

**GOVERNMENT OF GOA
PUBLIC WORKS DEPARTMENT
GOA SCHEDULE OF RATES VOLUME V - 2012**

GENERAL NOTES

The rates for water supply and drainage works are based on latest CPWD specifications. Wherever there is a variation in the notes given in present GSR and CPWD specifications, CPWD specifications shall be followed. Wherever there is a variation between CPWD and IS specifications, IS specifications shall take preference. However in all such cases the matter shall be referred to the Superintending Engineer concerned whose decision in this regards shall be final and binding.

Wherever required, the rates which are not available in this GSR, shall be taken from Schedule of Rates for Buildings/Roads and specific mention of this shall be made in the estimate/ NIT. The rates include for the provisions as outlined in notes for respective sections. However, wherever, the carriage of materials is to be done by head load due to site restrictions and or by for such specific contingency shall be noted in the estimate and a 5% increase for head load for distance over 200m, from nearest accessible position, irrespective of elevation, and 10% increase for ferry crossing can be made in the estimate. In all such cases the estimate shall be duly supported with a site plan showing the nearest accessible point and a certificate to the correctness of the distance from the Executive engineer. This provision is for only estimating purpose and not for contractor payments. The theoretical consumption of cement for items of works shall be as per Delhi schedule of rates 2007 with amendments issued from time to time.

**CHAPTER - I
BASIC RATES OF MATERIALS**

Sr. No.	Description	Unit	Rate
1	Aggregate Granite/Basalt		
a)	10mm	Cu.m.	963.00
b)	12.5mm	Cu.m.	963.00
c)	20mm	Cu.m.	963.00
d)	32mm	Cu.m.	811.00
e)	40mm	Cu.m.	811.00
f)	50mm	Cu.m.	811.00
2	Cement - Portland	Tonne	6060.00
3	Cement - White	Tonne	16860.00
4	Sand coarse	Cu.m.	413.00
5	Sand fine	Cu.m.	413.00
6	Jungle wood planks - upto 3m length	Cu.m.	18000.00
7	Jungle wood planks more than 3m length	Cum	18000.00
8	Water proofing compound	Kg.	95.00
9	Ballies -100 mm diameter more than 3m length	Each	110.00
10	Ballies -125 mm diameter more than 4m length	Each	140.00
11	Bamboo -4m long 75mm diameter	Each	108.00
12	Rafters	cum	43000.00
13	Coir rope	Metre	6.00
14	Nails	Kg.	70.72
15	Kerosene	Litre	30.00
16	Diesel	Litre	38.81
17	Engine oil	Litre	186.00
18	Bricks class designation - 40 kgs/cm ²	1000	4000.00
19	Bricks class designation - 75 kgs/cm ²	numbers	6500.00
20	Bricks class designation - 100 kgs/cm ²	1000	9750.00
21	Mild steel reinforcement	Tonne	43050.00
22	HYSD steel reinforcement bar	Tonne	43302.00
23	CRS steel reinforcement	Tonne	51135.00
24	TMT steel reinforcement	Tonne	49035.00
25	MS steel structurals	Tonne	45150.00
26	Flats upto 10mm thickness	Tonne	45150.00
27	MS plates 10mm thickness	Tonne	55120.00
28	MS plates 25 mm thickness	Tonne	56120.00
29	Welding electric	Cms.	15.00
30	Welding gas	Cms.	35.00
31	spun yarn	Kg.	61.00
32	White zinc	Kg.	80.00
33	C.I. surface box - 100x160x160 - Weight 15 kgs.	Each	1550.00
34	C.I. surface box - 200x300x300 - Weight 32kgs.	Each	3305.00
35	C.I. Grating - 100x100	Each	30.00
36	C.I. Grating - 150x100	Each	60.00
37	C.I. cleaning eye with lid	Each	75.00
38	C.I. bend plain - 100mm	Each	382.00
39	C.I. Tee	Each	474.00
40	C.I. cover with frame heavy duty		
a	500 mm diameter weighing 230 kgs.	Each	15423.00
Sr. No.	Description	Unit	Rate
b	C.I. cover & Frame 300x300 (weighing 10Kgs)	Each	984.00
c	C.I. cover & Frame 1200x900 weighing 970 kgs.	Each	43621.00
d	C.I. cover & Frame 600x600 weighing 250 kgs.	Each	16725.00

41	D.I. rectangular cover & Frame 450x600 with hingies as per EN-124 weighing 100 kgs.	Each	10206.00
42	SFRC cover 540mm size heavy duty frame & cover weighting 100 kgs.	Each	5940.00
b	SFRC cover 500mm size heavy duty frame & cover weighting 100 kgs.	Each	5500.00
43	C.I. steps weighting 5.4 kgs.	Each	714.00
44	Orange colour MS safety foot rest encapsituated with plastic	Each	125.00
45	SW Gallery trap - 100x100	Each	105.00
46	SW Gallery trap - 100x150	Each	115.00

NOTE: These rates are exclusive of contractor's profits and overheads and carriage but inclusive of excise, octroi, royalty, vat etc.

CHAPTER - II

BASIC RATES OF LABOURS			
Sr. No	Description	Unit	Rate
	Labours		
A	1) (Semi-skilled) Bandhani, Mazdoor	Per day	158.00
	2) (Unskilled) Chowkidar, Hedge cutter, Mali,	Per day	151.00
	3) Mate Coolie (ord.) ,Bhisti, Sweeper, Helper,	Per day	150.00

	4) Hardrock rock or stone cutting		
	5) Stone cutter 1 st class (skilled)	Per day	159.00
	6) Stone cutter 2 nd class (semi-skilled), Chiseller, Hole Driller, breaker, Excavator	Per day	158.00
B	Driver		
	1) For road rollers and heavy machinery	Per day	159.00
	2) For truck	Per day	159.00
	3) For light vehicles, jeep etc.	Per day	159.00
C	Cleaner: For truck, road roller etc.	Per day	151.00
D	Operator		
	1) Pneumatic drill hammer	Per day	170.00
	2) Concrete mixer, Asphalt boiler	Per day	159.00
	3) Pump attendant, Bitumen sprayer	Per day	158.00
	4) Laboratory attendant, specialised machine	Per day	158.00
E	Marines		
	1) Driver	Per day	159.00
	2) Oarsman, Tandel, Sarang	Per day	158.00
F	Mason		
	1) Stone Ornamental work (highly skilled)	Per day	164.00
	2) 1 st class (skilled)	Per day	159.00
	3) 2 nd class brick layer, stone layer for plaster of paris work	Per day	158.00
	4) Assistant	Per day	151.00
G	Carpenter		
	1) Furniture (highly skilled)	Per day	164.00
	2) 1 st class (skilled)	Per day	159.00
	3) 2 nd class (semi-skilled)	Per day	158.00
	4) Assistant	Per day	151.00
H	Blacksmith:		
	1) 1 st class (skilled)	Per day	159.00
	2) 2 nd class (semi-skilled)	Per day	158.00
	3) Assistant	Per day	151.00
I	Fitter		
	1) 1 st class (skilled)	Per day	159.00
	2) 2 nd class (semi-skilled)	Per day	158.00
	3) Assistant	Per day	151.00
J	Welder (Highly skilled)	Per day	164.00
K	Mechanic		
	1) 1 st class	Per day	159.00
	2) 2 nd class	Per day	158.00
	3) Assistant	Per day	151.00
L	Painter		
	1) Artist painter (Highly skilled)	Per day	168.00

	2) Painter (skilled)	Per day	159.00
	3) 2 nd class (semi-skilled)	Per day	158.00
	4) White washer	Per day	158.00
M	Plumber, Electrician		
	1) Highly skilled	Per day	164.00
	2) 1 st class (skilled)	Per day	162.00
	3) 2 nd class	Per day	158.00
N	Meter reader, gauge reader	Per day	159.00
O	1) Supervisor	Per day	170.00
	2) Mistri	Per day	164.00
	3) Typist	Per day	162.00
	4) Works assistant, draughtsman	Per day	159.00
	5) Head Surveyor	Per day	158.00
P	Dozer operator / dumper/poclain operator/ motor grander / crane operator	Per day	159.00
Q	Compressor operator	Per day	159.00
R	Tin smith		
	1) 1 st class	Per day	159.00
	2) 2 nd class	Per day	158.00
	3) Assistant	Per day	151.00
S	Auto Electrician		
	1) 1 st class (skilled)	Per day	159.00
	2) 2 nd class (semi-skilled)	Per day	158.00
	3) Assistant	Per day	151.00
T	Rig Operator		
	1) 1 st class (skilled)	Per day	159.00
	2) 2 nd class (semi-skilled)	Per day	158.00
	3) Assistant	Per day	151.00

Note :These rates are exclusive of contractor's profit and overheads and are inclusive of the wages for weekly day of rest.

CHAPTER - III

TOOLS & MACHINERIES (A)-BASIC RATES OF TOOLS

Sr. No.	Description	Unit	Rate
1	Tool box with lock & key	Each	600.00
2	Tabular hacksaw frame with blade	Each	100.00
3	Pipe wrench 10" size	Each	189.00
4	Pipe wrench 12" size	Each	247.00
5	Pipe wrench 14" size	Each	302.00
6	Pipe wrench 18" size	Each	499.00
7	Pipe wrench 24" size	Each	908.00
8	Pipe wrench 36" size	Each	2384.00
9	Pipe vice 1/2" to 1 1/2" revex	Each	478.00
10	Pipe vice 2" standard make	Each	583.00
11	Chain Wrench 4"(100mm)	Each	798.00
12	Chain Wrench 6"(150mm)	Each	1029.00

13	Double ended jaw spanner set size 11 x 12 to 30 x 32 (10 nos.)	set	588.00
14	Ring spanner set size 11 x 12 to 30 x 32 (10 nos.)	set	1045.00
15	Die set 1/2" to 1" chaser type	Each	1800.00
16	Die set 1¼" to 2" chaser type	Each	3980.00
17	Die set 2½" to 3" chaser type	Each	4960.00
18	Die set 1/2" to 1¼" revex	Each	893.00
19	Die set 1/2" to 2" revex	Each	1155.00
20	Plier 8" with electrical insulation	Each	116.00
21	File flat 12" (rough) with handle	Each	189.00
22	File flat 12" (smooth) with handle	Each	326.00
23	Chisel 6"	Each	58.00
24	Hand gloves 11 KV (Electrical duty)	pair	450.00
25	Hand gloves 33 KV (Electrical duty)	pair	710.00
26	Screw driver size 12"	Each	89.00
27	Screw driver size 10"	Each	79.00
28	Screw driver size 8"	Each	68.00
29	Adjust spanner 12"	Each	100.00
30	Hammer 2 lb	Each	110.00
31	Hammer 3 lb	Each	142.00
32	Hammer 4 lb.	Each	221.00
33	Hammer 5 lb	Each	273.00
34	Hacksaw blade	Each	5.00
35	Pickaxe with handle	Each	205.00
36	Spade with handle	Each	126.00

NOTE: These rates are exclusive of contractor's profits and overheads and excise, octroi, royalty, vat etc.

carriage but inclusive of

B-HIRE CHARGES OF MACHINERIES

Sr. No.	Machine	Rate per Hour	Rate per shift of 8 hours
1	Hydraulic excavator of one cum bucket capacity	1800.00	14400.00
2	Front end loader one cum bucket capacity	800.00	6400.00
3	Tipper - 5cum / 7cum	375.00	3000.00
4	Air compressor 170 cfm	500.00	4000.00
5	Concrete pump of 45 & 30 cum capacity	250.00	2000.00
6	Cranes - 15 to 20 MT capacity	1985.00	15880.00
7	Cranes - 103MT capacity	1655.00	13240.00
8	Cranes - 5 MT capacity	1103.00	8824.00
9	Generator 250 KVA	700.00	5600.00
10	Generator 100 KVA	540.00	4320.00
11	Generator 33 KVA	300.00	2400.00
12	Water tanker - 9cum	320.00	2560.00
13	Needle vibrator	110.00	880.00
14	Concrete mixer 0.40/0.28 cum	221.00	1768.00
15	JCB Excavator	1655.00	13240.00
16	JCB with breaker of laterite rock	2206.00	17648.00

17	Reciprocating pump	150.00	1200.00
18	Elevator for lifting materials in overhead reservoir construction	-	300.00
19	Pump for pumping water continuously from trenches	-	400.00
20	Welding Generator	1655.00	13240.00

CHAPTER-IV

EARTH WORK

The work shall be measured as per latest CPWD Specification (1996). The work shall be classified judiciously based on the trial pits bore hole data available, while estimating. All excavation shall be measured in successive stages of 1.5 meter depth or as otherwise specified starting from the datum level.

The rates for excavation in laterite rock is for all types of such and for by any means as per site conditions and as directed by engineer in charge. No extra shall be considered for any change in mode of excavation for any type of laterite rock.

The hard rock means rock of granite or basalt type and all other rocks except laterite and the rate is for excavation of this type of rock by any means as warranted by site conditions or as directed by the engineer in charge. No extra rate shall be considered for any change in mode of excavation or for any type of rock in the estimate.

The rates for respective estimate items generally for:

- a) Excavation either straight or curved in plan.
- b) Excavation and depositing earth as specified

- c) Setting our works and all profiles, cross heads, boring rods, etc. as well as for all tools and plants.
- d) Site clearance.
- e) Forming (or leaving) Deadman or tell in borrow pits and their removal after measurements.
- f) Protection and supporting of existing services met within the course of excavation.
- g) Forming steps, in sides, of deep excavation and their removal or covering up.
- h) Protection and supporting of existing services met within course of excavation.
- i) Unless otherwise specified, removing steps or rails in excavation.
- j) All materials and labour required for barricading and protecting against risk of accidents and for providing gang ways with hand rails across open trenches wherever necessary during the progress of work.
- k) Leads and lifts will be as specified in respective items.
- l) Royalties/rentals payable to Government of private parties.

