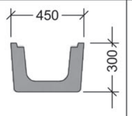
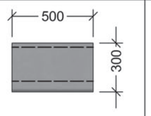
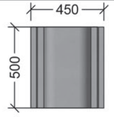
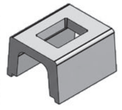
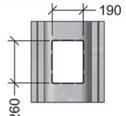
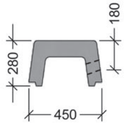
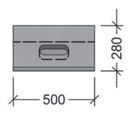
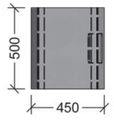
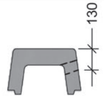
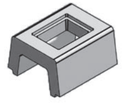
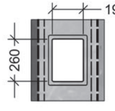
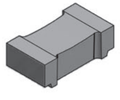
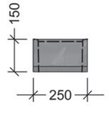
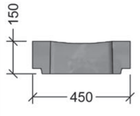
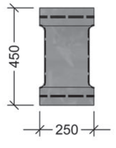
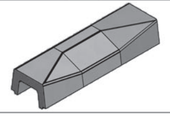
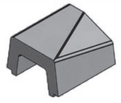
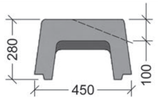
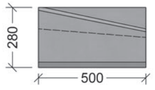
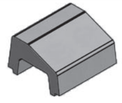
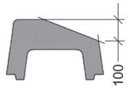
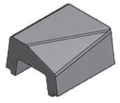
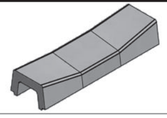
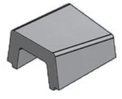
	ISOMETRIC VIEW	FRONT VIEW	SIDE VIEW	TOP VIEW
BOTTOM BLOCK -BB1				
BOTTOM OUTFALL BLOCK - BB3				
TOP BLOCK 180 - BT1				
TOP BLOCK 130 - BT2				
TOP ACCESS BLOCK - BT8				
MAX TECH				

	ISOMETRIC VIEW	FRONT VIEW	SIDE VIEW
TRANSITION TO MOUNTABLE G.A.			
LEFT TRANSITION MOUNTABLE BT11			
MOUNTABLE BLOCK BT 13			
RIGHT TRANSITION MOUNTABLE BT12			
* TRANSITION TO LOWRISE G.A.			
* LEFT TRANSITION LOWRISE BT15			
* LOWRISE BLOCK BT14			
* RIGHT TRANSITION LOWRISE BT16			

*Some of these products are only available on request contact us to enquire

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iSG
Infrastructure Specialist Group

ROCLA
Beany Block® & Max Tech

Continuous Linear
Drainage at its most efficient

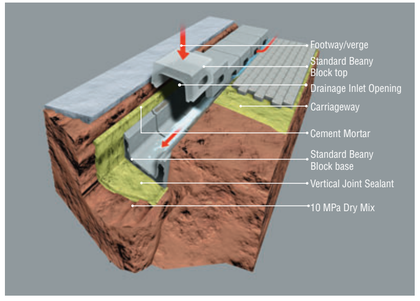
Beany Block is a simple and practical system with excellent surface drainage efficiency for many roadway designs. The large flow capacity/unit ratio makes it superior to and more cost effective than conventional kerbing and drainage systems. **Max Tech** Slotted Drainage System is laid level with the pavement surface enabling linear drainage anywhere within a catchment zone, eliminating ponding. Shallow excavations, simple cross falls & time saving precast elements lead to overall project cost savings.

ROCLA
OUR DIFFERENCE IS CONCRETE

Rocla Beany Block & Max Tech

The combined kerb & drainage system

The Rocla Beany Block is ideal for roadways with drainage to either side of the road or any other application where kerbs are being used. Vehicle entrances can easily be accommodated using the Mountable Beany top which allows the bottom channel flow to continue uninterrupted. The Beany Block is also designed to be used in conjunction with SABS Fig. 3 & Fig. 4 Barrier Kerbs. Max Tech is best suited to large square rectangular areas where directing all the flow to one line of kerbs might result in too much surface flow or volume of water too large for Beany Block capacity. Max Tech can be installed in a number of parallel channels across the area, reducing surface water flow. Max Tech is also the best option at an intersection between roads where there is large runoff from one road into another. Max Tech can be installed parallel to the main road, capturing the storm water as it flows into the cross-road.



The system

The Beany system consists of a series of Base Blocks of standard channel section and Top Blocks of inverted channel section with an opening in one side face. The Max Tech system consists of the same Base Block Channel section but with Max Tech "dog bone" slabs placed on top creating openings that are level with the pavement area. When laid end to end, they form kerb and/or surface water drainage units strong enough to withstand normal traffic loading. Each standard Top and Base Block is 500mm in length and weighs approximately 70 Kg. Max Tech slabs are 250mm in length (along the channel) & weigh approximately 32kg. The Top Block oval openings give an aesthetic appearance and provide for greater inlet capacities than conventional kerb inlets. The Max Tech oval slot allows for approximately 18% opening area. Standard blocks may be used for curve radii of 30m or more, smaller are managed by grouting up wedges created between adjacent blocks.

