### कार्यालय प्रमुख अभियंता लोक स्वास्थ्य यांत्रिकी विभाग तृतीय तल, ब्लाक—बी—4 इन्द्रावती भवन, नवा रायपुर, अटल नगर, छत्तीसगढ़

कमांक 102 /स्था.शा. / प्र.अ. / लो.स्वा.यां.वि. / 2022 नवा रायपुर, दिनांक 01/07/2022

### Amendment No. 07/2022-23

यू.एस.ओ.आर. सिमिति की बैठक दिनांक 30.05.2022 में लिये गये निर्णय एवं अनुशंसा के आधार पर सिमिति द्वारा विभागीय यू.एस.ओ.आर. जारी दिनांक 01.06.2020 (अद्यतन समस्त संशोधन सिहत) में निम्नलिखित चेप्टरों में संशोधन / नवीन आयटम शामिल किया जाता है :—

Chapter No.	77 - 1000	Details of Items amended in the USOR	Details of Items added
IV	Ductile Iron Pressure Pipes with (Tyton Joints) Valves and Specials	All Item's (no. 4.1 to 4.53) Amendments.	in the CSOR
VII	P.V.C Pipes, O-Pvc Pipes & Fittings	All Item's (7.1 to 7.15) Amendment.	-
IX	HDPE Pipe, MDPE Pipe & Specials	All Item's (9.1 to 9.14.6.13) Amendment.	
XVIII	Survey And Allied Civil Works	All Item's Survey (18.1 to 18.12.6), Allied civil works (18.13 to 18.79) Amendment.	-
XIX	General Miscellaneous	General Miscellaneous Item no. (19.1 to 19.34) Amendment.	-
XX	Intakewell Works	All Item's (20.1 to 20.22) Amendment.	_
IXX	Water Treatment Plants	All Item's (21.1.1 to 21.3.6) Amendment.	
XXII	Sewage Treatment Plants	All Item's (22.1.1 to 22.2.5) Amendment.	
XXIV	RCC Elevated Service Reservoirs  Ground Service Reservoirs	All Item's (23.1 to 23.28) Amendment.	1 A. Elevated service reservoirs with RCC staging & Zinc alloy coated steel tank (Item no. 23.29 to 23.36), I.B Elevated service reservoirs with RCC staging & Polyethylene (HDPE) slim tank (Item no. 23.37 to 23.44) capacity 20000 ltr to 35000 ltr.
XXV		All Item's (24.1 to 24.21) Amendment.	
	Water Meters	All Item's (25.1 to 25.5) Amendment.	-
XXVI	Ancillary Items	All Item's (26.1 to 26.17) Amendment.	Online automatic chlorination systems (Item no. 26.18 to 26.19)

यह आदेश तत्काल प्रभावशील माना जावे।

प्रमुखं अभियंता लोक्ष्रं स्वास्थ्य यांत्रिकी विभाग छत्त्रीसगढ़, नवा रायपुर पृ.कमांक 2719 त.शा. / प्र.अ. / लो.स्वा.यां.वि. / 2022 नवा रायपुर, दिनांक 0 / 07/ 2022 प्रतिलिपि :-

- 1) स्टॉफ ऑफिसर, अपर मुख्य सचिव, छत्तीसगढ़ शासन, लोक स्वास्थ्य यांत्रिकी विभाग, मंत्रालय, महानदी भवन, नवा रायपुर की ओर प्रेषित। कृपया अपर मुख्य सचिव महोदय को अवगत कराना चाहेंगे।
- 2) सचिव, छत्तीसगढ़ शासन, लोक स्वास्थ्य यांत्रिकी विभाग, मंत्रालय, महानदी भवन, नवा रायपुर की ओर सूचनार्थ।
- 3) मिशन संचालक, जल जीवन मिशन, नीर भवन, रायपुर की ओर सूचनार्थ।
- प्रमुख अभियंता, जल संसाधन विभाग/लोक निर्माण विभाग, छत्तीसगढ़ की ओर सूचनार्थ।
- 5) महालेखाकार, छत्तीसगढ़, रायपुर की ओर सूचनार्थ।
- 6) मुख्य तकनीकी परीक्षक, छत्तीसगढ़, इंद्रावती भवन, नवा रायपुर की ओर सूचनार्थ।
- 7) मुख्य अभियंता, लोक स्वारथ्य यांत्रिकी विभाग, परिक्षेत्र रायपुर/बिलासपुर/ जगदलपुर की ओर सूचनार्थ एवं पालनार्थ प्रेषित।
- 8) अधीक्षण अभियंता,लो.स्वा.यां.वि.,मंडलरायपुर/दुर्ग/बिलासपुर/अंबिकापुर/जगदलपुर /कोण्डागांव एवं (वि./यां.) मंडल रायपुर की ओर सूचनार्थ एवं पालनार्थ प्रेषित।

