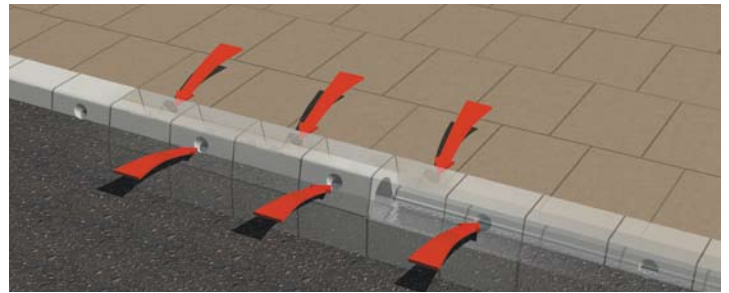
- Located centrally within each top block to give maximum strength and wider on the inside of the top block – preventing resistance against loads imposed by overriding heavy vehicles.
- Positioned and shaped to give maximum drainage efficiency as well as a pleasing appearance.
- Wider on the inside of the top block to prevent blockages, inclined at 45 degrees to prevent silting and also to allow inspection of and rodding access to the base unit inverts.

### Road and Vehicular Crossings

- The system has been specifically designed so that where base units and cover plates are used to carry flows under carriageways or vehicular crossings, a minimum of 150mm of road material can be laid above the units to prevent damage and reflective carriageway surface cracking.
- The base unit maintains line and level under road crossings helping to keep construction time and costs to a minimum.
- Beany Block is fully compatible with the Max-E-Channel system. This allows for easy transition of Beany Block to Max-E-Channel.
- Instances where the flow collected in a run of Beany needs to continue across a junction or entrance and where interception of surface run-off is still required is possible with the use of Max-E-Channel.
- The invert is maintained and the differential height of the Beany and Max-E-Channel system is specifically designed to allow continuity of pavement level.

### Pedestrian Crossing

- The system has been designed to allow for the construction of pedestrian drop crossings. Flow can continue in base units and cover plate support the standard kerbs used at the crossing.
- The advantage of separate base and top blocks is that it is easy to retrofit pedestrian crossings in any length of Beany.



Beany Drainage from both sides



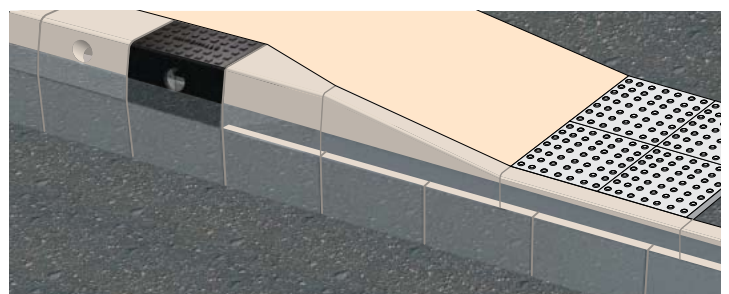
Wider on the inside of the Top Block to prevent blockages. Inclined at 45° to prevent 'siling' and also to allow inspection of and rodding access to the Base Unit inverts.



Beany to Cover Plates



Beany to Max-E-Channel (cast iron with holes)

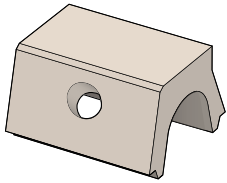


Beany at pedestrian crossing point

# Beany® Block Components

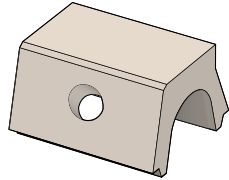
## Top Components

### Half battered straight backed



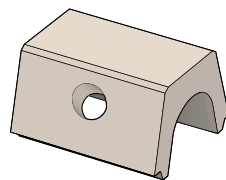
- Half battered front face profile.
- Straight back to assist with paving up to the back of the unit.
- Kerb upstand 75-125mm.
- 500mm in length.

### Half battered straight backed (low hole)



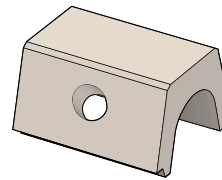
- Half battered front face profile.
- Straight back to assist with paving up to the back of the unit.
- Kerb upstand 150mm.
- For use with porous asphalt or high kerb upstand applications.
- 500mm in length.