EARTHWORK

Item No.	Description	Unit	Rate
4005	Earthwork in excavation by mechanical means (hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10sq.m on plan) including disposal of excavated earth lead upto 50 m and lift upto 1.5m disposed earth to be leveled and neatly dressed including providing barricading, danger lighting guarding as directed		
a	All kinds of soil	CU.M.	146.00
b	All types of Ordinary rock including all types of laterite rock, blasting prohibited	CU.M.	409.00
c	Hard rock where blasting prohibited	CU.M.	638.00
4006	Earthwork in excavation by mechanical means (hydraulic excavator) in foundation pipeline trenches drain (not exceeding 1.5m in width or 10 sq. m. on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50m.		
a	All kinds of soil	Cu.m.	147.00
b	All types of Ordinary rock including all types of laterite rock, blasting prohibited	Cu.m.	420.00

c	Hard rock where blasting prohibited	Cu.m.	646.00
4007	Earthwork in excavation in over areas in saturated soil upto a depth of 0.6m including pumping and bailing out water and disposing of excavated soil lead upto 20 m and lift upto 1.5 m. Disposed soil to be neatly dressed and levelled.	Cu.m.	283.00
4008	Earthwork in excavation in foundation pipeline trenches, drain in saturated soil upto a depth of 0.6m lift upto 1.5 m including shoring strutting, pumping/ bailing out water ,stacking the excavated soil not more than 5m clear from the edge of the excavation and returning the stacked soil in 0.15 m layers when required into plinth sides of foundation,etc. consolidating each deposited layer by ramming and watering and disposing of all surplus excavated soil within a lead upto 20 m.	Cu.m.	309.00
4009	Extra for earthwork in excavation in saturated soil for every 0.3m or part thereof over .60 m depth including pumping or bailing out water.	Cu.m.	51.00
4010	Extra for additional depth of 1.5 M or part thereof in		
a	All types of soil	Cu.m.	14.00
b	Saturated soil	Cu.m.	25.00
c	All types of laterite rocks and hard rocks	Cu.m.	19.00
4012	Refilling the pipeline/foundation trenches plinth sides, foundation etc. with available excavated earth in layers not exceeding 20 cm depth consolidating each layer ramming and watering lead upto 50 M and all lifts and disposal of surplus earth as directed by Engineer in Charge.	Cu.m.	83.00
4035	Cutting the bituminous road for laying the pipeline in trenches for a width of 0.6m including labour , tools etc, and disposing the excavated excess material from the trench to a distance of 1000 meters, including making level the trench surface by utilising the servicable material to the level of the top surface of road, by compacting, watering ramming with rolling with road roller after completion of laying of pipe and refilling the trenches etc. complete as per the direction of engineer incharge.		
a	By Manual Means :		
1	Rural Roads	Sqm	300.00
2	District Road, State highways, National highway and roads of similar standards	Sqm	370.00
b	By Mechanical Means:		
1	Rural Roads	Sqm	275.00
2	District Road, State highway, National highway	Sqm	340.00

4036	Repairs and reinstatement to the road for trenches made by laying water supply pipeline, by removing the refilled material in the trench for the total depth of 0.40m and making good the road surface by providing laying rolling by road roller compacting for laterite soling 30cm thick, two layer of full grout of 50mm thick each as per specifications mentioned in item no 14086 of road GSR, complete as per the direction of the engineer incharge.		
a	Rural road.	Sqm	1119.00
4037	Repairs and reinstatement to the road for trenches made by laying water supply pipeline, by removing the refilled material in the trench for the total depth of 0.42m and making good the road surface by providing laying rolling by road roller compacting for laterite soling 30cm thick, two layer of full grout of 50mm thick each, tack coat and open graded premix carpet of 20mm thickness as per specifications mentioned in item nos 14086, 14093, 14051 & 14068 of road GSR respectively, complete as per the direction of the engineer incharge.		
a	District Road, State highway, National highway and roads of similar standards	Sqm	1277.00

CHAPTER V

SUPPLY OF MATERIALS

NOTES:-

1	The rate shown against items is inclusive of Octroi, freight, loading unloading, handling and packing charges, excise, central sales tax, vat, freight, overheads and cost profits
2	Test certificate for all materials wherever applicable shall be submitted.
3	The diameter mentioned in the schedule refers to the
3.1	Internal diameter for G.I/A.C/ C.I/D.I. Pipes,
3.2	Outside diameter for PVC, HDPE pipes.
4	All supplies under this section include the freight loading and unloading of materials either to the departmental store or to the site of works as per the direction of the department.
4.1	<u>SLUICE VALVES:-</u>
4.1.1.	Rate is exclusive of one pair of tail piece which shall be provided as specials and paid accordingly.
4.1.2.	Add extra 10% for spur gear arrangement for diameter more than 250 mm.
4.1.3.	Add extra 5% for bypass arrangement and 5% for indicator arrangement,
4.1.4.	For 600, 700 and 750 mm diameter valves, extra 10% for brass lined carpet C.I. channel and LGM shoe to be added.
4.1.5.	Add 5% for thrust bearing arrangements for 600-75 mm when provided.

	Wherever BST is mentioned, it shall be deemed to refer to corresponding IS specifications.
4.1.6.	All flanges of valves shall be machined and drilled as per IS 1538-1976.
4.2.	Rate for R.C.C. pressure and non pressure pipes are as per rate contract which GHSSIDC.
4.3.	Sluice valve size should be equivalent to pipe diameter up to 300 mm of pipe. Beyond 300 mm diameter sluice valve size shall be 2/3 of pipe diameter.
4.4.	Standard fittings having two and more flanges shall be considered under flanged fittings and less than two under socket/spigot fittings.
5	<u>SCOUR VALVES:-</u>
5.1.	Scour valve Tee shall be used for connecting scour valve to the main line.
5.2.	Pipe line from the Scour valve to the nearest drain shall be laid to drain the water during scouring of the pipeline.
5.3.	Scour valve size in millimeters should be $(d/2 + 25)$ where 'd' is Nominal diameter of pipe in millimeter.

6 **AIR VALVES**

Table-2

Diameter of distribution	Type of Air valve	Size of Air valve
80mm	Single orifice air valve	20mm
100 mm		40mm
More than 125mm to 200mm	Double orifice type air valve	50 mm
250mm to 300mm	Double orifice type kinetic air valve	80 mm
More than 400 mm to 500mm	Double orifice type kinetic air valve	100 mm
More than 600 mm to 900 mm	Double orifice type kinetic air valve	150 mm

SUPPLY OF PIPES, SPECIALS, VALVES AND ACCESSORIES

AC PIPES

Item No.	Description	Unit	Rate
15001	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., A. C. pressure pipes conforming to IS: 1592 - 1980 with up to date amendments in standard lengths Class10 WITH EXCISE DUTY		
	Nominal Dia in mm		
a	80	Metre	441.00
b	100	Metre	581.00
c	150	Metre	1087.00
d	200	Metre	1858.00
e	250	Metre	2352.00
f	300	Metre	3301.00
g	350	Metre	4143.00
h	400	Metre	5386.00
I	450	Metre	6342.00
j	500	Metre	7881.00
k	600	Metre	11185.00
15002	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., A. C. pressure pipes conforming to IS: 1592 - 1980 with up to date amendments in standard lengths Class10 WITHOUT EXCISE DUTY		
a	80	Metre	400.00
b	100	Metre	527.00
c	150	Metre	986.00
d	200	Metre	1685.00
e	250	Metre	2132.00
f	300	Metre	2993.00
g	350	Metre	3756.00
h	400	Metre	4883.00
I	450	Metre	5750.00
j	500	Metre	7145.00

k	600	Metre	10141.00
15003	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., A. C. pressure pipes conforming to IS: 1592 - 1980 with up to date amendments in standard lengths Class 15 WITH EXCISE DUTY		
	Nominal Dia in mm		
a	80	Metre	465.00
b	100	Metre	639.00
c	150	Metre	1146.00
d	200	Metre	1545.00
e	250	Metre	2428.00
f	300	Metre	3389.00
g	350	Metre	4292.00
h	400	Metre	5686.00
I	450	Metre	6940.00
j	500	Metre	8775.00
k	600	Metre	8398.00
15004	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., A. C. pressure pipes conforming to IS: 1592 - 1980 with up to date amendments in standard lengths Class 15 WITHOUT EXCISE DUTY		
a	80	Metre	421.00
b	100	Metre	579.00
c	150	Metre	1039.00
d	200	Metre	1401.00
e	250	Metre	2201.00
f	300	Metre	3073.00
g	350	Metre	3891.00
h	400	Metre	5155.00
i	450	Metre	6292.00
j	500	Metre	7956.00
k	600	Metre	7613.00
15005	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc. A. C. pressure pipes conforming to IS: 1592 - 1980 with up to date amendments in standard lengths Class 20 WITH EXCISE DUTY		
	Nominal Dia in mm		
a	80	Metre	486.00
b	100	Metre	735.00
c	150	Metre	1353.00
d	200	Metre	2360.00
e	250	Metre	3027.00
f	300	Metre	4259.00
g	350	Metre	5378.00
h	400	Metre	7018.00
I	450	Metre	8398.00

15006	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc. A. C. pressure pipes conforming to IS: 1592 - 1980 with up to date amendments in standard lengths Class 20 WITHOUT EXCISE DUTY		
a	80	Metre	440.00
b	100	Metre	667.00
c	150	Metre	1227.00
d	200	Metre	2140.00
e	250	Metre	2744.00
f	300	Metre	3861.00
g	350	Metre	4876.00
h	400	Metre	6362.00
i	450	Metre	7613.00
15007	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., cast iron detachable joints conforming to IS: 8794-1978 suitable for AC pressure pipes including cost of rubber rings, nuts, bolts etc. Class 10		
	Nominal Dia in mm		
a	50	Set	459.00
b	60	Set	483.00
c	70	Set	506.00
d	80	Set	526.00
e	100	Set	655.00
f	150	Set	1008.00
g	200	Set	1274.00
h	250	Set	1899.00
i	300	Set	2921.00
j	350	Set	4118.00
k	400	Set	4780.00
15008	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., cast iron detachable joints conforming to IS: 8794-1978 suitable for PVC pipes including cost of rubber rings, nuts, bolts etc. Class 6		
	Outer Dia in mm		
a	63	Set	456.00
b	75	Set	480.00
c	90	Set	520.00
d	110	Set	650.00
e	160	Set	1001.00
f	180	Set	1141.00
g	200	Set	1315.00
h	225	Set	1493.00
15009	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., cast iron detachable joints conforming to IS: 8794-1978 suitable for AC pressure pipes including cost of rubber rings, nuts, bolts etc. Class 15		
	Nominal Dia in mm		
a	50	Set	459.00
b	60	Set	483.00

c	70	Set	506.00
d	80	Set	526.00
e	100	Set	684.00
f	150	Set	1037.00
g	200	Set	1388.00
h	250	Set	2056.00
i	300	Set	3148.00
j	350	Set	4675.00
k	400	Set	5244.00
15010	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking, transit insurance etc., cast iron detachable joints conforming to IS: 8794-1978 suitable for AC pressure pipes including cost of rubber rings, nuts, bolts etc. Class 20		
	Nominal Dia in mm		
a	50	Set	505.00
b	60	Set	534.00
c	70	Set	558.00
d	80	Set	578.00
e	100	Set	720.00
f	150	Set	1092.00
g	200	Set	1458.00
h	250	Set	2160.00
i	300	Set	3304.00
j	350	Set	4913.00
k	400	Set	5506.00
15011	Supplying hydrotite coupling conforming to BIS specifications suitable for AC pressure pipes with rubber rings supply at the site of work including testing etc. complete. Class 10/15		
	Nominal Dia in mm		
a	80	Each	260.00
b	100	Each	336.00
c	150	Each	423.00
d	200	Each	587.00
e	250	Each	828.00
f	300	Each	962.00
g	350	Each	1220.00
h	400	Each	1546.00
I	450	Each	2228.00
j	500	Each	2696.00
k	600	Each	3807.00
15012	Supplying hydrotite coupling conforming to BIS specification suitable for AC pressure pipes with rubber rings supply at the site of work including testing etc. complete. Class 20		
	Nominal Dia in mm		
a	80	Each	267.00
b	100	Each	343.00
c	150	Each	447.00
d	200	Each	627.00

e	250	Each	915.00
f	300	Each	1196.00
g	350	Each	1556.00
h	400	Each	2004.00
I	450	Each	2915.00
j	500	Each	3566.00
k	600	Each	4269.00
PVC PIPES			
15013	Supplying at store or site of work including loading, unloading and stacking at site PVC (RING FIT) pipes, with elastomeric sealing ring (one per pipe) and with rubber ring socket,conforming to ISO 4411 to IS:4985-2000,and bearing ISI mark Class 4kg/sq.cm WITH EXCISE DUTY		
	Outer Dia in mm		
a	140	Metre	271.00
b	160	Metre	359.00
c	180	Metre	459.00
d	200	Metre	565.00
e	225	Metre	720.00
f	250	Metre	880.00
e	280	Metre	1160.00
f	315	Metre	1472.00
15014	Supplying at store or site of work including loading, unloading and stacking at site PVC (RING FIT) pipes, with elastomeric sealing ring (one per pipe) and with rubber ring socket,conforming to ISO 4411 to IS:4985-2000,and bearing ISI mark Class 4kg/sq.cm WITHOUT EXCISE DUTY		
	Outer Dia in mm		
a	140	Metre	259.00
b	160	Metre	343.00
c	180	Metre	438.00
d	200	Metre	540.00
e	225	Metre	688.00
f	250	Metre	841.00
e	280	Metre	1108.00
f	315	Metre	1406.00
15015	Supplying at store or site of work including loading, unloading and stacking at site PVC (RING FIT) pipes with elastomeric sealing ring (one per pipe) and with rubber ring socket, conforming to to IS:4985-2000,and bearing ISI mark Class 6kg/sq.cm WITH EXCISE DUTY		
	Outer Dia in mm		
a	63	Metre	83.00
b	75	Metre	116.00
c	90	Metre	166.00
d	110	Metre	243.00
e	125	Metre	321.00

f	140	Metre	402.00
g	160	Metre	518.00
h	180	Metre	651.00
i	200	Metre	826.00
j	225	Metre	1041.00
k	250	Metre	1298.00
l	280	Metre	1703.00
m	315	Metre	2163.00
15016	Supplying at store or site of work including loading, unloading and stacking at site PVC (RING FIT) pipes with elastomeric sealing ring (one per pipe) and with rubber ring socket, conforming to IS:4985-2000, and bearing ISI mark Class 6kg/sq.cm WITHOUT EXCISE DUTY		
	Outer Dia in mm		
a	110	Metre	232.00
b	125	Metre	307.00
c	140	Metre	384.00
d	160	Metre	495.00
e	180	Metre	622.00
f	200	Metre	789.00
g	225	Metre	995.00
h	250	Metre	1239.00
i	280	Metre	1626.00
j	315	Metre	2066.00
15017	Supplying at store or site of work including loading, unloading and stacking at site PVC (RING FIT) pipes with elastomeric sealing ring (one per pipe) and with rubber ring socket, conforming to IS:4985-2000, and bearing ISI mark Class 10 kg/sq.cm WITH EXCISE DUTY		
	Outer Dia in mm		
a	63	Metre	135.00
b	75	Metre	192.00
c	90	Metre	275.00
d	110	Metre	411.00
e	125	Metre	529.00
f	140	Metre	662.00
g	160	Metre	867.00
h	180	Metre	1121.00
i	200	Metre	1386.00
j	225	Metre	1761.00
k	250	Metre	2223.00
l	280	Metre	2784.00
m	315	Metre	3529.00
15018	Supplying at store or site of work including loading, unloading and stacking at site PVC (RING FIT) pipes with elastomeric sealing ring (one per pipe) and with rubber ring socket, conforming to IS:4985-2000, and bearing ISI mark Class 10 kg/sq.cm WITHOUT EXCISE DUTY		
	Outer Dia in mm		
a	110	Metre	393.00
b	125	Metre	505.00

c	140	Metre	633.00
d	160	Metre	828.00
e	180	Metre	1071.00
f	200	Metre	1324.00
g	225	Metre	1682.00
h	250	Metre	2123.00
i	280	Metre	2659.00
j	315	Metre	3370.00
15019	Supplying at store or site of work Rigid PVC (SEL FIT) pipes for public water supply including Railway freight, carting, loading and unloading, stacking, transit insurance etc. complete. Conforming to IS: 4985-2000, and bearing ISI mark Class 4 kg/cm2.(WITH EXCISE DUTY)		
	Outer Dia in mm		
a	63	Metre	52.00
b	75	Metre	74.00
c	90	Metre	104.00
d	110	Metre	150.00
e	125	Metre	199.00
f	140	Metre	248.00
g	160	Metre	329.00
h	180	Metre	421.00
i	200	Metre	519.00
j	225	Metre	664.00
k	250	Metre	812.00
l	280	Metre	1076.00
m	315	Metre	1370.00
n	355	Metre	1835.00
o	400	Metre	2341.00
15020	Supplying at store or site of work Rigid PVC (SEL FIT) pipes for public water supply including Railway freight, carting, loading and unloading, stacking, transit insurance etc. complete. Conforming to IS: 4985-2000, and bearing ISI mark Class 4 kg/cm2. (WITHOUT EXCISE DUTY)		
	Outer Dia in mm		
a	110	Metre	143.00
b	125	Metre	190.00
c	140	Metre	237.00
d	160	Metre	314.00
e	180	Metre	402.00
f	200	Metre	495.00
g	225	Metre	634.00
h	250	Metre	775.00
i	280	Metre	1028.00
j	315	Metre	1308.00
k	355	Metre	1752.00
l	400	Metre	2236.00