9) कार्यपालन अभियंता, लोक स्वास्थ्य यांत्रिकी, खंड/परियोजना खंड/(वि./यां.) खंड ...... की ओर सूचनार्थ एवं पालनार्थ प्रेषित।

> प्रमुख अभियंता लोके स्वास्थ्य यांत्रिकी विभाग छत्तीसगढ़, नवा रायपुर

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#### Chapter - IV

### DUCTILE IRON PRESSURE PIPES WITH (TYTON JOINTS) VALVES AND SPECIALS

#### **NOTES:**

- All the pipes, specials, joints to be used in the work shall confirm to relevant Indian standard duly inspected and tested and having B.I.S. certification Mark.
- The jointing materials i.e. Tyton rings if supplied by the Department from departmental store, no extra charges for carting of the same to site of work will be payable. In case jointing materials are required to be arranged by the contractor the same should confirm to relevant Indian standard duly inspected and tested and bearing B.I.S. certification Mark.
- The rates include charges for all tools and plant, chain pulley blocks, other appliances etc.
  required for lifting and laying the pipes and specials in position including testing as per
  approved drawings.
- 4. The rates include provision and use of all coverings etc. to protect the work from inclement weather etc. and from damages from falling materials and other causes.
- 5. The rate include provision of handling, storing under cover as required and returning of empty cases or container to Public Health Engineering Department Stores without any extra cost, for such materials as may be supplied by the department.
- 6. All measurements should be of the finished work.
- 7. Fitting must of superior quality & equivalent to Kiswak /Electrosteel/Kejriwal/Jindal.
- 8. Rates include the supply of pipes and specials at departmental store/site store.
- 9. Works will be executed in accordance with the general specifications given in P.H.E. Department and the specials notes if any, covered in the contract agreement of the work and all the relevant latest version of I.S. Specifications as detailed below:-

S.No.	I.S. Number	Title	
1	IS 8329:2000	Centrifugally cast (spun) ductile iron pressure pipes for water, gas and sewage (Third revision)	
	IS 11906:1986	Cement mortar lining in the pipes.	
2	IS 9523:2000	Ductile Iron fittings for pressure pipes for water, gas and sewage.	
3	IS 12288:1987	Code of practice for use and laying of ductile iron pipes.	
4	IS 5382:2018	Rubber sealing rings for gas mains, water mains and sewage (First revision)	
5	IS 14846:2000	The Sluice Valves (50-1200 mm size)	
6	IS 14845:2000	The resilient seated C.I. Air relief valve	
7	IS 5312:2004 (Part I & II)	The Swing check type reflux valves	
8	IS 13095:1991	The Butter fly valves	

10. This USOR contains the rates of all the items without GST. No claims against GST shall be entertained at any level. GST shall be paid by the Agency/ Contractor directly to the concerning department. However, All the estimates prepared on this USOR will include GST,

as an extra amount as per prevailing rates on the sum of the estimate to arrive at the gross amount

## DUCTILE IRON PRESSURE PIPES WITH (TYTON JOINTS) VALVES AND SPECIALS

S.No.	Items	Unit	Rates in Rs.
4.1	Providing, laying and jointing including testing following		
	socket & spigot centrifugally cast (Spun) Ductile Iron		
	pressure pipes with inside cement mortar lining (class K-		
	7) conforming to IS: 8329/ 2000 with suitable Rubber		
	Gasket (Push on) joints as per IS:5382/2018		
	100 mm Dia	Meter	1309
	150 mm Dia	Meter	1804
	200 mm Dia	Meter	2378
	250 mm Dia	Meter	3083
	300 mm Dia	Meter	3774
	350 mm Dia	Meter	4718
	400 mm Dia	Meter	5642
	450 mm Dia	Meter	6704
	500 mm Dia	Meter	7794
	600 mm Dia	Meter	10274
	700 mm Dia	Meter	13867
	750 mm Dia	Meter	16036
	800 mm dia	Meter	18281
	900 mm dia	Meter	22163
	1000 mm dia	Meter	26491
4.2	Labour for laying in position including testing following		
	socket & spigot Ductile Iron (K-7) pressure pipes		
	100 mm Dia	Meter	26
	150 mm Dia	Meter	36
	200 mm Dia	Meter	56
	250 mm Dia	Meter	74
	300 mm Dia	Meter	92
	350 mm Dia	Meter	123
	400 mm Dia	Meter	147
	450 mm Dia	Meter	173
	500 mm Dia	Meter	203
	600 mm Dia	Meter	268
	700 mm Dia	Meter	339
	750 mm Dia	Meter	445
	800 mm dia	Meter	564
	900 mm dia	Meter	693
- 1			000