### Half battered symmetrical



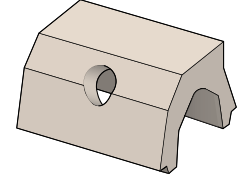
- Half battered profile to both front and back face.
- Symmetrical to allow top to be rotated to drain from both sides.
- Kerb upstand 75-125mm.
- 500mm in length.

### Half battered symmetrical (low hole)



- Half battered profile to both front and back face.
- Symmetrical to allow top to be rotated to drain from both sides.
- Kerb upstand 150mm.
- For use with porous asphalt or applications requiring high kerb upstand.
- 500mm in length.

### 45° splayed straight backed

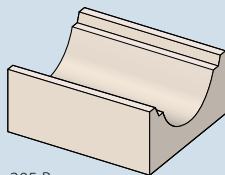


- 45 degree splayed front face profile.
- Straight back to assist with paving up to the back of the unit.
- Kerb upstand 75-100mm.
- 500mm in length.

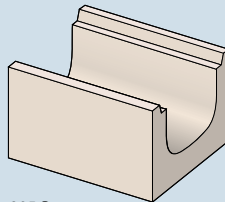
## BEANY BLOCK BASE COMPONENTS

All Base Units, Ancillary items and Transition Units are 500mm long

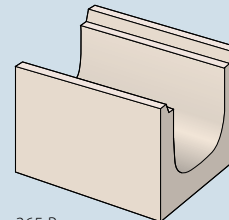
### BASE UNITS



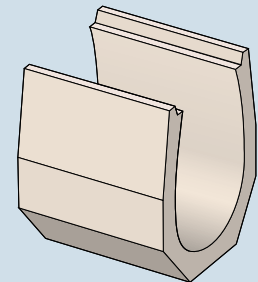
205 Base



295 Base

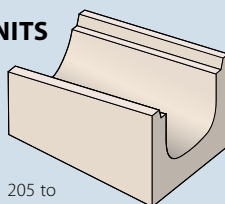


365 Base

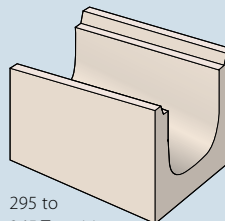


630 Base

### TRANSITION UNITS

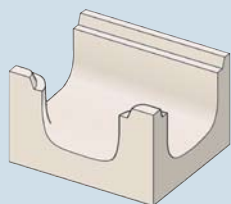


205 to 295 Transition

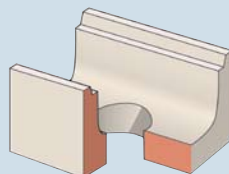


295 to 365 Transition

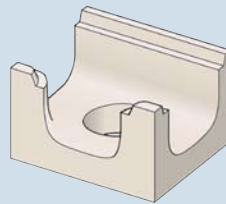
### FOR THE FULL RANGE OF ANCILLARY ITEMS REFER TO THE DRAINAGE DESIGN GUIDE



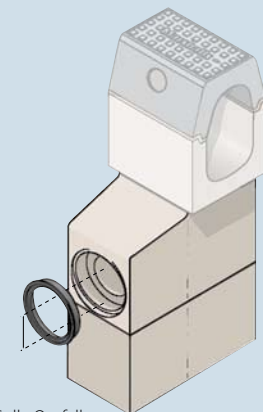
Junction



Outfall (shown sectioned for illustrative purposes)



Junction/Outfall



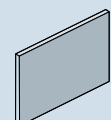
Gully Outfall

A trapped outfall is available to suit either 150mm or 225mm diameter outfall pipe.

**Note: Gully Outfall does not include base outfall or access cover and frame.**

### BASE END CAPS

Base End Caps are available for 205, 295 and 365 base units. The galvanised steel plates act as permanent formwork to a concrete surround. This is an optional detail to the use of engineering bricks, see the Drainage Design Guide.