15021	Supplying at store or site of work Rigid PVC (SEL FIT) pipes for public water supply including Railway freight, carting, loading and unloading, stacking, transit insurance etc. complete, Conforming to IS: 4985-2000, and bearing ISI mark, Class 6 kg/cm2.WITH EXCISE DUTY		
	Outer Dia in mm		
a	40	Metre	33.00
b	50	Metre	49.00
c	63	Metre	75.00
d	75	Metre	106.00
e	90	Metre	152.00
f	110	Metre	223.00
g	125	Metre	292.00
h	140	Metre	368.00
i	160	Metre	474.00
j	180	Metre	596.00
k	200	Metre	759.00
l	225	Metre	960.00
m	250	Metre	1198.00
n	280	Metre	1581.00
o	315	Metre	2014.00
p	355	Metre	2690.00
q	400	Metre	3437.00
15022	Supplying at store or site of work Rigid PVC (SEL FIT) pipes for public water supply including Railway freight, carting, loading and unloading, stacking, transit insurance etc. complete, Conforming to IS: 4985-2000, and bearing ISI mark, Class 6 kg/cm2. WITHOUT EXCISE DUTY		
	Outer Dia in mm		
a	110	Metre	213.00
b	125	Metre	279.00
c	140	Metre	352.00
d	160	Metre	453.00
e	180	Metre	569.00
f	200	Metre	725.00
g	225	Metre	917.00
h	250	Metre	1144.00
i	280	Metre	1510.00
j	315	Metre	1924.00
k	355	Metre	2569.00
l	400	Metre	3283.00
15023	Supplying at store or site of work Rigid PVC (SEL FIT) pipes for public water supply including Railway freight, carting, loading and unloading, stacking, transit insurance etc. complete, Conforming to IS: 4985-2000, and bearing ISI mark, Class 10 kg/cm2.WITH EXCISE DUTY		
	Outer Dia in mm		
a	20	Metre	13.00
b	25	Metre	20.00
c	32	Metre	33.00
d	40	Metre	50.00
e	50	Metre	80.00

f	63	Metre	124.00
g	75	Metre	177.00
h	90	Metre	253.00
i	110	Metre	378.00
j	125	Metre	483.00
k	140	Metre	609.00
l	160	Metre	797.00
m	180	Metre	1033.00
n	200	Metre	1276.00
o	225	Metre	1630.00
p	250	Metre	2062.00
q	280	Metre	2589.00
r	315	Metre	3291.00
s	355	Metre	4425.00
t	400	Metre	5642.00
15024	Supplying at store or site of work Rigid PVC (SEL FIT) pipes for public water supply including Railway freight, carting, loading and unloading, stacking, transit insurance etc. complete, Conforming to IS: 4985-2000, and bearing ISI mark, Class 10 kg/cm2. WITHOUT EXCISE DUTY		
	Outer Dia in mm		
a	110	Metre	361.00
b	125	Metre	462.00
c	140	Metre	582.00
d	160	Metre	761.00
e	180	Metre	986.00
f	200	Metre	1218.00
g	225	Metre	1557.00
h	250	Metre	1969.00
i	280	Metre	2473.00
j	315	Metre	3143.00
k	355	Metre	4226.00
l	400	Metre	5389.00
RIGID PVC FITTINGS			
15025	Supply of rigid PVC fittings conforming to IS: 7834-1975 designed for precision and accuracy so as to join PVC pipes and other specials including railway freight, carting, loading and unloading and stacking etc. complete.		
I	Elbow		
	Outer Dia in mm		
a	20	Each	5.00
b	25	Each	7.00
c	32.00	Each	9.00
d	40.00	Each	20.00
e	50	Each	31.00
f	63	Each	51.00
g	75	Each	73.00
h	90	Each	134.00
I	110	Each	271.00
II	End Cap (Plain)		
	Outer Dia in mm		
a	20	Each	3.00

b	25	Each	4.00
c	32	Each	6.00
d	40	Each	16.00
e	50	Each	21.00
f	63	Each	25.00
g	75	Each	37.00
h	90	Each	63.00
I	110	Each	71.00
III Threaded End Cap			
Outer Dia in mm			
a	40	Each	25.00
b	50	Each	26.00
c	63	Each	32.00
d	75	Each	46.00
e	90	Each	64.00
f	110	Each	76.00
IV Tee			
Outer Dia in mm			
a	20	Each	8.00
b	25	Each	9.00
c	32	Each	14.00
d	40	Each	24.00
e	50	Each	40.00
f	63	Each	70.00
g	75	Each	107.00
h	90	Each	168.00
I	110	Each	248.00
V Tail Piece			
Outer Dia in mm			
a	63	Each	18.00
b	75	Each	19.00
c	90	Each	29.00
d	110	Each	45.00
e	140	Each	70.00
VI Coupler			
Outer Dia in mm			
a	20	Each	8.00
b	25	Each	12.00
c	32	Each	13.00
d	40	Each	23.00
e	50	Each	37.00
f	63	Each	72.00
g	75	Each	93.00
h	90	Each	146.00
I	110	Each	183.00
VII Female Threaded Adaptor			
Outer Dia in mm			
a	20	Each	8.00
b	25	Each	9.00
c	32	Each	11.00

d	40	Each	15.00
e	50	Each	37.00
f	63	Each	45.00
g	75	Each	57.00
h	90	Each	88.00
I	110	Each	124.00
VIII Male Threaded Adaptor			
	Outer Dia in mm		
a	20	Each	4.00
b	25	Each	5.00
c	32	Each	7.00
d	40	Each	13.00
e	50	Each	18.00
f	63	Each	36.00
g	75	Each	56.00
h	90	Each	65.00
I	110	Each	96.00
IX Service Saddle			
	Outer Dia in mm		
a	63	Each	91.00
b	75	Each	103.00
c	90	Each	122.00
d	110	Each	141.00
e	160	Each	162.00
X Reducer (Multi Stage)			
	Outer Dia in mm		
a	25x20	Each	4.00
b	32x20	Each	5.00
c	32x25	Each	8.00
d	40x20	Each	10.00
e	40x25	Each	11.00
f	40x32	Each	11.00
g	50x25	Each	22.00
h	50x32	Each	24.00
i	50x40	Each	25.00
j	63x32	Each	30.00
k	63x40	Each	31.00
l	63x50	Each	40.00
m	75x40	Each	65.00
n	75x50	Each	69.00
o	75x63	Each	71.00
p	90x50	Each	75.00
q	90x63	Each	81.00
r	90x75	Each	86.00
s	110x63	Each	124.00
t	110x75	Each	126.00
u	110x90	Each	86.00
XI Long Bend 90 degree 6kg/cm2			
	Outer Dia in mm		
a	63	Each	78.00
b	75	Each	116.00

c	90	Each	182.00
d	110.00	Each	314.00
e	160	Each	1078.00
f	200	Each	2044.00
15026	Supply of PVC cement solvent suitable for jointing PVC pipes	Litre	382.00
UNPLASTICIZED PVC PIPES			
15027	Supplying of ASTM UPVC pipe conforming to ASTM 2467 with ISO 14001 etc. complete		
I	SCH-40 (blue)/(white)		
	Outer Dia in mm		
a	20	Metre	44.00
b	25	Metre	58.00
c	32	Metre	87.00
d	40	Metre	116.00
e	50	Metre	139.00
f	63	Metre	209.00
g	75	Metre	310.00
h	90	Metre	310.00
i	110	Metre	566.00
II	SCH-80(Blue)/(white)		
	Outer Dia in mm		
a	20	Metre	58.00
b	25	Metre	79.00
c	32	Metre	116.00
d	40	Metre	160.00
e	50	Metre	195.00
f	63	Metre	269.00
g	75	Metre	446.00
h	90	Metre	585.00
i	110	Metre	815.00
UNPLASTICIZED PVC FITTINGS			
15028	Supplying at store or site of work of ASTM UPVC white fittings conforming to ASTM 2467 with ISO 14001 etc. Complete		
I	Coupler		
	Outer Dia in mm		
a	20	Each	8.00
b	25	Each	13.00
c	32	Each	20.00
d	40	Each	28.00
e	50	Each	37.00
f	63	Each	62.00
g	75	Each	114.00
h	90	Each	163.00
i	110	Each	261.00
II	Elbow 90 Degree		
	Outer Dia in mm		
a	20	Each	13.00
b	25	Each	19.00
c	32	Each	35.00
d	40	Each	45.00

e	50	Each	58.00
f	63	Each	99.00
g	75	Each	194.00
h	90	Each	288.00
i	110	Each	482.00
III	Elbow 45 Degree		
	Outer Dia in mm		
a	20	Each	13.00
b	25	Each	16.00
c	32	Each	28.00
d	40	Each	37.00
e	50	Each	55.00
f	63	Each	87.00
g	75	Each	157.00
h	90	Each	226.00
i	110	Each	389.00
IV	Tee		
	Outer Dia in mm		
a	20	Each	16.00
b	25	Each	23.00
c	32	Each	46.00
d	40	Each	58.00
e	50	Each	78.00
f	63	Each	139.00
g	75	Each	250.00
h	90	Each	365.00
i	110	Each	645.00
V	Cross Tee		
	Outer Dia in mm		
a	20	Each	23.00
b	25	Each	33.00
c	32	Each	51.00
VI	End cap		
	Outer Dia in mm		
a	20	Each	7.00
b	25	Each	9.00
c	32	Each	14.00
d	40	Each	23.00
e	50	Each	28.00
f	63	Each	49.00
VII	Male Threaded Adopter		
	Outer Dia in mm		
a	20	Each	7.00
b	25	Each	9.00
c	32	Each	16.00
d	40	Each	23.00
e	50	Each	29.00
f	63	Each	49.00
VIII	Female Threaded Adopter		

	Outer Dia in mm		
a	20	Each	7.00
b	25	Each	7.00
c	32	Each	9.00
d	40	Each	14.00
e	50	Each	21.00
f	63	Each	33.00
g	75	Each	44.00
h	90	Each	66.00
i	110	Each	105.00
IX	Reducer Bush		
	Sizes in inches		
a	25x20	Each	6.00
b	32x20	Each	12.00
c	32x25	Each	9.00
d	40x20	Each	28.00
e	40x25	Each	23.00
f	40x32	Each	14.00
g	50x20	Each	28.00
h	50x25	Each	35.00
i	50x32	Each	26.00
j	50x40	Each	14.00
k	63x20	Each	17.00
X	Reducer		
	Sizes in inches		
a	25x20	Each	12.00
b	32x20	Each	22.00
c	32x25	Each	19.00
d	40x20	Each	29.00
e	40x25	Each	34.00
f	40x32	Each	27.00
g	50x20	Each	35.00
h	50x25	Each	36.00
i	50x32	Each	37.00
j	50x40	Each	36.00
k	63x20	Each	51.00
l	63x25	Each	51.00
m	63x32	Each	60.00
n	63x40	Each	63.00
o	63x50	Each	63.00
15029	Supplying at store or site of work of "O" Rubber Rings suitable for C.I.D. joints.conforming to IS: 5382/1985 etc. complete.		
	Sizes in mm		
a	80	Each	60.00
b	100	Each	75.00
c	150	Each	96.00
d	200	Each	126.00
e	250	Each	153.00
f	300	Each	178.00
g	350	Each	275.00
h	400	Each	308.00
i	450	Each	438.00

j	500	Each	597.00
k	600	Each	714.00
15030	Supplying at store or site of work of "Square" Rubber Rings suitable for C.I.D. joints.conforming to IS: 5382/1985 etc. complete.		
	Sizes in mm		
a	80	Each	70.00
b	100	Each	90.00
c	150	Each	174.00
d	200	Each	202.00
e	250	Each	300.00
15031	Supplying at store or site of work of heavy duty adhesive cement for joining of UPVC white fittings.	Litre	789.00
HDPE PIPES			
15032	Supplying, of HDPE pipes at store or site of work including loading unloading, stacking, transit insurance etc. complete bearing ISI mark & conforming to IS: 4984-1995 & made from PE 100 resin Class IV (6 kg/cm2)		
	WITH EXCISE DUTY		
	Outer dia. in mm		
a	63	Metre	110.00
b	75	Metre	158.00
c	90	Metre	222.00
d	110	Metre	323.00
e	125	Metre	440.00
f	140	Metre	553.00
g	160	Metre	719.00
h	180	Metre	907.00
I	200	Metre	1116.00
j	225	Metre	1448.00
k	250	Metre	1776.00
l	280	Metre	2223.00
m	315	Metre	2815.00
n	355	Metre	3567.00
o	400	Metre	4411.00
p	450	Metre	5580.00
q	500	Metre	6898.00
r	560	Metre	8602.00
s	630	Metre	10887.00
t	710	Metre	13795.00
u	800	Metre	17506.00
v	900	Metre	22178.00
w	1000	Metre	27359.00
15033	Supplying, of HDPE pipes at store or site of work including loading unloading, stacking, transit insurance etc. complete bearing ISI mark & conforming to IS: 4984-1995 & made from PE 100 resin Class IV (6 kg/cm2)		
	WITHOUT EXCISE DUTY		
	Outer dia. in mm		

a	110	Metre	308.00
b	125	Metre	420.00
c	140	Metre	528.00
d	160	Metre	687.00
e	180	Metre	866.00
f	200	Metre	1066.00
g	225	Metre	1383.00
h	250	Metre	1696.00
I	280	Metre	2123.00
j	315	Metre	2689.00
k	355	Metre	3407.00
l	400	Metre	4213.00
m	450	Metre	5329.00
n	500	Metre	6589.00
o	560	Metre	8216.00
p	630	Metre	10399.00
q	710	Metre	13427.00
r	800	Metre	17044.00
s	900	Metre	21592.00
t	1000	Metre	26637.00
15034	Supplying, of HDPE pipes at store or site of work including loading unloading, stacking, transit insurance etc. complete bearing ISI mark & conforming to IS: 4984-1995 & made from PE 100 resin Class IV (10 kg/cm ²)		
	WITH EXCISE DUTY		
	Outer dia. in mm		
a	63	Metre	178.00
b	75	Metre	251.00
c	90	Metre	358.00
d	110	Metre	530.00
e	125	Metre	681.00
f	140	Metre	851.00
g	160	Metre	1107.00
h	180	Metre	1405.00
I	200	Metre	1729.00
j	225	Metre	2235.00
k	250	Metre	2752.00
l	280	Metre	3444.00
m	315	Metre	4365.00
n	355	Metre	5548.00
o	400	Metre	6904.00
p	450	Metre	8709.00
q	500	Metre	10760.00
r	560	Metre	13426.00
s	630	Metre	17006.00
t	710	Metre	21598.00
u	800	Metre	27403.00
15035	Supplying, of HDPE pipes at store or site of work including loading unloading, stacking, transit insurance etc. complete bearing ISI mark & conforming to IS: 4984-1995 & made from PE 100 resin Class IV (10 kg/cm ²)		
	WITHOUT EXCISE DUTY		
	Outer dia. in mm		

