



LARGE DIAMETER PIPE



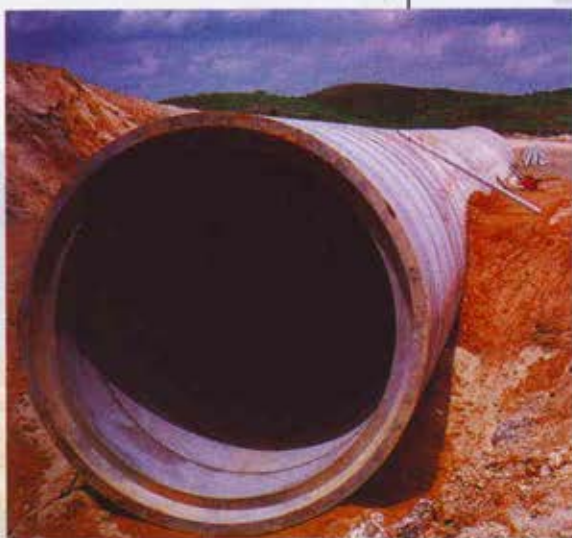
OKA CONCRETE INDUSTRIES SDN. BHD.
(67634-M)



LARGE DIAMETER PIPE





Applications

Precast concrete pipe culverts are used in a wide variety of situations which include culvert, water tank, storage tank, silo, storm water drain, service tunnel, etc.



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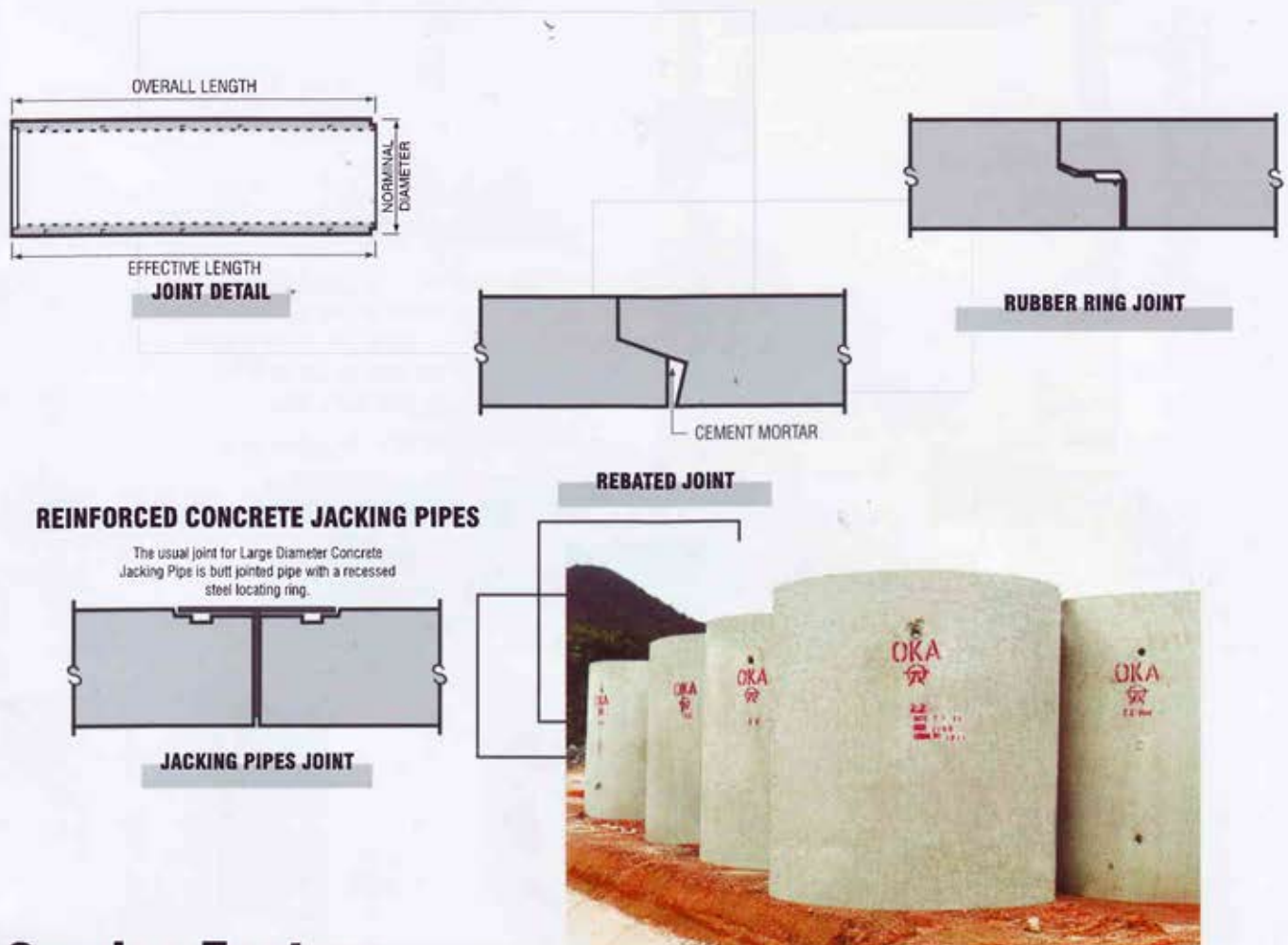
PIPE