**FLOW CAPACITY (litres/sec)**

More comprehensive hydraulic properties are given in the Drainage Design Guide

Gradient Length (m)	Beany Block Straight Backed, Symmetrical with 205 Base Unit				Beany Block Straight Backed, Symmetrical with 295 Base Unit				Beany Block Straight Backed, Symmetrical with 365 Base Unit				Beany Block Straight Backed, Symmetrical with 630 Base Unit			
	Zero	1 in 1000	1 in 500	1 in 100	Zero	1 in 1000	1 in 500	1 in 100	Zero	1 in 1000	1 in 500	1 in 100	Zero	1 in 1000	1 in 500	1 in 100
50	35	37	42	64	47	56	63	93	61	73	81	119	143	166	182	260
100	27	36	43	71	43	55	64	102	57	71	82	128	136	164	183	271
150	24	35	44	78	37	53	65	110	53	69	83	137	131	161	184	283
200	20	33	44	85	35	51	65	118	48	68	84	145	125	159	186	295
250	17	32	45	92	30	50	66	127	44	66	85	154	119	157	187	307
300					26	48	67	135	39	64	85	163	113	154	188	319
350					22	46	68	143	35	62	86	172	107	152	189	331
400									31	61	87	181	101	150	190	342
500													90	145	193	366
600													78	140	195	390

Note: 1. Flow figures, l/s, are derived from spatially varied flow work carried out by HR Wallingford.  
 2. The flow characteristics of Beany Block with Cover Plates will be less than the flow capacity quote above, please refer to the Drainage Design Guide.



Beany Block Access Cover

# Beany<sup>®</sup> Block Components

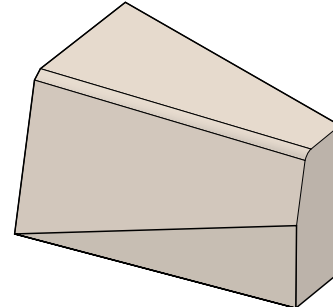
## Top Components

### Cover Plates

- Allows for 150mm of cover above the base unit with cover plate.
- Permits the use of standard drop kerbs at vehicular/pedestrian crossings.
- Allows sufficient road construction material above the protective concrete cover to avoid possible damage to the units and plates by heavy traffic.

### Stop End Top Unit

- Available right and left handed (RH shown).
- Forms the transition from the Beany Block system to normal half battered kerbs at pedestrian or vehicular crossings (see page 157).



Stop End Top Unit (RH)

### Access Covers

- Cast Iron access covers and frames are available for use at outfalls, silt traps and access points.
- Compatible with all top blocks.
- End hinged for ease of access and security, and are supplied nearside or offside.
- Provide large access opening for the emptying of silt traps and outfall sumps using traditional equipment.
- Lifting keys are available.



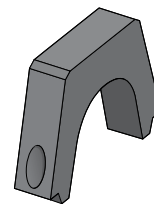
Straight Backed/Symmetrical Access Cover



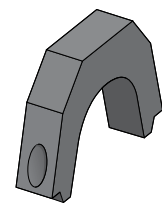
45° Splayed Access Cover

### Cable Duct Blocks

- Polymer concrete cable duct units are available to permit insertion of traffic signal loop detector or other small cables between carriageway and footway/verge.



Straight Backed/ Symmetrical Cable Duct



45° Splayed Cable Duct

### Radius Blocks

- Top and base units for external and internal horizontal curve radii from 50 metres down to 6 metres.
- Smaller radii can be manufactured to order.

Radius	Type of Unit
>50	Standard
50.0-19.1	50/20
19.0-10.8	19/11
10.7-7.7	10/8
7.6-6.0	7/6
<6.0	Special to order
Right angle	90°
45° angle	45°