a	110	Metre	506.00
b	125	Metre	650.00
c	140	Metre	812.00
d	160	Metre	1057.00
e	180	Metre	1342.00
f	200	Metre	1651.00
g	225	Metre	2134.00
h	250	Metre	2629.00
I	280	Metre	3290.00
j	315	Metre	4169.00
k	355	Metre	5299.00
l	400	Metre	6594.00
m	450	Metre	8319.00
n	500	Metre	10277.00
o	560	Metre	12823.00
p	630	Metre	16242.00
q	710	Metre	20629.00
r	800	Metre	26174.00
15036	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete conforming to IS: 4984 - 1995 and made from PE 100 resin Class IV (16kg/cm2)		
	WITH EXCISE DUTY		
	Outer dia. in mm		
a	63	Metre	254.00
b	75	Metre	359.00
c	90	Metre	516.00
d	110	Metre	763.00
e	125	Metre	985.00
f	140	Metre	1230.00
g	160	Metre	1613.00
h	180	Metre	2041.00
I	200	Metre	2521.00
j	225	Metre	3261.00
k	250	Metre	4050.00
l	280	Metre	5075.00
m	315	Metre	6411.00
n	355	Metre	8128.00
o	400	Metre	10169.00
p	450	Metre	12496.00
q	500	Metre	15408.00
15037	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete conforming to IS: 4984 - 1995 and made from PE 100 resin Class IV (16kg/cm2)		
	WITHOUT EXCISE DUTY		
	Outer dia. in mm		
a	110	Metre	729.00
b	125	Metre	941.00
c	140	Metre	1175.00
d	160	Metre	1540.00
e	180	Metre	1940.00
f	200	Metre	2394.00
g	225	Metre	3101.00

h	250	Metre	3825.00
I	280	Metre	4791.00
j	315	Metre	6054.00
k	355	Metre	7675.00
l	400	Metre	9607.00
m	450	Metre	12174.00
n	500	Metre	15011.00
CAST IRON PIPES			
15038	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. centrifugally cast, (spun) iron pressure pipes with plain spigot and socket joints, conforming to IS:1536-1976 with up to date amendments in standard lengths suitable for jointing with lead and rubber gasket known as TYTON joints Class LA(with Excise duty)		
	Nominal Dia in mm		
a	80	Metre	1263.00
b	100	Metre	1555.00
c	125	Metre	2039.00
d	150	Metre	2494.00
e	200	Metre	3650.00
f	250	Metre	4917.00
g	300	Metre	6341.00
h	350	Metre	7990.00
I	400	Metre	9722.00
j	450	Metre	11722.00
k	500	Metre	13555.00
l	600	Metre	18063.00
m	700	Metre	23310.00
n	750	Metre	26107.00
o	800	Metre	29225.00
p	900	Metre	35598.00
q	1000	Metre	42766.00
15039	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. centrifugally cast, (spun) iron pressure pipes with plain spigot and socket joints, conforming to IS : 1536 with up to date amendments in standard lengths suitable for jointing with lead and rubber gasket known as TYTON joints Class A (with Excise duty)		
	Nominal Dia in mm		
a	80	Metre	1371.00
b	100	Metre	1711.00
c	125	Metre	2224.00
d	150	Metre	2734.00
e	200	Metre	3960.00
f	250	Metre	5355.00
g	300	Metre	6932.00
h	350	Metre	8666.00
I	400	Metre	10625.00
j	450	Metre	12878.00
k	500	Metre	14765.00
l	600	Metre	19718.00

m	700	Metre	25467.00
n	750	Metre	28543.00
o	800	Metre	31842.00
p	900	Metre	38840.00
q	1000	Metre	46717.00
15040	Supplying at store or site of work including railway freight, carting, loading and unloading stacking etc. centrifugally cast (spun) iron pressure pipes with plain spigot and socket joints, conforming to IS: 1536-1979 with up to date amendments in standard lengths suitable for jointing with lead and rubber gasket known as TYTON joints Class B (with Excise duty)		
	Nominal Dia in mm		
a	80	Metre	1471.00
b	100	Metre	1825.00
c	125	Metre	2397.00
d	150	Metre	2945.00
e	200	Metre	4282.00
f	250	Metre	5791.00
g	300	Metre	7510.00
h	350	Metre	9397.00
I	400	Metre	11470.00
j	450	Metre	13892.00
k	500	Metre	15977.00
l	600	Metre	21361.00
m	700	Metre	27512.00
n	750	Metre	30965.00
o	800	Metre	34444.00
p	900	Metre	42084.00
q	1000	Metre	50489.00
15041	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. centrifugally cast, (spun) iron pressure pipes with plain spigot and socket joints, conforming to IS:1536-1976 with up to date amendments in standard lengths suitable for jointing with lead and rubber gasket known as TYTON joints Class LA(without Excise duty)		
	Nominal Dia in mm		
a	80	Metre	1145.00
b	100	Metre	1409.00
c	125	Metre	1848.00
d	150	Metre	2261.00
e	200	Metre	3309.00
f	250	Metre	4458.00
g	300	Metre	5748.00
h	350	Metre	7244.00
I	400	Metre	8814.00
j	450	Metre	10628.00
k	500	Metre	12289.00
l	600	Metre	16376.00
m	700	Metre	21134.00
n	750	Metre	23669.00
o	800	Metre	26496.00

p	900	Metre	32274.00
q	1000	Metre	38772.00
15042	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. centrifugally cast, (spun) iron pressure pipes with plain spigot and socket joints, conforming to IS : 1536 with up to date amendments in standard lengths suitable for jointing with lead and rubber gasket known as TYTON joints Class A (without Excise duty)		
	Nominal Dia in mm		
a	80	Metre	1243.00
b	100	Metre	1552.00
c	125	Metre	2017.00
d	150	Metre	2479.00
e	200	Metre	3590.00
f	250	Metre	4855.00
g	300	Metre	6284.00
h	350	Metre	7856.00
I	400	Metre	9633.00
j	450	Metre	11675.00
k	500	Metre	13386.00
l	600	Metre	17877.00
m	700	Metre	23089.00
n	750	Metre	25878.00
o	800	Metre	28868.00
p	900	Metre	35213.00
q	1000	Metre	42354.00
15043	Supplying at store or site of work including railway freight, carting, loading and unloading stacking etc. centrifugally cast (spun) iron pressure pipes with plain spigot and socket joints, conforming to IS: 1536-1979 with up to date amendments in standard lengths suitable for jointing with lead and rubber gasket known as TYTON joints Class B (without Excise duty)		
	Nominal Dia in mm		
a	80	Metre	1334.00
b	100	Metre	1654.00
c	125	Metre	2173.00
d	150	Metre	2670.00
e	200	Metre	3882.00
f	250	Metre	5250.00
g	300	Metre	6809.00
h	350	Metre	8520.00
I	400	Metre	10399.00
j	450	Metre	12595.00
k	500	Metre	14485.00
l	600	Metre	19366.00
m	700	Metre	24943.00
n	750	Metre	28074.00
o	800	Metre	31227.00
p	900	Metre	38154.00
q	1000	Metre	45774.00

15044	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. C. I. double flanged pipes-PN10 horizontally cast conforming to IS: 7181-1986 bearing ISI mark as per the length mentioned below with excise duty		
I	Barrel Length of 0.50 metres		
	Nominal Dia in mm		
a	100	Each	1086.00
b	150	Each	1689.00
c	200	Each	2208.00
d	250	Each	2789.00
e	300	Each	3370.00
f	350	Each	4103.00
g	400	Each	4706.00
h	450	Each	5440.00
I	500	Each	6059.00
j	600	Each	7295.00
k	700	Each	8634.00
l	800	Each	9886.00
m	900	Each	11137.00
n	1000	Each	12388.00
II	Barrel Length of 1.0 metres		
	Nominal Dia in mm		
a	100	Each	2172.00
b	150	Each	3379.00
c	200	Each	4415.00
d	250	Each	5577.00
e	300	Each	6739.00
f	350	Each	8205.00
g	400	Each	9412.00
h	450	Each	10881.00
I	500	Each	12117.00
j	600	Each	14590.00
k	700	Each	17269.00
l	800	Each	19771.00
m	900	Each	22274.00
n	1000	Each	24777.00
III	Barrel Length of 1.5 metres		
a	100	Each	3258.00
b	150	Each	5068.00
c	200	Each	6623.00
d	250	Each	8366.00
e	300	Each	10109.00
f	350	Each	12308.00
g	400	Each	14118.00
h	450	Each	16321.00
I	500	Each	18176.00
j	600	Each	21885.00
k	700	Each	25903.00
l	800	Each	29657.00
m	900	Each	33411.00
n	1000	Each	37165.00
IV	Barrel Length of 2.0 metres		

a	100	Each	4183.00
b	150	Each	6257.00
c	200	Each	8491.00
d	250	Each	10726.00
e	300	Each	12960.00
f	350	Each	15803.00
g	400	Each	18127.00
h	450	Each	20975.00
I	500	Each	23358.00
j	600	Each	28126.00
k	700	Each	33304.00
l	800	Each	38130.00
m	900	Each	42957.00
n	1000	Each	47784.00
V	Barrel Length of 2.75 metres		
	Dia in mm		
a	100	Each	5752.00
b	150	Each	8603.00
c	200	Each	11676.00
d	250	Each	14748.00
e	300	Each	17821.00
f	350	Each	21729.00
g	400	Each	24924.00
h	450	Each	28841.00
I	500	Each	32118.00
j	600	Each	40123.00
k	700	Each	45793.00
l	800	Each	52429.00
m	900	Each	59066.00
n	1000	Each	65702.00
VI	Barrel Length of 3.0 metres		
	Dia in mm		
a	100	Each	6275.00
b	150	Each	9761.00
c	200	Each	12737.00
d	250	Each	16089.00
e	300	Each	19441.00
f	350	Each	23704.00
g	400	Each	27190.00
h	450	Each	31462.00
I	500	Each	35038.00
j	600	Each	43770.00
k	700	Each	49956.00
l	800	Each	57195.00
m	900	Each	64435.00
n	1000	Each	71675.00
VII	Barrel Length of 3.5 metres		
	Dia in mm		
a	100	Each	7320.00
b	150	Each	11387.00
c	200	Each	15454.00
d	250	Each	19521.00

e	300	Each	23588.00
f	350	Each	28718.00
g	400	Each	32942.00
h	450	Each	38083.00
I	500	Each	40877.00
j	600	Each	49835.00
k	700	Each	58281.00
l	800	Each	66728.00
m	900	Each	75175.00
n	1000	Each	83621.00
VIII	Barrel Length of 4.0 metres		
	Dia in mm		
a	100	Each	8366.00
b	150	Each	13014.00
c	200	Each	17662.00
d	250	Each	22310.00
e	300	Each	26958.00
f	350	Each	32821.00
g	400	Each	37648.00
h	450	Each	43523.00
I	500	Each	46717.00
j	600	Each	56954.00
k	700	Each	66607.00
l	800	Each	76261.00
m	900	Each	85914.00
n	1000	Each	95567.00
IX	Barrel Length of 4.5metres		
	Dia in mm		
a	100	Each	9412.00
b	150	Each	14641.00
c	200	Each	19870.00
d	250	Each	25098.00
e	300	Each	30327.00
f	350	Each	36924.00
g	400	Each	42354.00
h	450	Each	48963.00
I	500	Each	52557.00
j	600	Each	64073.00
k	700	Each	74933.00
l	800	Each	85793.00
m	900	Each	96653.00
n	1000	Each	107513.00
X	Barrel Length of 5.0metres		
	Dia in mm		
a	100	Each	10458.00
b	150	Each	16268.00
c	200	Each	22077.00
d	250	Each	27887.00
e	300	Each	33697.00
f	350	Each	41026.00
g	400	Each	47060.00
h	450	Each	54404.00

I	500	Each	58396.00
j	600	Each	71193.00
k	700	Each	83259.00
l	800	Each	95326.00
m	900	Each	107392.00
n	1000	Each	119459.00
15045	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. C. I. double flanged pipes-PN10 horizontally cast conforming to IS: 1537 -1976 bearing ISI mark as per the length mentioned below without excise duty		
I	Barrel Length of 0.50 metres		
	Nominal Dia in mm		
a	100	Each	985.00
b	150	Each	1532.00
c	200	Each	2002.00
d	250	Each	2528.00
e	300	Each	3055.00
f	350	Each	3720.00
g	400	Each	4267.00
h	450	Each	4932.00
I	500	Each	5493.00
j	600	Each	6614.00
k	700	Each	7828.00
l	800	Each	8963.00
m	900	Each	10097.00
n	1000	Each	11231.00
II	Barrel Length of 1.0 metres		
	Nominal Dia in mm		
a	100	Each	1969.00
b	150	Each	3063.00
c	200	Each	4003.00
d	250	Each	5057.00
e	300	Each	6110.00
f	350	Each	7439.00
g	400	Each	8533.00
h	450	Each	9865.00
I	500	Each	10986.00
j	600	Each	13228.00
k	700	Each	15656.00
l	800	Each	17925.00
m	900	Each	20194.00
n	1000	Each	22463.00
III	Barrel Length of 1.5 metres		
	Nominal Dia in mm		
a	100	Each	2954.00
b	150	Each	4595.00
c	200	Each	6005.00
d	250	Each	7585.00
e	300	Each	9165.00
f	350	Each	11159.00
g	400	Each	12800.00

h	450	Each	14797.00
I	500	Each	16479.00
j	600	Each	19841.00
k	700	Each	23484.00
l	800	Each	26888.00
m	900	Each	30291.00
n	1000	Each	33694.00
IV	Barrel Length of 2.0 metres		
	Nominal Dia in mm		
a	100	Each	3792.00
b	150	Each	5672.00
c	200	Each	7698.00
d	250	Each	9724.00
e	300	Each	11750.00
f	350	Each	14327.00
g	400	Each	16434.00
h	450	Each	19016.00
I	500	Each	21177.00
j	600	Each	25499.00
k	700	Each	30194.00
l	800	Each	34570.00
m	900	Each	38946.00
n	1000	Each	43321.00
V	Barrel Length of 2.75 metres		
	Nominal Dia in mm		
a	100	Each	5215.00
b	150	Each	7800.00
c	200	Each	10585.00
d	250	Each	13371.00
e	300	Each	16156.00
f	350	Each	19700.00
g	400	Each	22597.00
h	450	Each	26147.00
I	500	Each	29119.00
j	600	Each	36376.00
k	700	Each	41516.00
l	800	Each	47533.00
m	900	Each	53550.00
n	1000	Each	59567.00
VI	Barrel Length of 3.0 metres		
	Nominal Dia in mm		
a	100	Each	5689.00
b	150	Each	8849.00
c	200	Each	11548.00
d	250	Each	14586.00
e	300	Each	17625.00
f	350	Each	21491.00
g	400	Each	24651.00
h	450	Each	28524.00
I	500	Each	31766.00
j	600	Each	39683.00
k	700	Each	45291.00

l	800	Each	51854.00
m	900	Each	58418.00
n	1000	Each	64982.00
VII	Barrel Length of 3.5 metres		
	Nominal Dia in mm		
a	100	Each	6637.00
b	150	Each	10324.00
c	200	Each	14011.00
d	250	Each	17698.00
e	300	Each	21385.00
f	350	Each	26037.00
g	400	Each	29866.00
h	450	Each	34526.00
I	500	Each	37060.00
j	600	Each	45181.00
k	700	Each	52839.00
l	800	Each	60497.00
m	900	Each	68155.00
n	1000	Each	75813.00
VIII	Barrel Length of 4.0 metres		
	Nominal Dia in mm		
a	100	Each	7585.00
b	150	Each	11799.00
c	200	Each	16013.00
d	250	Each	20226.00
e	300	Each	24440.00
f	350	Each	29756.00
g	400	Each	34132.00
h	450	Each	39459.00
I	500	Each	42354.00
j	600	Each	51636.00
k	700	Each	60387.00
l	800	Each	69139.00
m	900	Each	77891.00
n	1000	Each	86643.00
IX	Barrel Length of 4.5 metres		
	Nominal Dia in mm		
a	100	Each	8533.00
b	150	Each	13274.00
c	200	Each	18014.00
d	250	Each	22755.00
e	300	Each	27495.00
f	350	Each	33476.00
g	400	Each	38399.00
h	450	Each	44391.00
I	500	Each	47649.00
j	600	Each	58090.00
k	700	Each	67936.00
l	800	Each	77782.00
m	900	Each	87627.00
n	1000	Each	97473.00