S.No.	Items	Unit	Rates in Rs
4.3	Providing, laying and jointing including testing following		
	socket & spigot centrifugally cast (Spun) Ductile Iron pressure		
	pipes with inside cement mortar lining (class K-9) conforming		
	to IS 8329 /2000 with suitable Rubber Gasket (Push on) joints		
	as per IS:5382/2018		
	100 mm Dia	Meter	1555
	150 mm Dia	Meter	2037
	200 mm Dia	Meter	2749
	250 mm Dia	Meter	3688
	300 mm Dia	Meter	4552
	350 mm Dia	Meter	5612
	400 mm Dia	Meter	6737
	450 mm Dia	Meter	8175
	500 mm Dia	Meter	9497
	600 mm Dia	Meter	12405
	700 mm Dia	Meter	15958
	750 mm Dia	Meter	17994
	800 mm dia	Meter	19653
	900 mm dia	Meter	24010
	1000 mm dia	Meter	28980
4.4	Labour for laying in position including testing following socket		
	& spigot Ductile Iron (K-9) pressure pipes		
	100 mm Dia	Meter	26
	150 mm Dia	Meter	36
	200 mm Dia	Meter	56
	250 mm Dia	Meter	74
2.1	300 mm Dia	Meter	92
- 2	350 mm Dia	Meter	123
13	400 mm Dia	Meter	147
	450 mm Dia	Meter	173
	500 mm Dia	Meter	203
	600 mm Dia	Meter	268
	700 mm Dia	Meter	339
	750 mm Dia	Meter	445
	800 mm dia	Meter	564
	900 mm dia	Meter	693
	1000 mm dia	Meter	837
4.5	Providing Rubber ISI marked Gasket (push on) joint as per	Wicker	037
	IS:5382/2018 to following DI pipes class K-7 and K-9 including		
	testing of joints and cost of jointing materials (Rubber Gasket		
	and soap solution etc.)		
	100 mm Dia	Each	117
	150 mm Dia	Each	148
	200 mm Dia	Each	242
	250 mm Dia	Each	
	300 mm Dia	Each	289
	350 mm Dia	Each	370
	400 mm Dia	Each	425
	450 mm Dia	Each	705
+	130 Hill Dia	EdCII	812

S.No.	Items	Unit	Rates in Rs.
	600 mm Dia	Each	1025
	700 mm Dia	Each	1424
	750 mm Dia	Each	1564
	800 mm dia	Each	1656
	900 mm dia	Each	1986
	1000 mm dia	Each	2267
4.6	Labour for providing including testing, Rubber Gasket (push on) joints to following D.I. Pipes class K-7 & K-9 including joints but excluding cost of Rubber Gasket.		
	100 mm Dia	Each	74
	150 mm Dia	Each	82
	200 mm Dia	Each	86
	250 mm Dia	Each	104
	300 mm Dia	Each	111
	350 mm Dia	Each	130
	400 mm Dia	Each	167
	450 mm Dia	Each	185
	500 mm Dia	Each	198
	600 mm Dia	Each	241
	700 mm Dia	Each	282
	750 mm Dia	Each	294
	800 mm dia	Each	312
	900 mm dia	Each	367
	1000 mm dia	Each	393

### **DUCTILE IRON FITTING PN - 16**

Note :- If PN-10 fitting is used than 90% of rate is payable for providing and fixing of fitting.

S.No.	Items	Unit	Rates in Rs.
4.7	Providing and Laying including testing ductile iron PN 16 type flanged sockets conforming to IS: 9523/2000 having dimension as per table 23 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS:9523/2000.		
	100 mm Dia	Each	1288
	150 mm Dia	Each	2005
	200 mm Dia	Each	3007
	250 mm Dia	Each	4010
	300 mm Dia	Each	5298
	350 mm Dia	Each	8239
	400 mm Dia	Each	10470
	450 mm Dia	Each	13044
	500 mm Dia	Each	16477
	600 mm Dia	Each	22633
	700 mm Dia	Each	35990
	750 mm Dia	Each	39458
	800 mm dia	Each	47914
	900 mm dia	Each	59621
	1000 mm dia	Each	77183