Uses

- Any application where high inlet capacity is required;
- Beany produces 400mm length of inlet opening for every 1m of kerb; and Max Tech offering 0,05m2 of opening per linear meter of channel.
- Wide carriageways;
- Parking areas;
- Taxi ranks and bus depots;
- Wash bays and vehicle service areas;
- Median islands;
- Industrial areas;
- Drainage around buildings and walkways;
- Toll plazas;
- Intersections at Roads & driveways.

Advantages

Time saving (design and construction)
Precast elements, shallow excavations and easily formed drainage profiles result in substancial time savings over alternative design options.

Cost saving
Beany substitutes for kerbs, stormwater pipework, kerb inlets and parts of footways. Max Tech eliminates complex cross-falls and provides a single 'collection & carrier' system. Contractual claims due to damaged services etc., are less likely than when laying conventional drainage due to shallow excavations.

Solving specific problems in conventional drainage:
- Insufficient fall;
- Conflicting levels of service mains and cables;
- Ponding adjacent to low points;
- Traffic safety and control on existing carriageways;
- High volumes of flowing water;
- Flush, load-bearing drainage channels collection.

Additional cost savings can be achieved on schemes involving:
- Wide carriageways plus footways;
- Carriageways having 'flat' longitudinal falls;
- Rock in sub-grade;
- Shallow outfall;
- Existing services or foul drainage at conflicting levels;
- Large paved areas.

Hydraulic properties

Flow capacities and velocities for various channel gradients can be derived from "Hydraulic Research (Wallingford) Charts for the Hydraulic Design of Channels and Pipes". As a quick reference, calculations have been carried out for two flow conditions:

1- Top and base blocks running full (Beany Block)
2- Top and base blocks with base only running full (Max Tech)

Hydraulic constraints for Beany Block are shown in **TABLE 1** with examples of velocities and capacities for the two flow conditions (roughness value (k) = 0.6mm) shown in **TABLE 2.**

- Flow velocities and capacities may also be derived from the Colebrook White equation for open channel flow, roughness value 0.6mm and using the hydraulic constants shown in **TABLE 1**.
- After determining the respective velocities and capacities, drainage system calculations can be undertaken in the usual way.
- Inlet apertures are shaped and positioned to give maximum drainage efficiency as well as a pleasing appearance.
- Minimum recommended self cleansing velocity 0.6m/s.
- For comparison, the increased capacities over conventional pipes are approximately:

Top and base: 32% greater capacity than a 300 diameter pipe
Base : 40% greater capacity than a 225 diameter pipe

TABLE 1

	C.S. Area $A\ (m^2)$	Wetted Perimeter P(m)	Hydraulic Radius $R = \frac{A}{P}$ (m)	$\frac{P}{R}$
Top & base	0.087	0.928	0.094	9.86
Base	0.047	0.569	0.083	6.84

TABLE 2

Channel slope		1) Top & base		2) Base only	
1 in.	%	Vel. (m/s)	Cap. (l/s)	Vel. (m/s)	Cap. (l/s)
10	10.00	5.77	503	5.34	252
15	6.67	4.71	411	4.35	206
20	5.00	4.07	355	3.77	178
30	3.33	3.32	290	3.07	145
50	2.00	2.57	224	2.38	112
75	1.33	2.10	183	1.94	92
100	1.00	1.81	158	1.68	79
150	0.67	1.48	129	1.37	65
200	0.50	1.28	112	1.18	56
250	0.40	1.14	100	1.06	50
300	0.33	1.04	91	0.96	46
350	0.29	0.96	84	0.89	42
400	0.25	0.90	79	0.83	39
450	0.22	0.85	74	0.78	37
500	0.20	0.80	70	0.74	35

Strength tests

Top and Base Blocks have been designed to withstand small accidental loading. Max Tech cover slabs are designed for service loading of 20KN wheel load (Unreinforced) and 30KN (Reinforced) with the latter option only available on special order. Kindly consult product specific installation guideline for load specific installation instructions and contact our technical department for more information.

General

Beany Block was invented by Neil (Beany) Beanland, C Eng.,M.I.C.E., M.I.H.T., Dip. T.E., a former highway design engineer with West Yorkshire Metropolitan County Council.

Since these units were introduced on a commercial scale in early 1982, lengths varying between a few metres and several kilometres have been installed in all types of schemes, from motorway and trunk roads to estate roads and car parks throughout the United Kingdom.

Construction and laying

In general, Base Blocks are laid, commencing at the outfall, on a 3:1 dry mix concrete bed with adjacent invert levels corresponding. Cement mortar is trowelled onto one Block vertical face and the adjacent Block is bedded and tamped towards it to give a tight joint (< 8mm).

The mortar joint should be pointed to seal the joints. For a watertight seal, a mastic sealant can be used. Top Blocks are bedded onto the Base Blocks using a cement mortar as a bedding and on the vertical faces (± 10mm). Similar applies to Max Tech but kindly consult product specific installation guideline prior to commencing with installation.