X	Barrel Length of 5.0 metres		
	Nominal Dia in mm		
a	100	Each	9481.00
b	150	Each	14748.00
c	200	Each	20016.00
d	250	Each	25283.00
e	300	Each	30550.00
f	350	Each	37195.00
g	400	Each	42665.00
h	450	Each	49323.00
I	500	Each	52943.00
j	600	Each	64545.00
k	700	Each	75484.00
l	800	Each	86424.00
m	900	Each	97364.00
n	1000	Each	108304.00
CAST IRON FITTINGS			
15046	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. cast iron standard flanged socket/plain ended fittings for pressure pipes conforming to IS:1538-1976 suitable for conventional lead joints/ rubber gasket joints. HEAVY Class.	kg	112.00
15047	Supplying cast iron saddle pieces of the following sizes including bolts, nuts, rubber packing suitable for giving service connection for AC / PVC pipeline of various classes.		
	Dia in mm		
a	50	Each	174.00
b	80	Each	188.00
c	100	Each	232.00
d	125	Each	326.00
e	150	Each	362.00
f	200	Each	805.00
g	250	Each	941.00
h	300	Each	1187.00
15048	Supplying at store or at site of work cast iron specials for mechanical and push on flexible joints as per IS:13382 - 1992 including Sealing rubber gaskets (NR), CI compression glands and coated MS Nuts bolts.		
A	Double socket Bends.		
I	90 degree		
	Nominal Dia in mm		
a	80	Each	3705.00
b	100	Each	4324.00
c	125	Each	5111.00
d	150	Each	7964.00
e	200	Each	10660.00
f	250	Each	13995.00
g	300	Each	19458.00
h	350	Each	31932.00

I	400	Each	48334.00
j	450	Each	61756.00
k	500	Each	77558.00
l	600	Each	98038.00
l	700	Each	156025.00
m	750	Each	179006.00
n	800	Each	209395.00
o	900	Each	260408.00
II	45 degree		
	Nominal Dia in mm		
a	80	Each	3426.00
b	100	Each	3834.00
c	125	Each	4914.00
d	150	Each	6651.00
e	200	Each	8854.00
f	250	Each	12995.00
g	300	Each	15801.00
h	350	Each	26076.00
I	400	Each	31830.00
j	450	Each	44658.00
k	500	Each	49903.00
l	600	Each	69126.00
m	700	Each	99300.00
n	750	Each	133811.00
o	800	Each	146082.00
p	900	Each	172942.00
III	22.50 degree		
	Nominal Dia in mm		
a	80	Each	3277.00
b	100	Each	3670.00
c	125	Each	4471.00
d	150	Each	6226.00
e	200	Each	7871.00
f	250	Each	11929.00
g	300	Each	14522.00
h	350	Each	22599.00
I	400	Each	28682.00
j	450	Each	36312.00
k	500	Each	42584.00
l	600	Each	56319.00
m	700	Each	85759.00
n	750	Each	96114.00
o	800	Each	106740.00
p	900	Each	135248.00
IV	11.25 degree		
	Nominal Dia in mm		
a	80	Each	3245.00
b	100	Each	3588.00
c	125	Each	3931.00
d	150	Each	6078.00
e	200	Each	7543.00
f	250	Each	11159.00

g	300	Each	12441.00
h	350	Each	19306.00
I	400	Each	25939.00
j	450	Each	32765.00
k	500	Each	35814.00
l	600	Each	49090.00
m	700	Each	66730.00
n	750	Each	76169.00
o	800	Each	92101.00
p	900	Each	112193.00
V	All Socket Tee		
	Nominal Dia in mm		
a	80x80x80	Each	4973.00
b	100x100x80	Each	539.00
c	100x100x100	Each	5996.00
d	150x150x80	Each	8364.00
e	150x150x100	Each	8487.00
f	150x150x150	Each	10559.00
g	200x200x80	Each	10159.00
h	200x200x100	Each	10280.00
I	200x200x150	Each	12256.00
j	200x200x200	Each	13529.00
k	250x250x80	Each	14330.00
l	250x250x100	Each	14666.00
m	250x250x150	Each	17543.00
n	250x250x200	Each	18570.00
o	250x250x250	Each	20829.00
p	300x300x80	Each	15792.00
q	300x300x100	Each	16160.00
r	300x300x150	Each	20825.00
s	300x300x200	Each	21525.00
t	300x300x250	Each	22750.00
u	300x300x300	Each	25194.00
VI	Double Socket Branch Flange Tee		
	Nominal Dia in mm		
a	80x80x80	Each	4966.00
b	100x100x80	Each	5473.00
c	100x100x100	Each	5802.00
d	150x150x80	Each	8211.00
e	150x150x100	Each	8423.00
f	150x150x150	Each	10095.00
g	200x200x80	Each	9676.00
h	200x200x100	Each	10347.00
I	200x200x150	Each	11972.00
j	200x200x200	Each	13776.00
k	250x250x80	Each	13650.00
l	250x250x100	Each	14389.00
m	250x250x150	Each	17176.00
n	250x250x200	Each	17997.00
o	250x250x250	Each	18652.00
p	300x300x80	Each	16129.00
q	300x300x100	Each	16457.00
r	300x300x150	Each	19081.00

s	300x300x200	Each	19245.00
t	300x300x250	Each	23242.00
u	300x300x300	Each	28731.00
v	350x350x80	Each	24429.00
w	350x350x100	Each	26076.00
x	350x350x150	Each	28180.00
y	350x350x200	Each	28271.00
z	350x350x300	Each	33945.00
a1	350x350x350	Each	39069.00
VII	Double Socket Branch Flanged Tee		
	Nominal Dia in mm		
a	400x400x80	Each	28682.00
b	400x400x100	Each	30512.00
c	400x400x150	Each	34173.00
d	400x400x200	Each	34904.00
e	400x400x300	Each	42405.00
f	400x400x400	Each	48810.00
g	450x450x80	Each	34118.00
h	450x450x100	Each	35948.00
I	450x450x200	Each	42535.00
j	450x450x300	Each	54246.00
k	450x450x350	Each	57358.00
l	450x450x450	Each	62481.00
m	500x500x100	Each	38559.00
n	500x500x250	Each	53562.00
o	500x500x300	Each	55577.00
p	500x500x400	Each	67471.00
q	500x500x500	Each	81926.00
r	600x600x100	Each	54782.00
s	600x600x300	Each	76556.00
t	600x600x400	Each	87718.00
u	600x600x500	Each	95220.00
v	600x600x600	Each	117729.00
w	700x700x100	Each	73683.00
x	700x700x200	Each	85943.00
y	700x700x350	Each	104607.00
z	700x700x400	Each	112659.00
a1	750x750x150	Each	89894.00
b1	750x750x250	Each	103434.00
c1	750x750x750	Each	200600.00
VIII	Double Socket Reducer		
	Nominal Dia in mm		
a	100x80	Each	3462.00
b	150x80	Each	5481.00
c	150x100	Each	5815.00
d	200x100	Each	6730.00
e	200x150	Each	7314.00
f	250x150	Each	10044.00
g	250x200	Each	9775.00
h	300x150	Each	12461.00
I	300x200	Each	12473.00
j	300x250	Each	12609.00
k	350x200	Each	19579.00

l	350x250	Each	19465.00
m	350x300	Each	19213.00
n	400x250	Each	26761.00
o	400x300	Each	23548.00
p	400x350	Each	23546.00
q	450x300	Each	29547.00
r	450x350	Each	29362.00
s	450x400	Each	28665.00
t	500x350	Each	35606.00
u	500x400	Each	34728.00
v	500x450	Each	33590.00
w	600x400	Each	51739.00
x	600x450	Each	50074.00
y	600x500	Each	46804.00
z	700x500	Each	71399.00
a1	700x600	Each	64097.00
b1	750x600	Each	76562.00
c1	750x700	Each	70233.00
d1	800x450	Each	106338.00
e1	800x700	Each	89986.00
15049	Supplying cast iron fittings as per IS : 1538 -1993 including sealing rubber gasket (NR) CI Compression glands and coated MS Nuts bolts.		
I	Mechanical Compression Collar Coupling		
	Nominal Dia in mm		
a	80	Each	1425.00
b	100	Each	1538.00
c	125	Each	1983.00
d	150	Each	2760.00
e	200	Each	3159.00
f	250	Each	5076.00
g	300	Each	6563.00
h	350	Each	8138.00
I	400	Each	12504.00
j	450	Each	14078.00
k	500	Each	19396.00
l	600	Each	24328.00
m	700	Each	31780.00
n	750	Each	34064.00
o	800	Each	43755.00
p	900	Each	51954.00
II	Flanged Socket Tail piece (Flanged Adaptors)		
	Nominal Dia in mm		
a	80	Each	1801.00
b	100	Each	1974.00
c	125	Each	2502.00
d	150	Each	3550.00
e	200	Each	4700.00
f	250	Each	6964.00
g	300	Each	7847.00
h	350	Each	10344.00
I	400	Each	13375.00

j	450	Each	15624.00
k	500	Each	19814.00
l	600	Each	25359.00
m	700	Each	34851.00
n	750	Each	39103.00
o	800	Each	0.00
p	900	Each	69489.00
III	Transition Collar Coupling		
	Nominal Dia in mm		
a	80	Each	1567.00
b	100	Each	1691.00
c	125	Each	2183.00
d	150	Each	3037.00
e	200	Each	3475.00
f	250	Each	5584.00
g	300	Each	7219.00
h	350	Each	8951.00
I	400	Each	13755.00
j	450	Each	15485.00
k	500	Each	21335.00
l	600	Each	26760.00
m	700	Each	34958.00
n	750	Each	37470.00
o	800	Each	48129.00
p	900	Each	57150.00
IV	Long Sleeve Collar Coupling (Cut & Repair Coupling)		
	Nominal Dia in mm		
a	80	Each	2626.00
b	100	Each	2789.00
c	125	Each	3752.00
d	150	Each	4585.00
e	200	Each	5747.00
f	250	Each	8718.00
g	300	Each	10646.00
h	350	Each	14486.00
I	400	Each	22386.00
j	450	Each	25024.00
k	500	Each	29676.00
l	600	Each	37723.00
m	700	Each	46572.00
n	750	Each	54105.00
o	900	Each	71360.00
V	Split Collar Coupling		
	Nominal Dia in mm		
a	80	Each	4787.00
b	100	Each	5705.00
c	125	Each	5867.00
d	150	Each	7656.00
e	200	Each	9464.00
f	250	Each	12488.00
g	300	Each	14521.00
h	350	Each	22996.00

I	400	Each	29415.00
j	450	Each	35879.00
k	500	Each	40143.00
l	600	Each	48248.00
m	700	Each	62820.00
n	750	Each	72062.00
VI	Dismantling Joint		
	Nominal Dia in mm		
a	80	Each	3555.00
b	100	Each	4119.00
c	125	Each	5107.00
d	150	Each	7062.00
e	200	Each	9734.00
f	250	Each	14167.00
g	300	Each	16689.00
h	350	Each	21096.00
I	400	Each	27552.00
j	450	Each	31132.00
k	500	Each	39518.00
l	600	Each	51121.00
m	700	Each	69118.00
n	750	Each	79277.00
VII	Leak Repair Clamp		
	Nominal Dia in mm		
a	80	Each	1758.00
b	100	Each	1904.00
c	125	Each	2101.00
d	150	Each	3306.00
e	200	Each	3820.00
f	250	Each	5140.00
g	300	Each	6512.00
h	350	Each	7088.00
I	400	Each	9009.00
j	450	Each	9787.00
k	500	Each	13290.00
l	600	Each	15496.00
m	700	Each	20059.00
n	750	Each	23756.00
o	900	Each	27103.00
VI	Joint End Cap		
a	80	Each	1783.00
b	100	Each	2015.00
c	125	Each	2619.00
d	150	Each	3491.00
e	200	Each	4949.00
f	250	Each	7075.00
g	300	Each	9296.00
h	350	Each	12373.00
I	400	Each	16539.00
j	450	Each	20406.00
k	500	Each	24125.00
l	600	Each	34004.00

m	700	Each	46225.00
n	750	Each	53170.00
o	800	Each	64017.00
p	900	Each	80536.00

DUCTILE IRON PIPES

15050	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. Centrifugally cast, (spurn) ductile iron pressure pipes (with socket/spigot ends) conforming to IS : 8329-2000 with cement mortar lining inside the pipe and outside zinc coat as per IS : 8329-2000 with up to date amendments suitable for jointing with rubber gasket known as TYTON joints. Class K-9 (without Excise duty)		
	Nominal Diameter in mm		
a	100	Metre	1270.00
b	150	Metre	1872.00
c	200	Metre	2476.00
d	250	Metre	3318.00
e	300	Metre	4172.00
f	350	Metre	5199.00
g	400	Metre	6254.00
h	450	Metre	7442.00
I	500	Metre	8713.00
j	600	Metre	11398.00
k	700	Metre	15157.00
l	750	Metre	16727.00
m	800	Metre	19083.00
n	900	Metre	23241.00
o	1000	Metre	27189.00
15051	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. Centrifugally cast, (spun) ductile iron pressure pipes (with socket/spigot ends) conforming to IS : 8329-2000 with cement mortar lining inside the pipe and outside zinc coat as per IS : 8329-2000 with up to date amendments suitable for jointing with rubber gasket known as TYTON joints. Class K-9 (with Excise duty)		
	Nominal Diameter in mm		
a	100	Metre	1396.00
b	150	Metre	2060.00
c	200	Metre	2724.00
d	250	Metre	3649.00
e	300	Metre	4589.00
f	350	Metre	5720.00
g	400	Metre	6878.00
h	450	Metre	8186.00
I	500	Metre	9585.00
j	600	Metre	12537.00
k	700	Metre	16673.00
l	750	Metre	18398.00
m	800	Metre	20992.00

n	900	Metre	25565.00
o	1000	Metre	29908.00
15052	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. welded Ductile Iron double flanged pipes - PN16 horizontally cast conforming to IS: 1537-1960 in Class k-9 (WITHOUT EXCISE DUTY)		
I	Barrel Length of 0.50 metres		
	Nominal Diameter in mm		
a	150	Each	4674.00
b	200	Each	6455.00
c	250	Each	8657.00
d	300	Each	10881.00
e	350	Each	14580.00
f	400	Each	20160.00
g	450	Each	25135.00
h	500	Each	30137.00
I	600	Each	38650.00
j	700	Each	52702.00
k	800	Each	62409.00
l	900	Each	80804.00
m	1000	Each	90339.00
II	Barrel Length of 1.00 metres		
	Nominal Diameter in mm		
a	150	Each	5620.00
b	200	Each	7726.00
c	250	Each	10360.00
d	300	Each	13032.00
e	350	Each	17240.00
f	400	Each	23349.00
g	450	Each	28930.00
h	500	Each	34548.00
I	600	Each	44417.00
j	700	Each	59942.00
k	800	Each	71439.00
l	900	Each	91592.00
m	1000	Each	103357.00
III	Barrel Length of 1.50 metres		
	Nominal Diameter in mm		
a	150	Each	6565.00
b	200	Each	8997.00
c	250	Each	12062.00
d	300	Each	15183.00
e	350	Each	19899.00
f	400	Each	26537.00
g	450	Each	32724.00
h	500	Each	38958.00
I	600	Each	50185.00
j	700	Each	67184.00
k	800	Each	80471.00
l	900	Each	102379.00