lo.	Items	Unit	Rates in F
8	Labour only for Laying including testing Ductile Iron PN 16		
	type flanged sockets conforming to IS: 9523/2000 having		
	dimension as per table 23 of IS: 9523/2000 in the following		
	nominal diameter/sizes with external bitumen coating and		
	internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.		
	100 mm Dia	Each	24
	150 mm Dia	Each	39
	200 mm Dia	Each	56
	250 mm Dia	Each	75
	300 mm Dia	Each	99
	350 mm Dia	Each	128
	400 mm Dia	Each	163
	450 mm Dia	Each	203
I	500 mm Dia	Each	257
	600 mm Dia	Each	329
	700 mm Dia	Each	444
	750 mm Dia	Each	486
	800 mm dia	Each	591
	900 mm dia	Each	736
	1000 mm dia	Each	953
	Providing and Laying including testing ductile PN 16 type iron flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.		
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.	Fach	1432
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.	Each Fach	1432
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.	Each	2291
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia	Each Each	2291 3294
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia	Each Each Each	2291 3294 4582
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia	Each Each	2291 3294 4582 6015
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia	Each Each Each Each Each	2291 3294 4582 6015 9611
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia	Each Each Each Each	2291 3294 4582 6015 9611 12014
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia	Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia	Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 600 mm Dia	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 450 mm Dia 450 mm Dia 500 mm Dia 700 mm Dia 750 mm Dia 800 mm dia	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495 48131
	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 500 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495 48131 53768
10	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 450 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia 1000 mm dia Labour only for Laying including testing Ductile Iron PN 16 type flanged Spigot conforming to IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495 48131 53768 64392
10	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia Labour only for Laying including testing Ductile Iron PN 16 type flanged Spigot conforming to IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495 48131 53768 64392 80436
10	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia 1000 mm dia Labour only for Laying including testing Ductile Iron PN 16 type flanged Spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495 48131 53768 64392 80436
10	flanged spigot conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.  100 mm Dia 150 mm Dia 200 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia Labour only for Laying including testing Ductile Iron PN 16 type flanged Spigot conforming to IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining with finishing as per clause 13 of IS: 9523/2000.	Each Each Each Each Each Each Each Each	2291 3294 4582 6015 9611 12014 15104 18880 27290 42495 48131 53768 64392 80436

S.No.	Items	Unit	Rates in Rs
	250 mm Dia	Each	86
	300 mm Dia	Each	112
	350 mm Dia	Each	150
	400 mm Dia	Each	187
	450 mm Dia	Each	236
	500 mm Dia	Each	294
	600 mm Dia	Each	425
	700 mm Dia	Each	525
	750 mm Dia	Each	594
	800 mm dia	Each	664
	900 mm dia	Each	796
	1000 mm dia	Each	993
4.11	Providing and Laying including testing Ductile iron Mechanical		
	joint collar with follower glands conforming to IS: 9523/2000		
	having dimension as per table 24 of IS: 9523/2000 in the		
	following nominal diameter/sizes with external bitumen and		
	internal cement mortar lining.		
	100 mm Dia	Each	2647
	150 mm Dia	Each	3896
	200 mm Dia	Each	5035
	250 mm Dia	Each	7592
	300 mm Dia	Each	8901
	350 mm Dia	Each	14142
	400 mm Dia	Each	17309
	450 mm Dia	Each	19791
	500 mm Dia	Each	23336
	600 mm Dia	Each	29619
	700 mm Dia	Each	55459
	750 mm Dia	Each	62016
	800 mm dia	Each	70441
	900 mm dia	Each	82865
	1000 mm dia	Each	106820
4.12	Labour only for Laying including testing Ductile Iron Mechanical Joint collar with follower glands conforming to IS: 9523/2000 having dimension as per table 24 of IS: 9523/2000 in the following nominal diameter /sizes with internal cement mortar lining.		
	100 mm Dia	Each	59
	150 mm Dia	Each	81
	200 mm Dia	Each	102
	250 mm Dia	Each	147
	300 mm Dia	Each	171
	350 mm Dia	Each	237
	400 mm Dia	Each	277
	450 mm Dia	Each	316
	500 mm Dia	Each	368
	600 mm Dia	Each	463
	700 mm Dia	Each	695
	750 mm Dia	Each	773
		Each	