Roundabout less than 6m radius. Beany Block Special Made to Order

# Beany® Block

## Component Codes

Top Blocks	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Top HB Straight Back	71	12	852	<b>DR7000200</b>
Beany Top HB St Back Low Hole	71	12	852	DR7000300
Beany Top HB Symmetrical Low Hole	71	12	852	<b>DR7000350</b>
Beany Top HB Symmetrical	73	12	876	<b>DR7000101</b>
Beany Top 45 Spl Straight Back	76	12	912	DR7000601
Radial Top Blocks	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany HB St Back 50/20m Ext	69	12	828	<b>DR7400200</b>
Beany HB St Back 19/11m Ext	69	12	828	<b>DR7400300</b>
Beany HB St Back 10/8m Ext	69	12	828	<b>DR7400400</b>
Beany HB St Back 7/6m Ext	69	12	828	<b>DR7400500</b>
Beany HB St Back 50/20 Int	69	12	828	<b>DR7402100</b>
Beany HB St Back 19/11 Int	69	12	828	<b>DR7402300</b>
Beany HB St Back 10/8m Int	69	12	828	<b>DR7402400</b>
Beany HB St Back 7/6m Int	69	12	828	<b>DR7402500</b>
Beany HB St Back Low 50/20m Ext	69	12	828	<b>DR7600100</b>
Beany HB St Back Low 19/11m Ext	69	12	828	<b>DR7600300</b>
Beany HB St Back Low 10/8m Ext	69	12	828	<b>DR7600400</b>
Beany HB St Back Low 7/6m Ext	69	12	828	<b>DR7600500</b>
Beany HB St Back Low 50/20m Int	69	12	828	<b>DR7600110</b>
Beany HB St Back Low 19/11m Int	69	12	828	<b>DR7600310</b>
Beany HB St Back Low 10/8m Int	69	12	828	<b>DR7600410</b>
Beany Top HB 50/20m Ext	71	12	852	<b>DR7300200</b>
Beany Top HB 19/11m Ext	71	12	852	<b>DR7300300</b>
Beany Top HB 10/8m Ext	71	12	852	<b>DR7300400</b>
Beany Top HB 7/6m Ext	71	12	852	<b>DR7300500</b>
Beany Top HB 50/20m Int	71	12	852	<b>DR7302100</b>
Beany Top HB 19/11m Int	71	12	852	<b>DR7302300</b>
Beany Top HB 10/8m Int	71	12	852	<b>DR7302400</b>
Beany Top HB 7/6m Int	71	12	852	<b>DR7302500</b>
Beany 45Sp St Bk 50/20m Ext	76	12	912	<b>DR7510100</b>
Beany 45Sp St Bk 19/11m Ext	76	12	912	<b>DR7510310</b>
Beany 45Sp St Bk 10/8m Ext	76	12	912	<b>DR7510400</b>
Beany 45Sp St Bk 7/6m Ext	76	12	912	<b>DR7510500</b>
Beany 45Sp St Bk 50/20m Int	76	12	912	<b>DR7510090</b>
Beany 45Sp St Bk 19/11m Int	76	12	912	<b>DR7510300</b>

Radial Top Blocks (continued)	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany 45Sp St Bk Cut 10/8 Int	76	12	912	<b>DR7510390</b>
Beany 45Sp St Bk Cut 7/6 Int	76	12	912	<b>DR7510490</b>
Corner Top Blocks	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Top HB 45 deg Corner Int	174	1	174	<b>DR8902000</b>
Beany Top HB 45 deg Corner Ext	174	1	174	<b>DR8902050</b>
Beany Top HB 90 deg Corner Int	174	1	174	<b>DR8902500</b>
Beany Top HB 90 deg Corner Ext	174	1	174	<b>DR8902550</b>
Beany HB St Bck 90 deg Corner Int	174	1	174	<b>DR8952500</b>
Beany HB St Bck 90 deg Corner Ext	174	1	174	<b>DR8952550</b>
Beany HB St Bck Low 45 deg Corn Int	174	1	174	<b>DR8955000</b>
Beany HB St Bck Low 45 deg Corn Ext	174	1	174	<b>DR8955050</b>
Beany HB St Bck Low 90 deg Corn Int	174	1	174	<b>DR8955500</b>
Beany HB St Bck Low 90 deg Corn Ext	174	1	174	<b>DR8955550</b>
Access Covers	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Access Unit Universal HB	51.2	1	51.2	<b>DR9150170</b>
Beany Access 45 Sp Near Side	94.5	1	94.5	<b>DR9150200</b>
Beany Access 45 Splay Off Side	94.5	1	94.5	<b>DR9150250</b>
Beany Gully Outfall 225	242.3	1	242.3	<b>DR4604060</b>
Beany Gully Outfall 150	277.3	1	277.3	<b>DR4604010</b>
Stop End Top Blocks	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Stop End Top Block L/H	87	1	87	<b>DR7900100</b>
Beany Stop End Top Block R/H	87	1	87	<b>DR7900110</b>
Cable Duct Blocks	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Cable Duct Block HB	12	1	12	<b>DR9200400</b>
Beany Cable Duct Block Splay	12	1	12	<b>DR9200500</b>
Cover Plates	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Cover Plate Standard	17	25	425	<b>DR9100050</b>
Beany Cover Plate Cut 50/11m	16	25	400	<b>DR9100100</b>
Beany Cover Plate Cut 10/8m	16	25	400	<b>DR9100400</b>
Beany Cover Plate Cut 7/6m	16	25	400	<b>DR9100500</b>
Beany Cover Plate Cut 45 deg	11	1	11	<b>DR9100700</b>
Beany Cover Plate Bend 45 deg	10	1	10	<b>DR9100750</b>

