

## Comparative Statement of Various Pipes for Pumping Main

SL. NO.	Evaluation Criteria	HDPE Pipes (IS: 14333-2000)	Cast Iron Pipe (IS:1536-1989)	Ductile Iron Pipe (IS:8923-2000)	PSC Pipe ( IS: 784 1989)
1.	<b>Type &amp; Weight</b>	Light and Flexible	Heavy and Rigid pipe	Flexible and 30% less weight than CI "LA" class pipe	Heavy & Rigid Pipe
2.	<b>Cement mortar lining</b>	Not required	Not required	DI pipe with Sulphate resistant cement or high Alumina cement mortar lining is used for sewer lines	Not required
3.	<b>Strength</b>	High strength, but low impact resistance	High strength but low impact resistance.	High strength and high impact resistance.	High Strength and high impact resistance
4.	<b>Corrosion resistant</b>	High corrosion resistant, no protection is required.	High corrosion resistant, no protection is required.	Protection required to prevent corrosion.	Corrosion resistant
5.	<b>Joining</b>	Butt fusion Joining	Flexible rubber - push on type joints and flanged joints.	Flexible rubber -push on type joints and flanged joints. .	Flexible rubber push on type joints
6.	<b>Life (Approximate)</b>	Minimum 50 years	Minimum 50 years	More than 50 years	20-30 year
7.	<b>Workability</b>	Easy installation	Easy installation	Easy installation	Easy installation
8.	<b>Protection to the pipe</b>	Pipe should be protected against deflection due to super imposed loads and should be protected with either sand or Cement Concrete bedding.	Depending upon the loading conditions, pipe should be protected with either sand or Cement Concrete bedding	Depending upon the loading conditions, pipes should be protected with either sand or Cement Concrete bedding	Can withstand impact load.
9.	<b>Class of Pipes Available</b>	PN 2.5, PN4, PN6, PN10 (2.5 kg/sqcm, 4.0 kg/sqcm, 6.0 kg/sqcm, 10.0 kg/sqcm)	Class LA, A & B (10 kg/sqcm, 12 to 12.5 kg/sqcm, & 16 to 25 kg/sqcm) depending upon the dia of pipes.	K-7= (12 to 32 kg/sqcm) K-9= (25 to 50 kg/sqcm)	Can withstand 6 Kg/cm <sup>2</sup> to 20Kg/cm <sup>2</sup>
10.	<b>Value of C</b>	150 for New pipes	130 for New pipes. (100 for design)	140 for New pipes	140 for new pipes
11.	<b>Cost of supplying, laying and jointing per meter length</b>	PE 100, PN- 6 200mm: Rs. 640 315mm:Rs. 1585 400mm: Rs. 2595 500mm: Rs. 4695 630mm: Rs. 7434 (MP ADB Project+20% Price contingency)	Class LA 200 mm 2966 300 mm 5182 400 mm 7964 500 mm 11404 (UPJN+20% for L & J & Price Contingency)	(K-9 Pipe) 200mm: Rs:2442 300mm: Rs:4505 400mm: Rs:5520 500mm: Rs:9418 600mm: Rs:12283  (UPJN Supply rate+20% for laying & price contingency)	800 mm Rs 5348 900 mm Rs 6056 1000 mm Rs 6881 1100 mm Rs 7591 (MP ADB Project+20% Price contingency)