S.No.	Items	Unit	Rates in R
	900 mm dia	Each	1019
	1000 mm dia	Each	1273
4.13	Providing and Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.		
	100 mm Dia	Each	1428
	150 mm Dia	Each	2595
	200 mm Dia	Each	4154
	250 mm Dia	Each	5972
	300 mm Dia	Each	8439
	350 mm Dia	Each	14350
	400 mm Dia	Each	18639
	450 mm Dia	Each	24247
	500 mm Dia	Each	30845
	600 mm Dia	Each	41750
	700 mm Dia	Each	63723
	750 mm Dia	Each	79126
	800 mm dia	Each	84864
	900 mm dia	Each	112419
	1000 mm dia	Each	139671
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and	Eddii	
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia	Each	29
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia	Each Each	
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia	Each Each Each	29
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia	Each Each Each Each	29 54
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia	Each Each Each Each Each	29 54 86 123 173
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 300 mm Dia	Each Each Each Each Each Each	29 54 86 123 173 233
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia	Each Each Each Each Each Each	29 54 86 123 173 233 302
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia	Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 500 mm Dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 500 mm Dia 700 mm Dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 700 mm Dia 700 mm Dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261 1495
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 500 mm Dia 700 mm Dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261 1495 1993
4.14	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 500 mm Dia 700 mm Dia 750 mm Dia 800 mm dia	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261 1495
	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 300 mm Dia 350 mm Dia 450 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia 1000 mm dia Providing and Laying including testing Ductile Iron Double Socket 45° Bends conforming to IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261 1495 1993 2579
	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 350 mm Dia 350 mm Dia 400 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia 1000 mm dia Providing and Laying including testing Ductile Iron Double Socket 45° Bends conforming to IS: 9523/2000 having dimension as per table 16 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261 1495 1993 2579
	Labour only for Laying including testing Ductile Iron Double Socket 90° Bends conforming to IS: 9523/2000 having dimension as per table 15 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.  100 mm Dia 150 mm Dia 200 mm Dia 250 mm Dia 350 mm Dia 350 mm Dia 450 mm Dia 450 mm Dia 500 mm Dia 600 mm Dia 700 mm Dia 750 mm Dia 800 mm dia 900 mm dia Providing and Laying including testing Ductile Iron Double Socket 45° Bends conforming to IS: 9523/2000 having dimension as per table 16 of IS: 9523/2000 in the following nominal diameter/sizes with external bitumen coating and internal cement mortar lining.	Each Each Each Each Each Each Each Each	29 54 86 123 173 233 302 393 501 762 1075 1261 1495 1993 2579

S.No.	Items	Unit	Rates in Rs.
	250 mm Dia	Each	4673
	300 mm Dia	Each	6361
	350 mm Dia	Each	10722
	400 mm Dia	Each	13526
	450 mm Dia	Each	17649
	500 mm Dia	Each	22268
	600 mm Dia	Each	33649
	700 mm Dia	Each	57896
	750 mm dia	Each	66993
	800 mm dia	Each	79399
	900 mm dia	Each	104832
	1000 mm dia	Each	134907
4.16	Labour only for Laying including testing Ductile Iron Double		
	Socket 45° Bends conforming to IS: 9523/2000 having		
	dimension as per table 16 of IS: 9523/2000 in the following		
	nominal diameter/sizes with external bitumen coating and		
	internal cement mortar lining.		
	100 mm Dia	Each	26
	125 mm Dia	Each	34
	150 mm Dia	Each	44
	200 mm Dia	Each	70
	250 mm Dia	Each	96
	300 mm Dia	Each	131
	350 mm Dia	Each	173
	400 mm Dia	Each	220
	450 mm Dia	Each	287
	500 mm Dia	Each	362
	600 mm Dia	Each	545
	700 mm Dia	Each	750
	750 mm dia	Each	867
	800 mm dia	Each	1028
	900 mm dia	Each	1357
	1000 mm dia	Each	1742
4.17	Providing and Laying including testing Ductile Iron Double	2001	1742
	Socket 22.5° Bends conforming to IS: 9523/2000 having		
	dimension as per table 17 of IS: 9523/2000 in the following		
	nominal diameter/sizes with external bitumen coating and		
	internal cement mortar lining.		
	100 mm Dia	Each	1167
	. 125 mm Dia	Each	1558
	150 mm Dia	Each	1817
	200 mm Dia	Each	2856
	250 mm Dia	Each	4023
	300 mm Dia	Each	5322
	350 mm Dia	Each	8578
	400 mm Dia	Each	11051
	450 mm Dia	Each	14021
	500 mm Dia	Each	17649
	600 mm Dia	Each	25817
	700 mm Dia	Each	23017