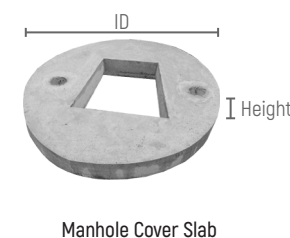
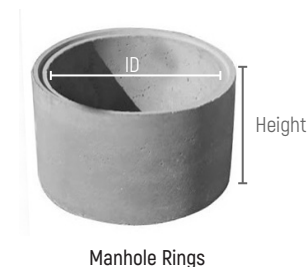


## Manhole Rings

Application	Product Code	Imperial Dim. ID x Height (in)	Metric Dim. ID x Height (mm)	Weight (kgs)	pcs/ton
Used as a manhole to clear blockage in drainage systems.	1-15-315-1200-1000	48" x 39"	1200 x 1000	760	1
	1-15-315-1200-0750	48" x 30"	1200 x 750	570	1
	1-15-315-1200-0610	48" x 24"	1200 x 610	465	2
	1-15-315-1200-0450	48" x 18"	1200 x 450	345	2
	1-15-315-1200-0305	48" x 12"	1200 x 305	232	4
	1-15-315-1070-1000	42" x 39"	1070 x 1000	600	1
	1-15-315-1070-0750	42" x 30"	1070 x 750	450	2
	1-15-315-1070-0610	42" x 24"	1070 x 610	365	2
	1-15-315-1070-0450	42" x 18"	1070 x 450	270	3
	1-15-315-1070-0305	42" x 12"	1070 x 305	180	5
	1-15-315-0915-1000	36" x 39"	915 x 1000	535	2



## Manhole Cover Slab

Application	Product Code	Imperial Dim. ID x Height (in)	Metric Dim. ID x Height (mm)	Weight (kgs)	pcs/ton
Used to cover manhole ring pipes.	1-15-311-01220-150	48" x 6"	1220 x 150	506	2
	1-15-311-01070-150	42" x 6"	1070 x 150	433	2
	1-15-311-00915-150	36" x 6"	915 x 150	379	3
	1-15-311-00685-150	27" x 6"	685 x 150	284	4

## Abbreviations.

Imperial Dim. - Imperial Dimensions

Metric Dim. - Metric Dimensions

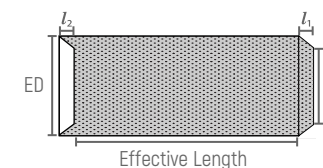
Dia - Diameter

ID - Internal Diameter

ED - External Diameter

## Porous Concrete Pipes

Application	Product Code	ID (mm)	ED (mm)	Effective Length (mm)	Weight (kgs)	Wall Thickness (mm)	I <sub>1</sub> (mm)	I <sub>2</sub> (mm)
Capture water around external area of porous pipes	1-15-230-0100-0760	100	150	760	16	25	15	15
	1-15-230-0150-1000	150	204	1000	32	27	20	20
	1-15-230-0225-1000	225	285	1000	51	30	20	20
	1-15-230-0300-1000	300	374	1000	72	37	25	25



Cross-sectional view of Porous Concrete Pipes



Porous Concrete Pipes

\*The above weights and pcs/ton are estimates for informational purpose only. Product specifications are made to KEBS (KS 02-548) or client custom requirements. Always consult a qualified professional when using the product.

Concrete Pipe Saddle

Application	Product Code	Imperial Dim. ID x Length (in)	Metric Dim. ID x Height (mm)	Weight (kgs)	pcs/ton
Anchor & guide loads from other pipes	1-15-120-04-09	4" x 9"	100 x 225	29	34
	1-15-120-06-09	6" x 9"	150 x 225	43	23
	1-15-120-06-06	6" x 12"	150 x 300	68	14



Concrete Pipe Saddle

Concrete Pipe Bends

Application	Product Code	Imperial Dim. ID (in) x Degrees	Weight (kgs)	For Flexible Jointed pipes	For Ogee Jointed pipes	For Rigid Joint- ed pipes
Connection that directs water in pipes along sewer lines.	1-15-310-0100-45	4" x 45 <sup>0</sup>	18	×	✓	✓
	1-15-310-0100-90	4" x 90 <sup>0</sup>	19	×	✓	✓
	1-15-310-0150-45	6" x 45 <sup>0</sup>	25	✓	✓	✓
	1-15-310-0150-90	6" x 90 <sup>0</sup>	23	✓	✓	✓
	1-15-310-0225-45	9" x 45 <sup>0</sup>	44	✓	✓	✓
	1-15-310-0225-90	9" x 90 <sup>0</sup>	41	✓	✓	✓
	1-15-310-0300-45	12" x 45 <sup>0</sup>	94	✓	✓	✓
	1-15-310-0300-90	12" x 90 <sup>0</sup>	97	✓	✓	✓



Concrete Pipe Bend

Concrete Road Gully

Application	Product Code	Imperial Dim. ID x Height (in)	Metric Dim. Dia x Height (mm)	Weight (kgs)	pcs/ton
Collects surface water	1-15-311-01220-150	48" x 6"	1220 x 150	503	2