Base Units	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Base 205	70	24	1680	<b>DR7200211</b>
Base 295	85	18	1530	<b>DR7200101</b>
Base 365	96	18	1728	<b>DR7200301</b>
Base 630	110	4	440	<b>DR7200450</b>
Radial Base Units	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
205 Base 50/20m	69	18	1242	<b>DR8080100</b>
205 Base 19/11m	69	18	1242	<b>DR8080300</b>
205 Base 10/8m	69	18	1242	<b>DR8080400</b>
205 Base 7/6m	69	18	1242	<b>DR8080500</b>
295 Base 50/20m	79	12	948	<b>DR8000200</b>
295 Base 19/11m	79	12	948	<b>DR8000300</b>
295 Base 10/8m	79	12	948	<b>DR8000400</b>
295 Base 7/6m	79	12	948	<b>DR8000500</b>
365 Base 50/20m	95	12	1140	<b>DR8200100</b>
365 Base 19/11m	95	12	1140	<b>DR8200300</b>
365 Base 10/8m	95	12	1140	<b>DR8200400</b>
365 Base 7/6m	95	12	1140	<b>DR8200500</b>
630 Base 50/20m	81.2	4	325	<b>DR8250200</b>
630 Base 19/11m	81.2	4	325	<b>DR8250300</b>
630 Base 10/8m	81.2	4	325	<b>DR8250400</b>
630 Base 7/6m	81.2	4	325	<b>DR8250500</b>
205 Base 45 degree Corner	174	1	174	<b>DR9002100</b>
295 Base 45 degree Corner	174	1	174	<b>DR9002000</b>
365 Base 45 degree Corner	200	1	200	<b>DR9002200</b>
205 Base 90 degree Corner	174	1	174	<b>DR9002550</b>
295 Base 90 degree Corner	174	1	174	<b>DR9002500</b>
365 Base 90 degree Corner	180	1	180	<b>DR9002600</b>
Transition Units	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Base 295/365 Taper	100	1	100	<b>DR8700100</b>
Base 205/295 Taper	87	1	87	<b>DR8700210</b>

Ancillaries	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Base 205 Outfall	87	1	87	<b>DR8500410</b>
Base 205 Junction	87	1	87	<b>DR8500510</b>
Base 205 Outfall/Junction	87	1	87	<b>DR8500610</b>
Base 295 Outfall	87	1	87	<b>DR8500100</b>
Base 295 Junction	106	1	106	<b>DR8500200</b>
Base 295 Outfall/Junction	87	1	87	<b>DR8500300</b>
Base 295 Bend	87	1	87	<b>DR8600100</b>
Base 365 Outfall	87	1	87	<b>DR8500700</b>
Outfalls	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
Beany Gully Outfall 225	242.3	1	242.3	<b>DR4604060</b>
Beany Gully Outfall 150	277.3	1	277.3	<b>DR4604010</b>
Caps	Weight (kg)	Pack Size	Pack Weight (kg)	Item Code
205 End Cap	2.2	1	2.2	<b>DR7200250</b>
295 End Cap	3	1	3	<b>DR7200150</b>
365 End Cap	3.8	1	3.8	<b>DR7200350</b>

Textured and Conservation Beany Block made to order. Speak to our Sales Office to discuss your requirements.

Beany Block with reference numbers indicated in bold black are available ex-stock. Beany Block with reference numbers indicated in light black are manufactured to order. Contact our sales office to discuss your requirements.