m	1000	Each	116375.00
IV	Barrel Length of 2.0 metres		
	Nominal Diameter in mm		
a	150	Each	7512.00
b	200	Each	10267.00
c	250	Each	13764.00
d	300	Each	17334.00
e	350	Each	22560.00
f	400	Each	29725.00
g	450	Each	36520.00
h	500	Each	43367.00
I	600	Each	55951.00
j	700	Each	74425.00
k	800	Each	89503.00
l	900	Each	113167.00
m	1000	Each	129393.00
V	Barrel Length of 2.5 metres		
	Nominal Diameter in mm		
a	150	Each	8532.00
b	200	Each	11632.00
c	250	Each	15594.00
d	300	Each	19646.00
e	350	Each	26019.00
f	400	Each	33797.00
g	450	Each	41332.00
h	500	Each	48933.00
I	600	Each	63255.00
j	700	Each	83476.00
k	800	Each	100884.00
l	900	Each	126589.00
m	1000	Each	145792.00
VI	Barrel Length of 3.0 metres		
	Nominal Diameter in mm		
a	150	Each	9515.00
b	200	Each	12950.00
c	250	Each	17360.00
d	300	Each	21878.00
e	350	Each	28903.00
f	400	Each	37256.00
g	450	Each	45451.00
h	500	Each	53718.00
I	600	Each	69512.00
j	700	Each	91333.00
k	800	Each	110682.00
l	900	Each	138294.00
m	1000	Each	159916.00
VII	Barrel Length of 3.50metres		
	Nominal Diameter in mm		
a	150	Each	10497.00
b	200	Each	14269.00
c	250	Each	19106.00

d	300	Each	24109.00
e	350	Each	31790.00
f	400	Each	40715.00
g	450	Each	49568.00
h	500	Each	58502.00
I	600	Each	75769.00
j	700	Each	99189.00
k	800	Each	120479.00
l	900	Each	149997.00
m	1000	Each	174040.00
VIII Barrel Length of 4.0 metres			
Nominal Diameter in mm			
a	150	Each	11836.00
b	200	Each	16066.00
c	250	Each	21536.00
d	300	Each	27153.00
e	350	Each	35680.00
f	400	Each	45377.00
g	450	Each	55117.00
h	500	Each	64951.00
I	600	Each	84201.00
j	700	Each	109777.00
k	800	Each	133686.00
l	900	Each	165771.00
m	1000	Each	193076.00
IX Barrel Length of 4.5 metres			
Nominal Diameter in mm			
a	150	Each	12864.00
b	200	Each	17446.00
c	250	Each	23383.00
d	300	Each	29486.00
e	350	Each	38691.00
f	400	Each	48986.00
g	450	Each	59415.00
h	500	Each	69943.00
I	600	Each	90731.00
j	700	Each	117975.00
k	800	Each	143909.00
l	900	Each	177984.00
m	1000	Each	207814.00
X Barrel Length of 5.0 metres			
Nominal Diameter in mm			
a	150	Each	13891.00
b	200	Each	18824.00
c	250	Each	25229.00
d	300	Each	31820.00
e	350	Each	41703.00
f	400	Each	52599.00
g	450	Each	63710.00
h	500	Each	74936.00
I	600	Each	97260.00
j	700	Each	126173.00

k	800	Each	154135.00
l	900	Each	190196.00
m	1000	Each	222552.00
15053	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. welded Ductile Iron double flanged pipes - PN16 horizontally cast conforming to IS: 1537-1960 in Class k-9 (WITH EXCISE DUTY)		
I	Barrel Length of 0.5 metres		
	Nominal Diameter in mm		
a	150	Each	5156.00
b	200	Each	7120.00
c	250	Each	9549.00
d	300	Each	12002.00
e	350	Each	16082.00
f	400	Each	22236.00
g	450	Each	27724.00
h	500	Each	33241.00
I	600	Each	42631.00
j	700	Each	58131.00
k	800	Each	68837.00
l	900	Each	89127.00
m	1000	Each	99643.00
II	Barrel Length of 1.0 metres		
	Nominal Diameter in mm		
a	150	Each	6199.00
b	200	Each	8522.00
c	250	Each	11427.00
d	300	Each	14375.00
e	350	Each	19016.00
f	400	Each	25754.00
g	450	Each	31909.00
h	500	Each	38106.00
I	600	Each	48992.00
j	700	Each	66116.00
k	800	Each	78798.00
l	900	Each	101027.00
m	1000	Each	114002.00
III	Barrel Length of 2.0 metres		
	Nominal Diameter in mm		
a	150	Each	8285.00
b	200	Each	11325.00
c	250	Each	15182.00
d	300	Each	19120.00
e	350	Each	24884.00
f	400	Each	32786.00
g	450	Each	40282.00
h	500	Each	47834.00
I	600	Each	61713.00
j	700	Each	82091.00
k	800	Each	98722.00
l	900	Each	124823.00
m	1000	Each	142720.00

IV	Barrel Length of 2.5 metres		
	Nominal Diameter in mm		
a	150	Each	9411.00
b	200	Each	12830.00
c	250	Each	17200.00
d	300	Each	21670.00
e	350	Each	28699.00
f	400	Each	37278.00
g	450	Each	45590.00
h	500	Each	53973.00
I	600	Each	69771.00
j	700	Each	92074.00
k	800	Each	111275.00
l	900	Each	139628.00
m	1000	Each	160808.00
V	Barrel Length of 3.0 metres		
	Nominal Diameter in mm		
a	150	Each	10495.00
b	200	Each	14284.00
c	250	Each	19149.00
d	300	Each	24131.00
e	350	Each	31880.00
f	400	Each	41094.00
g	450	Each	50133.00
h	500	Each	59250.00
I	600	Each	76672.00
j	700	Each	100740.00
k	800	Each	122082.00
l	900	Each	152539.00
m	1000	Each	176388.00
VI	Barrel Length of 3.5 metres		
	Nominal Diameter in mm		
a	150	Each	11578.00
b	200	Each	15739.00
c	250	Each	21074.00
d	300	Each	26592.00
e	350	Each	35065.00
f	400	Each	44908.00
g	450	Each	54673.00
h	500	Each	64528.00
I	600	Each	83573.00
j	700	Each	109405.00
k	800	Each	132889.00
l	900	Each	165447.00
m	1000	Each	191967.00
VII	Barrel Length of 4.0 metres		
	Nominal Diameter in mm		
a	150	Each	13056.00
b	200	Each	17721.00
c	250	Each	23755.00
d	300	Each	29950.00

e	350	Each	39355.00
f	400	Each	50051.00
g	450	Each	60794.00
h	500	Each	71640.00
I	600	Each	92874.00
j	700	Each	121083.00
k	800	Each	147456.00
l	900	Each	182845.00
m	1000	Each	212963.00
VIII	Barrel Length of 4.5 metres		
	Nominal Diameter in mm		
a	150	Each	14189.00
b	200	Each	19243.00
c	250	Each	25791.00
d	300	Each	32523.00
e	350	Each	42676.00
f	400	Each	54032.00
g	450	Each	65534.00
h	500	Each	77148.00
I	600	Each	100076.00
j	700	Each	130126.00
k	800	Each	158732.00
l	900	Each	196316.00
m	1000	Each	229219.00
IX	Barrel Length of 5.0 metres		
	Nominal Diameter in mm		
a	150	Each	15322.00
b	200	Each	20762.00
c	250	Each	27828.00
d	300	Each	35097.00
e	350	Each	45998.00
f	400	Each	58017.00
g	450	Each	70272.00
h	500	Each	82655.00
I	600	Each	107278.00
j	700	Each	139169.00
k	800	Each	170011.00
l	900	Each	209786.00
m	1000	Each	245474.00
15054	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. rubber gasket conforming to IS : 5382 -1985 for TYTON joints. SBR type rubber gasket		
	Nominal Diameter in mm		
a	80	Each	121.00
b	100	Each	145.00
c	125	Each	173.00
d	150	Each	223.00
e	200	Each	359.00
f	250	Each	471.00
g	300	Each	672.00
h	350	Each	750.00

I	400	Each	1050.00
j	450	Each	1128.00
k	500	Each	1506.00
l	600	Each	2089.00
m	700	Each	2918.00
n	750	Each	3236.00
o	800	Each	3562.00
p	900	Each	4984.00
q	1000	Each	7022.00
15055	Supplying at store or site of work including railway freight, carting, loading and unloading, stacking etc. rubber gasket conforming to IS : 5382 -1985 for TYTON joints. EPDM type rubber gasket		
	Nominal Diameter in mm		
a	80	Each	129.00
b	100	Each	173.00
c	125	Each	205.00
d	150	Each	239.00
e	200	Each	387.00
f	250	Each	499.00
g	300	Each	685.00
h	350	Each	788.00
I	400	Each	1123.00
j	450	Each	1226.00
k	500	Each	1590.00
l	600	Each	2266.00
m	700	Each	3329.00
n	750	Each	3530.00
o	800	Each	3716.00
p	900	Each	5679.00
q	1000	Each	7144.00
DUCTILE IRON PIPE SPECIALS			
15056	Supply at store or site of work including railway freight, carting, loading, unloading, stacking etc. Ductile Iron pipe specials including rubber ring fitting push on joints conforming to IS : 9523 with inside cement mortar lining & externally coated with zinc with finishing layer of bituminous paint complete.		
I	All Socket Tee		
	Nominal Diameter in mm		
a	80x80	Each	1486.00
b	100x80	Each	1727.00
c	100x100	Each	1848.00
d	150x80	Each	2464.00
e	150x100	Each	2718.00
f	150x150	Each	3213.00
g	200x80	Each	3576.00
h	200x100	Each	3829.00
I	200x150	Each	4445.00
j	200X200	Each	4928.00
k	250x80	Each	4626.00
l	250x100	Each	5001.00
m	250x150	Each	5641.00
n	250x200	Each	6257.00

o	250x250	Each	7127.00
p	300x80	Each	6257.00
q	300x100	Each	6378.00
r	300x150	Each	7248.00
s	300x200	Each	8009.00
t	300x250	Each	8758.00
u	300x300	Each	9748.00
v	350x80	Each	8516.00
w	350x100	Each	8697.00
x	350x150	Each	9966.00
y	350x200	Each	11053.00
z	350x250	Each	13227.00
a1	350x300	Each	14677.00
b1	350x350	Each	14979.00
c1	400x80	Each	10690.00
d1	400x100	Each	10630.00
e1	400x150	Each	2356.00
f1	400x200	Each	13529.00
g1	400x250	Each	15401.00
h1	400x300	Each	17576.00
i1	400x350	Each	19146.00
j1	400x400	Each	19146.00
k1	450x80	Each	12986.00
l1	450x100	Each	13227.00
m1	450x150	Each	15401.00
n1	450x200	Each	16851.00
o1	450x250	Each	17576.00
p1	450x300	Each	20596.00
q1	450x350	Each	24220.00
r1	450x400	Each	24220.00
s1	450x450	Each	24642.00
t1	500x80	Each	15583.00
u1	500x100	Each	15885.00
v1	500x150	Each	18603.00
w1	500x200	Each	19327.00
x1	500x250	Each	22287.00
y1	500x300	Each	23736.00
z1	500x350	Each	26032.00
a2	500x400	Each	27481.00
b2	500x450	Each	30441.00
c2	500x500	Each	30441.00
d2	600x80	Each	24642.00
e2	600x100	Each	25005.00
f2	600x150	Each	25307.00
g2	600x200	Each	25307.00
h2	600x250	Each	25548.00
i2	600x300	Each	31165.00
j2	600x350	Each	31165.00
k2	600x400	Each	35695.00
l2	600x450	Each	35695.00
m2	600x500	Each	43124.00
n2	600x600	Each	43124.00
o2	700x100	Each	44574.00
p2	700x150	Each	36118.00
q2	700x200	Each	37930.00

r2	700x250	Each	40467.00
s2	700x300	Each	47473.00
t2	700x400	Each	51821.00
u2	700x450	Each	65109.00
v2	700x500	Each	65109.00
w2	700x600	Each	70303.00
x2	700x700	Each	72115.00
y2	750x100	Each	44091.00
z2	750x150	Each	46627.00
a3	750x200	Each	49285.00
b3	750x300	Each	54600.00
c3	750x400	Each	59794.00
d3	750x450	Each	68491.00
e3	750x500	Each	68491.00
f3	750x600	Each	78276.00
g3	750x700	Each	83591.00
h3	750x750	Each	86128.00
i3	800x100	Each	44453.00
j3	800x150	Each	47110.00
k3	800x200	Each	50010.00
l3	800x300	Each	59432.00
m3	800x400	Each	65834.00
n3	800x450	Each	86973.00
o3	800x500	Each	86973.00
p3	800x600	Each	93375.00
q3	800x700	Each	95912.00
r3	800x800	Each	101348.00
s3	900x100	Each	59311.00
t3	900x150	Each	59311.00
u3	900x200	Each	62935.00
v3	900x400	Each	79967.00
w3	900x500	Each	122004.00
x3	900x600	Each	122004.00
y3	900x700	Each	129252.00
z3	900x800	Each	129252.00
a4	900x900	Each	134688.00
b4	1000x150	Each	76101.00
c4	1000x200	Each	80692.00
d4	1000x400	Each	99657.00
e4	1000x600	Each	155827.00
f4	1000x700	Each	164887.00
g4	1000x800	Each	164887.00
h4	1000x900	Each	172134.00
i4	1000x1000	Each	172134.00
II	Double Socket Reducer		
	Nominal Diameter in mm		
a	100x80	Each	978.00
b	150x80	Each	1595.00
c	150x100	Each	1727.00
d	200x80	Each	2464.00
e	200x100	Each	2464.00
f	200x150	Each	2718.00
g	250x80	Each	3757.00
h	250x100	Each	3757.00