Concrete Road Gully

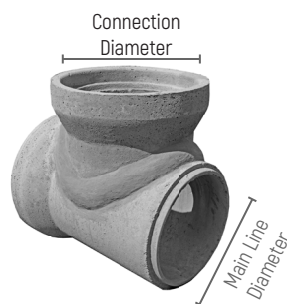
Abbreviations.  
Imperial Dim. - Imperial Dimensions  
Metric Dim. - Metric Dimensions  
ID - Internal Diameter

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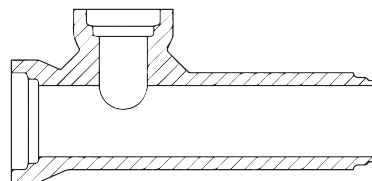
## Concrete Backdrops and Junctions Pipes

Application	Product Code	Imperial Dim. Connection Dia x Main Lin Dia (in)	Metric Dim. Connection Dia x Main Lin Dia (mm)	For Flexible Jointed pipes	For Ogee Jointed pipes	For Rigid Jointed pipes
Acts as a connector of different pipes with different levels of flow.	1-15-270-0100-0100	4" x 4"	100 x 100	×	✓	✓
	1-15-270-0100-0150	4" x 6"	100 x 150	×	✓	✓
	1-15-270-0100-0225	4" x 9"	100 x 225	×	✓	✓
	1-15-270-0100-0300	4" x 12"	100 x 300	×	✓	✓
	1-15-270-0150-0150	6" x 6"	150 x 150	✓	✓	✓
	1-15-270-0150-0225	6" x 9"	150 x 225	✓	✓	✓
	1-15-270-0150-0300	6" x 12"	150 x 300	✓	✓	✓
	1-15-270-0150-0375	6" x 15"	150 x 375	✓	✓	✓
	1-15-270-0150-0450	6" x 18"	150 x 450	✓	✓	✓
	1-15-270-0150-0600	6" x 24"	150 x 600	✓	✓	✓
	1-15-270-0225-0225	9" x 9"	225 x 225	✓	✓	✓
	1-15-270-0300-0300	12" x 12"	300 x 300	✓	✓	✓
	1-15-270-0375-0375	15" x 15"	375 x 375	✓	✓	✓
	1-15-270-0450-0450	18" x 18"	450 x 450	×	✓	✓

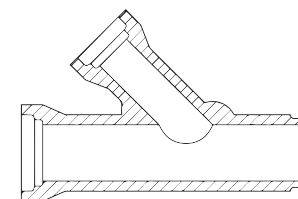
Abbreviations.  
Imperial Dim. - Imperial Dimensions  
Metric Dim. - Metric Dimensions  
Dia - Diameter



T Junction Concrete Pipe



Cross sectional view (T Junction Concrete Pipe)



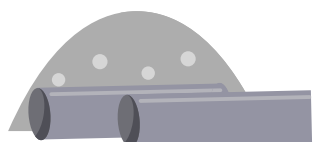
Cross sectional view (Y Junction Concrete Pipe)

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## CONCRETE PIPES

## APPLICATIONS

- » Concrete pipe is a load-bearing structure requiring bedding control from the spring line to the bottom of the pipe only.
- » Engineering occurs at production facility and arrives on site with known performance.
- » Has been used for centuries and has proven characteristics.
- » There has been decades spent on research to improve joint design and production.
- \* Recommended to be installed 0 to 10 feet beneath road.



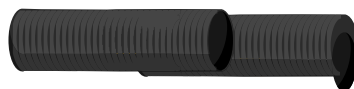
## SERVICE LIFE

- » Older material with established service life and documented life-cycle performance.

## HDPE PIPES

## APPLICATIONS

- » Installation details must include bedding materials, bedding width and compaction requirements below the pipe, at the sides, and above due to variable soil conditions.
- » Engineering and testing occurs on site after installation to ensure proper performance.
- » A more recent material with on-going data collection identifying issues that are not satisfying long-term performance requirements.
- \* Recommended to be installed 3 to 10 feet beneath road.



## SERVICE LIFE

- » Newer material with fewer known deficiencies but less certain service life.

## CONCRETE PIPES

## COST

- » Higher material cost due to pre-engineering.
- » Lower installation cost.
- » Easier installation.



## FEATURES

- » Arrives at site with greater than 90% of its maximum specified strength; It is a known quantity & installation is generally straightforward.

90%



## HDPE PIPES

## COST

- » Lower production cost.
- » Higher installation cost: Installation procedures are more demanding it must be site-assembled, inspected, and structural integrity must be tested.
- » Total costs may include a requirement for engineered backfill, on-site inspection, and post-installation laser testing.



## FEATURES

- » Arrives with about 10% of required strength; requires backfill material at site to reach specification.

10%

Source: British Precast Drainage Association





Ogee Pipes



Spigot & Socket with Rigid Joint Pipes



Ogee Pipes



Ogee Pipes



Ogee Pipes



Manhole Chambers



Spigot & Socket with Flexible Joint Pipes