Nominal Diameter (mm)	Test Load kN/m To MS 881 - 1991						Nominal Length (M)	Approximate Weight per pipe (Tonne)
	L		M		H			
	Proof Load	Ultimate Load	Proof Load	Ultimate Load	Proof Load	Ultimate Load		
	96	120	146	183	184	230	2.50	7.04
	108	135	165	207	210	263	2.50	8.75
	124	155	186	233	235	294	2.00	8.51
	135	169	207	259	260	326	2.00	10.68

Notes :

- Actual dimensions may vary.
- Weights shown are approximate. Actual figures will vary with the density of concrete and details of reinforcement.
- Extra (higher crushing test load) strength pipes in excess of class 'H' are available upon request.
- Oka is able to provide pipes with increased cover to reinforcement and pipes made with special cement. If pipe required is not described here, please contact Oka office or factory.

ELEVATION DIMENSION AND PIPE JOINT DETAIL



Service Factors

Many factors influence the performance of a pipe and the following should be considered, before ordering :-

✓ 1. Structural Efficiency

Reinforced concrete pipes are designed and manufactured with considerable "inbuilt" structural strength.

✓ 3. Abrasion Resistance

Culverts and storm water lines carry silt and debris which are abrasive. The high grade concrete used in OKA pipes ensure high compaction thus resulting in a more dense material which provides resistance to abrasive elements.

✓ 5. Economy

The laying of precast concrete pipes compared to in situ concrete conduits requires fewer skills and eliminates the need for formwork which result in lower total installation cost. Further reinforced concrete pipes are proven to require minimum maintenance cost.

✓ 2. Hydraulic Efficiency

In terms of Manning's "n" the roughness coefficient of concrete pipes is 0.012 as compared to 0.024 for corrugated metal. The difference would result in larger metal pipes as compared to concrete pipes for the same quantity of discharge.

✓ 4. Durability

The durability of OKA pipes is improved by the presence of moisture as concrete strengthens over time. Minor cracks which result from normal deflections are sealed by lime deposits carried from the body of the concrete reacting with CO₂ at points of minor leakage. This process is referred to as autogenous healing of cracks.





Technical Advice

Oka's experienced technical staff are available to advise on any pipe applications or problems involved, including assistance in preparing the appropriate specifications for a particular pipe application.



Transport And Handling

Large diameter concrete pipes can be easily handled and transported to job sites with proper site equipment. It can be laid by using either a hairpin beam or cast-in-place lifting hook.



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