I	250x150	Each	3757.00
j	250x200	Each	3503.00
k	300x100	Each	4880.00
l	300x150	Each	4880.00
m	300x200	Each	4880.00
n	300x250	Each	4494.00
o	350x150	Each	7610.00
p	350x200	Each	7610.00
q	350x250	Each	7550.00
r	350x300	Each	7369.00
s	400x200	Each	9966.00
t	400x250	Each	9060.00
u	400x300	Each	8818.00
v	400x350	Each	7912.00
w	450x200	Each	10630.00
x	450x250	Each	10630.00
y	450x300	Each	10872.00
z	450x350	Each	10630.00
a1	450x400	Each	9966.00
b1	500x200	Each	13952.00
c1	500x250	Each	13952.00
d1	500x300	Each	13952.00
e1	500x350	Each	14133.00
f1	500x400	Each	13408.00
g1	500x450	Each	12623.00
h1	600x200	Each	20475.00
i1	600x250	Each	20475.00
j1	600x300	Each	20475.00
k1	600x350	Each	20475.00
l1	600x400	Each	20837.00
m1	600x450	Each	20233.00
n1	600x500	Each	18421.00
o1	700x250	Each	32253.00
p1	700x300	Each	32253.00
q1	700x350	Each	32253.00
r1	700x400	Each	32977.00
s1	700x450	Each	33702.00
t1	700x500	Each	30682.00
u1	700x600	Each	36964.00
v1	750x300	Each	36964.00
w1	750x400	Each	36964.00
x1	750x450	Each	37930.00
y1	750x500	Each	35152.00
z1	750x600	Each	32494.00
a2	750x700	Each	43728.00
b2	800x300	Each	43728.00
c2	800x400	Each	43728.00
d2	800x450	Each	44091.00
e2	800x500	Each	44091.00
f2	800x600	Each	39863.00
g2	800x700	Each	56049.00
h2	900x400	Each	56049.00
i2	900x500	Each	56049.00
j2	900x600	Each	56533.00
k2	900x700	Each	57137.00

l2	900x800	Each	51701.00
m2	1000x400	Each	68854.00
n2	1000x600	Each	68854.00
o2	1000x700	Each	69820.00
p2	1000x800	Each	70666.00
q2	1000x900	Each	65230.00
III	Double Socket Tee with Branch Flange		
	Nominal Diameter in mm		
a	80x80	Each	1655.00
b	100x80	Each	1909.00
c	100x100	Each	2029.00
d	150x80	Each	2670.00
e	150x100	Each	2790.00
f	150x150	Each	3431.00
g	200x80	Each	3684.00
h	200x100	Each	3938.00
I	200x150	Each	4566.00
j	200x200	Each	5327.00
k	250x80	Each	4771.00
l	250x100	Each	4892.00
m	250x150	Each	5931.00
n	250x200	Each	6692.00
o	250x250	Each	7719.00
p	300x80	Each	6185.00
q	300x100	Each	6438.00
r	300x150	Each	7344.00
s	300x200	Each	8371.00
t	300x250	Each	9519.00
u	300x300	Each	10292.00
v	350x80	Each	8818.00
w	350x100	Each	8999.00
x	350x150	Each	10690.00
y	350x200	Each	11596.00
z	350x250	Each	13710.00
a1	350x300	Each	16791.00
b1	350x350	Each	17395.00
c1	400x80	Each	10690.00
d1	400x100	Each	11174.00
e1	400x150	Each	12140.00
f1	400x200	Each	14073.00
g1	400x250	Each	15703.00
h1	400x300	Each	17395.00
i1	400x350	Each	22106.00
j1	400x400	Each	22106.00
k1	450x80	Each	13227.00
l1	450x100	Each	13408.00
m1	450x150	Each	14979.00
n1	450x200	Each	16428.00
o1	450x250	Each	18301.00
p1	450x300	Each	20415.00
q1	450x350	Each	24220.00
r1	450x400	Each	24220.00
s1	450x450	Each	26394.00
t1	500x80	Each	16066.00

u1	500x100	Each	16247.00
v1	500x150	Each	19388.00
w1	500x200	Each	19871.00
x1	500x250	Each	23676.00
y1	500x300	Each	24280.00
z1	500x350	Each	27119.00
a2	500x400	Each	28568.00
b2	500x450	Each	33642.00
c2	500x500	Each	33642.00
d2	600x80	Each	23857.00
e2	600x100	Each	24461.00
f2	600x150	Each	26032.00
g2	600x200	Each	26998.00
h2	600x250	Each	31528.00
i2	600x300	Each	31528.00
j2	600x350	Each	36722.00
k2	600x400	Each	36722.00
l2	600x450	Each	45782.00
m2	600x500	Each	45782.00
n2	600x600	Each	50493.00
o2	700x100	Each	38051.00
p2	700x150	Each	40104.00
q2	700x200	Each	41916.00
r2	700x250	Each	49526.00
s2	700x300	Each	49526.00
t2	700x400	Each	55325.00
u2	700x450	Each	66679.00
v2	700x500	Each	66679.00
w2	700x600	Each	73202.00
x2	700x700	Each	80813.00
y2	750x100	Each	45661.00
z2	750x150	Each	48560.00
a3	750x200	Each	51459.00
b3	750x300	Each	57982.00
c3	750x400	Each	64747.00
d3	750x450	Each	72719.00
e3	750x500	Each	72719.00
f3	750x600	Each	80329.00
g3	750x700	Each	88423.00
h3	750x750	Each	93375.00
i3	800x100	Each	48077.00
j3	800x150	Each	50010.00
k3	800x200	Each	54600.00
l3	800x300	Each	63418.00
m3	800x400	Each	70182.00
n3	800x450	Each	96033.00
o3	800x500	Each	96033.00
p3	800x600	Each	102797.00
q3	800x700	Each	105697.00
r3	800x800	Each	111495.00
s3	900x100	Each	64022.00
t3	900x150	Each	64022.00
u3	900x200	Each	68008.00
v3	900x400	Each	87336.00
w3	900x500	Each	132876.00

x3	900x600	Each	132876.00
y3	900x700	Each	137707.00
z3	900x800	Each	137707.00
a4	900x900	Each	146405.00
b4	1000x150	Each	84074.00
c4	1000x200	Each	88060.00
d4	1000x400	Each	109683.00
e4	1000x600	Each	173221.00
f4	1000x700	Each	183972.00
g4	1000x800	Each	183972.00
h4	1000x900	Each	192790.00
i4	1000x1000	Each	192790.00
IV	Flanged Socket		
	Nominal Diameter in mm		
a	80	Each	1015.00
b	100	Each	1148.00
c	150	Each	1776.00
d	200	Each	2537.00
e	250	Each	3358.00
f	300	Each	4373.00
g	350	Each	7006.00
h	400	Each	8516.00
I	450	Each	9422.00
j	500	Each	11959.00
k	600	Each	17515.00
l	700	Each	29233.00
m	750	Each	35514.00
n	800	Each	39017.00
o	900	Each	50372.00
p	1000	Each	65592.00
V	M.J.Collar		
	Nominal Diameter in mm		
a	80	Each	2017.00
b	100	Each	2416.00
c	150	Each	3757.00
d	200	Each	4820.00
e	250	Each	6958.00
f	300	Each	9132.00
g	350	Each	13590.00
h	400	Each	16670.00
I	450	Each	19327.00
j	500	Each	22770.00
k	600	Each	29293.00
l	700	Each	51821.00
m	750	Each	61485.00
n	800	Each	72840.00
o	900	Each	85886.00
p	1000	Each	105334.00
VI	Double socket branch flange Invert tee (Scour valve)		
	Nominal Diameter in mm		
a	80x80	Each	2500.00
b	100x80	Each	2960.00

c	100x100	Each	3117.00
d	150x80	Each	4059.00
e	150x100	Each	4373.00
f	150x150	Each	5291.00
g	200x80	Each	5617.00
h	200x100	Each	6076.00
I	200x150	Each	7018.00
j	200X200	Each	8262.00
k	250x80	Each	7344.00
l	250x100	Each	7646.00
m	250x150	Each	9241.00
n	250x200	Each	10364.00
o	250x250	Each	11959.00
p	300x80	Each	9567.00
q	300x100	Each	10038.00
r	300x150	Each	11331.00
s	300x200	Each	12925.00
t	300x250	Each	14822.00
u	300x300	Each	15945.00
v	350x80	Each	13167.00
w	350x100	Each	13348.00
x	350x150	Each	15764.00
y	350x200	Each	17032.00
z	350x250	Each	20294.00
a1	350x300	Each	24763.00
b1	350x350	Each	25669.00
c1	400x80	Each	15764.00
d1	400x100	Each	16307.00
e1	400x150	Each	17938.00
f1	400x200	Each	20656.00
g1	400x250	Each	23132.00
h1	400x300	Each	25669.00
i1	400x350	Each	32434.00
j1	400x400	Each	32434.00
k1	450x80	Each	19569.00
l1	450x100	Each	19750.00
m1	450x150	Each	22106.00
n1	450x200	Each	24220.00
o1	450x250	Each	26938.00
p1	450x300	Each	30199.00
q1	450x350	Each	35695.00
r1	450x400	Each	35695.00
s1	450x450	Each	38776.00
t1	500x80	Each	23193.00
u1	500x100	Each	23374.00
v1	500x150	Each	27904.00
w1	500x200	Each	28629.00
x1	500x250	Each	34064.00
y1	500x300	Each	34970.00
z1	500x350	Each	38957.00
a2	500x400	Each	40950.00
b2	500x450	Each	48198.00
c2	500x500	Each	48198.00
d2	600x80	Each	34246.00
e2	600x100	Each	35152.00

f2	600x150	Each	37326.00
g2	600x200	Each	38776.00
h2	600x250	Each	45299.00
i2	600x300	Each	45299.00
j2	600x350	Each	52727.00
k2	600x400	Each	52727.00
l2	600x450	Each	65773.00
m2	600x500	Each	65773.00
n2	600x600	Each	72478.00
o2	700x100	Each	53150.00
p2	700x150	Each	55808.00
q2	700x200	Each	58344.00
r2	700x250	Each	68854.00
s2	700x300	Each	68854.00
t2	700x400	Each	77068.00
u2	700x450	Each	92771.00
v2	700x500	Each	92771.00
w2	700x600	Each	102073.00
x2	700x700	Each	112582.00
y2	750x100	Each	63659.00
z2	750x150	Each	67646.00
a3	750x200	Each	71632.00
b3	750x300	Each	80813.00
c3	750x400	Each	90114.00
d3	750x450	Each	101348.00
e3	750x500	Each	101348.00
f3	750x600	Each	111978.00
g3	750x700	Each	123212.00
h3	750x750	Each	129976.00
i3	800x100	Each	66921.00
j3	800x150	Each	69578.00
k3	800x200	Each	75981.00
l3	800x300	Each	88302.00
m3	800x400	Each	97482.00
n3	800x450	Each	133721.00
o3	800x500	Each	133721.00
p3	800x600	Each	143022.00
q3	800x700	Each	147130.00
r3	800x800	Each	155102.00
s3	900x100	Each	89027.00
t3	900x150	Each	89027.00
u3	900x200	Each	94462.00
v3	900x400	Each	121400.00
w3	900x500	Each	184697.00
x3	900x600	Each	184697.00
y3	900x700	Each	191582.00
z3	900x800	Each	191582.00
a4	900x900	Each	203541.00
b4	1000x150	Each	117051.00
c4	1000x200	Each	122487.00
d4	1000x400	Each	152203.00
e4	1000x600	Each	240505.00
f4	1000x700	Each	255484.00
g4	1000x800	Each	255484.00
h4	1000x900	Each	267684.00

i4	1000x1000	Each	267684.00
VII Double Socket Bend 90 Degree			
Nominal Diameter in mm			
a	80	Each	1474.00
b	100	Each	1802.00
c	150	Each	3277.00
d	200	Each	5243.00
e	250	Each	7540.00
f	300	Each	11101.00
g	350	Each	17104.00
h	400	Each	22608.00
I	450	Each	29489.00
j	500	Each	37178.00
k	600	Each	62781.00
VIII Double Socket Bend 45 Degree			
Nominal Diameter in mm			
a	80	Each	1311.00
b	100	Each	1638.00
c	150	Each	2573.00
d	200	Each	4179.00
e	250	Each	5887.00
f	300	Each	8242.00
g	350	Each	12779.00
h	400	Each	16711.00
I	450	Each	21095.00
j	500	Each	26125.00
k	600	Each	39671.00
IX Double Socket Bend 22.5 Degree			
Nominal Diameter in mm			
a	80	Each	1147.00
b	100	Each	1474.00
c	150	Each	2457.00
d	200	Each	3604.00
e	250	Each	4795.00
f	300	Each	7064.00
g	350	Each	10616.00
h	400	Each	13368.00
I	450	Each	16711.00
j	500	Each	20498.00
k	600	Each	31752.00
X Double Socket Bend 11.25 Degree			
Nominal Diameter in mm			
a	80	Each	1147.00
b	100	Each	1474.00
c	150	Each	2294.00
d	200	Each	3440.00
e	250	Each	4710.00
f	300	Each	6392.00
g	350	Each	9240.00
h	400	Each	11402.00
I	450	Each	14941.00

j	500	Each	18087.00
k	600	Each	26527.00
15057	Supply of flanged flat Rubber gasket moulded out of SBR rubber confirming to IS 5382/1985 The gasket should have dual thickness 3/6 mm with a 6mm thickness at the sealing cross section. (Rubber insertions 3mm thick conforming to IS:6638-1995)		
	Nominal Diameter in mm		
a	50	Each	83.00
b	65	Each	108.00
c	80	Each	108.00
d	100	Each	145.00
e	125	Each	173.00
f	150	Each	233.00
g	200	Each	289.00
h	250	Each	396.00
I	300	Each	434.00
j	350	Each	527.00
k	400	Each	652.00
l	450	Each	667.00
m	500	Each	835.00
n	600	Each	1123.00
o	700	Each	1231.00
p	900	Each	2644.00
q	1000	Each	2751.00
MILD STEEL PIPES			
15058	Manufacturing and supplying at the site of work spirally submerged arch welded MS pipes including procurement of plates, gas cutting to required size, rolling, tack welding, assembling in suitable length to form pipe, welding on automatic machine and forming v edge on both ends of pipes,including hydraulic pressure test conforming to IS : 3589-2001 grade Fe 410 in double random length of 10 to 12.2 meters in beveled ends including frieght,Loading and unloading by mechanical crane and stacking at siteincluding all taxes etc. complete. (with Excise duty)		
	Size in (OD) in MM for 10 mm thickness		
a	457	Metre	5897.00
b	508	Metre	6555.00
c	610	Metre	7871.00
d	711	Metre	9175.00
e	813	Metre	10491.00
f	914	Metre	11794.00
g	1016	Metre	13111.00
h	1067	Metre	13769.00
I	1118	Metre	14427.00
j	1219	Metre	15730.00
k	1422	Metre	18350.00
l	1626	Metre	20982.00
m	1829	Metre	23602.00
n	2032	Metre	26221.00
o	2235	Metre	28841.00
p	2540	Metre	32776.00

	Size in (OD) in MM for 12 mm thickness		
q	457	Metre	7077.00
r	508	Metre	7866.00
s	610	Metre	9446.00
t	711	Metre	11010.00
u	813	Metre	12589.00
v	914	Metre	14153.00
w	1016	Metre	15733.00
x	1067	Metre	16522.00
y	1118	Metre	17312.00
z	1219	Metre	18876.00
a1	1422	Metre	22020.00
b1	1626	Metre	25178.00
c1	1829	Metre	28322.00
d1	2032	Metre	31465.00
e1	2235	Metre	34609.00
f1	2540	Metre	39332.00
15059	Manufacturing and supplying at the site of work spirally submerged arch welded MS pipes including procurement of plates, gas cutting to required size, rolling, tack welding, assembling in suitable length to form pipe, welding on automatic machine and forming v edge on both ends of pipes,including hydraulic pressure test conforming to IS : 3589-2001 grade Fe 410 in double random length of 10 to 12.2 meters in beveled ends including frieght,Loading and unloading by mechanical crane and stacking at siteincluding all taxes etc. complete. WITHOUT EXCISE DUTY		
	Size in (OD) in MM for 10 mm thickness		
a	457	Metre	5383.00
b	508	Metre	5984.00
c	610	Metre	7185.00
d	711	Metre	8375.00
e	813	Metre	9577.00
f	914	Metre	10766.00
g	1016	Metre	11968.00
h	1067	Metre	12569.00
I	1118	Metre	13169.00
j	1219	Metre	14359.00
k	1422	Metre	16750.00
l	1626	Metre	19153.00
m	1829	Metre	21544.00
n	2032	Metre	23936.00
o	2235	Metre	26327.00
p	2540	Metre	29920.00
	Size in (OD) in MM for 12 mm thickness		
q	457	Metre	6460.00
r	508	Metre	7181.00
s	610	Metre	8622.00
t	711	Metre	10050.00
u	813	Metre	11492.00
v	914	Metre	12920.00
w	1016	Metre	14361.00
x	1067	Metre	15082.00
y	1118	Metre	15803.00

z	1219	Metre	17231.00
al	1422	Metre	20100.00
bl	1626	Metre	22984.00
cl	1829	Metre	25853.00
d1	2032	Metre	28723.00
e1	2235	Metre	31592.00
fl	2540	Metre	35903.00
15060	Manufacturing and supplying at the site of work ER welded MS pipes including procurement of plates, gas cutting to required size, rolling, tack welding, assembling in suitable length to form pipe, welding on automatic machine and forming v edge on both ends of pipes, including hydraulic pressure test conforming to IS : 3589-2001 grade Fe 410 in double random length of 10 to 12.2 meters in beveled ends including ,freight loading & unloading mechanical crane & stacking at site including all taxes , etc. complete. (with Exice duty)		
	Size in (OD) in MM for 10mm thickness		
a	219.1	Metre	2827.00
b	273	Metre	3523.00
c	323.9	Metre	4180.00
d	355.6	Metre	4589.00
e	406.4	Metre	5244.00
	Size in (OD) in MM for 12mm thickness		
a	219.1	Metre	3393.00
b	273	Metre	4227.00
c	323.9	Metre	5016.00
d	355.6	Metre	5506.00
e	406.4	Metre	6293.00
15061	Manufacturing and supplying at the site of work ER welded MS pipes including procurement of plates, gas cutting to required size, rolling, tack welding, assembling in suitable length to form pipe, welding on automatic machine and forming v edge on both ends of pipes, including hydraulic pressure test conforming to IS : 3589-2001 grade Fe 410 in double random length of 10 to 12.2 meters in beveled ends including ,freight loading & unloading mechanical crane & stacking at site including all taxes , etc. complete. WITHOUT EXCISE DUTY		
	Size in (OD) in MM for 10mm thickness		
a	219.1	Metre	2581.00
b	273	Metre	3216.00
c	323.9	Metre	3815.00
d	355.6	Metre	4189.00
e	406.4	Metre	4787.00
	Size in (OD) in MM for 12mm thickness		
a	219.1	Metre	3097.00
b	273	Metre	3859.00
c	323.9	Metre	4578.00
d	355.6	Metre	5026.00
e	406.4	Metre	5745.00

15062 (A)	Manufacturing and supplying at site of work welded MS pipes of finished ID of suitable lengths made out of fabricating, welding forming 'V' edge to both ends of the pipes sides including providing and fixing welding etc. of suitable MS hinges conforming to relevant IS codes, stresses induced due to trench conditions, backfilling class 'A' traffic loading, handling temperature variation etc. testing the pipeline to a field test pressure of 25 kg /cm ² as directed by Engineer-in-charge. (the finished internal dia. is to be considered without cement mortar lining /Epoxy painting). WITH EXCISE DUTY		
A	10 mm thick (plate welded)		
	Dia in mm		
a	400	Metre	9972.00
b	500	Metre	12574.00
c	600	Metre	15175.00
d	700	Metre	17775.00
e	800	Metre	20925.00
f	900	Metre	23594.00
g	1000	Metre	26262.00
h	1100	Metre	28931.00
I	1200	Metre	32828.00
j	1300	Metre	35599.00
k	1400	Metre	38369.00
l			
B	12 mm thick (plate welded)		
	Dia in mm		
a	400	Metre	12169.00
b	500	Metre	15289.00
c	600	Metre	18409.00
d	700	Metre	21805.00
e	800	Metre	25312.00
f	900	Metre	28514.00
g	1000	Metre	31716.00
h	1100	Metre	34918.00
I	1200	Metre	39599.00
j	1300	Metre	42923.00
k	1400	Metre	46246.00
15062 (B)	Manufacturing and supplying at site of work welded MS pipes of finished ID of suitable lengths made out of fabricating, welding forming 'V' edge to both ends of the pipes sides including providing and fixing welding etc. of suitable MS hinges conforming to relevant IS codes, stresses induced due to trench conditions, backfilling class 'A' traffic loading, handling temperature variation etc. testing the pipeline to a field test pressure of 25 kg /cm ² as directed by Engineer-in-charge. (the finished internal dia. is to be considered without cement mortar lining /Epoxy painting). WITHOUT EXCISE DUTY		
A	10 mm thick (plate welded)		
	Dia in mm		
a	400	Metre	8955.00
b	500	Metre	11292.00
c	600	Metre	13627.00
d	700	Metre	15962.00
e	800	Metre	18788.00
f	900	Metre	21184.00

g	1000	Metre	23580.00
h	1100	Metre	25976.00
I	1200	Metre	29472.00
j	1300	Metre	31960.00
k	1400	Metre	34447.00
l			
B	12 mm thick (plate welded)		
	Dia in mm		
a	400	Metre	10928.00
b	500	Metre	13729.00
c	600	Metre	16531.00
d	700	Metre	19579.00
e	800	Metre	22727.00
f	900	Metre	25602.00
g	1000	Metre	28476.00
h	1100	Metre	31351.00
I	1200	Metre	35550.00
j	1300	Metre	38535.00
k	1400	Metre	41518.00
MILD STEEL SPECIALS			
15063	Supplying stacking at site and conveying hoisting, laying in position to correct line and level and linking joints of MS specials. fabricated from MS plate including cutting, bending, welding, procurement of plates, gas cutting to required size, rolling, tack welding, assembling in suitable length to form special, welding on automatic machine and forming V edge on both ends of special as required, hydraulic pressure test at factory to the required test pressure conforming to IS : 3589-1991 including freight and all taxes, etc. complete		
I	With 10 mm -12 mm thick plate		
a	Tees, bends, reducers,	kg	96.00
b	M.S.spigot tail piece suitable for connectiong M.S pipeline with C.I./D.I pipeline	kg	226.00
c	M.S.socketed tail piece suitable for connectiong M.S pipeline with C.I./D.I pipeline	kg	215.00
II	With 25 mm thick Plate		
a	Flanges	kg	205.00
15064	Welding in all position with minimum 3 Nos. of runs for MS pipes and specials and flanges, internally and externally including gauging wherever necessary, fixing appurtances and other accessories, cost of water pumping arrangement and hydraulic testing etc. complete for 12mm/10mm thick M.S.plate.		
	Dia in mm		
a	300	Each	2277.00
b	400	Each	2997.00
c	450	Each	3368.00
d	500	Each	3717.00
e	600	Each	4237.00
f	700	Each	4921.00
g	800	Each	5627.00
h	900	Each	6312.00
I	1000	Each	6628.00

j	1100	Each	7297.00
k	1200	Each	7503.00
l	1300	Each	8135.00
m	1400	Each	8747.00
15065	Providing and applying primer coat or of fibres, coal tar and solvent based rubber modified bituminous primer of density 0.92 gm/cu. cm. and viscosity of 1000-2000 cps @ 150 gms/Sqm followed by seven layers (4 mm thick) of polythene polymerised bitumen ester of local 7 layers pipe coat 4 mm should conform to requirement of IS :10221 and AAWWA C-203 for prefabricated tapes including Cost of material for coating and wrapping handling charges preparation of pipe surface all labour machinery etc. complete.	sq. m.	604.00
15066	Providing and applying with mechanical arrangement 50 mm thick gunniting of CM 1 : 3.5 (1 cement : 3.5 fine sand) on the external surface under 2.1 to 2.8 kg. per sq. cms. on the MS pipeline including curing, handling and preparation of pipe surface, cleaning by compressed air and providing and fixing BRC fabric No.14 as reinforcement, labour, machinery including cost of water and pumping arrangement etc. complete.		
a	At site of work	Sq. m.	813.00
15067	Providing and applying 12 mm cement mortar 1:1 (1cement : 1 fine sand) on the internal surface of the MS pipeline including curing, handling and preparation of pipe surface, labour, machinery including cost of water and pumping arrangement etc. complete at factory stacking at site as per direction of Engineer -In-charge	Sq. m.	987.00
15068	Providing and laying three coat of anticorrosive and anti-toxic surface coating for MS pipeline. The paint shall be applied after removing the scales and rust over the pipe by wire brush. Paint shall be applied uniformly to achieve uniform coating of average DFT of 60 microns per coat with the brush. 2nd coat shall be applied over the 1st coat after 8 hrs. the process shall be repeated for the 3rd coat. DFT for the final coat shall be 35 microns . Final surface shall be uniform and shall have total thickness of about 150 microns . The rate is inclusive of material ,transportation up to the site of work including taxes ,labour,machinery as required etc. complete . All three coats shall be of distinctive colour as approved be Engineer-in- charge.	Sq. m.	640.00
MILD STEEL CONTINUOUS GALVANIZED WELDED TUBES			
15069	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. galvanized mild steel continuous weld tubes conforming to IS:1239 (part-I) 1975, with latest amendments, screwed at both the ends as per IS : 554 - pipe threads, one end fitted with socket, other end with plastic protection ring at random lengths 4-7 meters.		
	Class A		
	Dia in mm		
a	15	Metre	116.00
b	20	Metre	157.00

c	25	Metre	215.00
d	32	Metre	279.00
e	40	Metre	343.00
f	50	Metre	459.00
g	65	Metre	581.00
h	80	Metre	691.00
I	100	Metre	993.00
15070	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. galvanized mild steel continuous weld tubes conforming to IS:1239 (part II) 1975 , with latest amendments, screwed at both the ends as per IS : 554-pipe threads, one end fitted with socket other end with plastic protection ring at random length 4-7 metres.		
	Class B		
	Nominal Diameter in mm		
a	15	Metre	134.00
b	20	Metre	168.00
c	25	Metre	244.00
d	32	Metre	308.00
e	40	Metre	366.00
f	50	Metre	555.00
g	65	Metre	639.00
h	80	Metre	813.00
I	100	Metre	1204.00
j	125	Metre	1661.00
k	150	Metre	1963.00
15071	Supplying at store/ site of work including railway freight, carting, loading, unloading, stacking etc. galvanized mild steel continuous weld tubes conforming to IS 1239 (part I) 1975 , with latest amendments screwed at both the ends as per IS : 554 - pipe threads, one and fitted with socket other end with plastic protection ring at random lengths 4 - 7 meters		
	Class C		
	Nominal Diameter in mm		
a	15	Metre	151.00
b	20	Metre	197.00
c	25	Metre	275.00
d	32	Metre	360.00
e	40	Metre	430.00
f	50	Metre	563.00
g	65	Metre	746.00
h	80	Metre	952.00
I	100	Metre	1400.00
j	125	Metre	1783.00
k	150	Metre	2097.00
MDPE PIPES & FITINGS			

15072	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc Blue MDPE pipes confirming to ISO 4427:1996 manufactured from Virgin Resin PE 80 food grade compounded raw material having Blue colour only with quality assurance certificate from quality agencies like WRC /CIPET (India)/ DVGM/ KIWA/ SPGN etc.		
I A	PN10 (SDR 13.60) WITH EXCISE DUTY		
	Outer Diameter in mm		
a	63	Metre	379.00
b	75	Metre	535.00
c	90	Metre	771.00
d	110	Metre	1138.00
e	125	Metre	1463.00
f	140	Metre	1837.00
g	160	Metre	2402.00
h	180	Metre	3043.00
I	200	Metre	3747.00
j	225	Metre	4748.00
k	250	Metre	5853.00
l	280	Metre	7335.00
m	315	Metre	9293.00
I B	PN10 (SDR 13.60) WITHOUT EXCISE DUTY		
	Outer Diameter in mm		
a	63	Metre	344.00
b	75	Metre	486.00
c	90	Metre	699.00
d	110	Metre	1031.00
e	125	Metre	1326.00
f	140	Metre	1666.00
g	160	Metre	2178.00
h	180	Metre	2759.00
I	200	Metre	3397.00
j	225	Metre	4305.00
k	250	Metre	5306.00
l	280	Metre	6650.00
m	315	Metre	8426.00
II A	PN12.5 (SDR 11) WITH EXCISE DUTY		
	Outer Diameter in mm		
a	20	Metre	78.00
b	25	Metre	117.00
c	32	Metre	190.00
d	40	Metre	260.00
e	50	Metre	407.00
f	63	Metre	646.00
g	75	Metre	857.00
h	90	Metre	1170.00
I	110	Metre	1739.00
j	125	Metre	2244.00
k	140	Metre	2821.00
l	160	Metre	3674.00
m	180	Metre	4648.00
n	200	Metre	5747.00

o	225	Metre	7272.00
p	250	Metre	8478.00
q	280	Metre	10647.00
r	315	Metre	13475.00
II B PN12.5 (SDR 11) WITHOUT EXCISE DUTY			
	Outer Diameter in mm		
a	20	Metre	71.00
b	25	Metre	107.00
c	32	Metre	173.00
d	40	Metre	236.00
e	50	Metre	368.00
f	63	Metre	585.00
g	75	Metre	777.00
h	90	Metre	1060.00
I	110	Metre	1576.00
j	125	Metre	2035.00
k	140	Metre	2558.00
l	160	Metre	3331.00
m	180	Metre	4214.00
n	200	Metre	5210.00
o	225	Metre	6593.00
p	250	Metre	7686.00
q	280	Metre	9653.00
r	315	Metre	12217.00
III A PN16 (SDR 9) WITH EXCISE DUTY			
	Outer Diameter in mm		
a	20	Metre	78.00
b	25	Metre	117.00
c	32	Metre	190.00
d	40	Metre	260.00
e	50	Metre	407.00
f	63	Metre	646.00
g	75	Metre	857.00
h	90	Metre	1170.00
I	110	Metre	1739.00
j	125	Metre	2244.00
k	140	Metre	2821.00
l	160	Metre	3674.00
m	180	Metre	4648.00
n	200	Metre	5747.00
o	225	Metre	7272.00
p	250	Metre	8478.00
q	280	Metre	10647.00
r	315	Metre	13475.00
III B PN16 (SDR 9) WITHOUT EXCISE DUTY			
	Outer Diameter in mm		
a	20	Metre	71.00
b	25	Metre	107.00
c	32	Metre	173.00
d	40	Metre	236.00
e	50	Metre	368.00
f	63	Metre	585.00

g	75	Metre	777.00
h	90	Metre	1060.00
I	110	Metre	1576.00
j	125	Metre	2035.00
k	140	Metre	2558.00
l	160	Metre	3331.00
m	180	Metre	4214.00
n	200	Metre	5210.00
o	225	Metre	6593.00
p	250	Metre	7686.00
q	280	Metre	9653.00
r	315	Metre	12217.00
IV A PN6 (SDR 17) WITH EXCISE DUTY			
	Outer Diameter in mm		
h	90	Metre	508.00
I	110	Metre	761.00
j	125	Metre	980.00
k	140	Metre	1234.00
l	160	Metre	1616.00
m	180	Metre	2028.00
n	200	Metre	2518.00
o	225	Metre	3193.00
p	250	Metre	3898.00
q	280	Metre	4929.00
r	315	Metre	6197.00
IV B PN6 (SDR 17) WITHOUT EXCISE DUTY			
	Outer Diameter in mm		
h	90	Metre	460.00
I	110	Metre	690.00
j	125	Metre	889.00
k	140	Metre	1119.00
l	160	Metre	1465.00
m	180	Metre	1839.00
n	200	Metre	2284.00
o	225	Metre	2894.00
p	250	Metre	3534.00
q	280	Metre	4469.00
r	315	Metre	5618.00
15073	Supply at store or site of work including railway freight, carting, loading, unloading, stacking etc. compression fittings Pn 16 rated in confirmation to ISO 14236-2000 and shall be tested as per ISO 3459, ISO -3501 and ISO 3503.		
I	Male Adopter		
	Diameter -Main pipe outer diameter in mm & tapping size in inches		
a	20x1/2"	Each	137.00
b	25x3/4"	Each	156.00
c	32x1"	Each	201.00
d	40x1 1/4"	Each	367.00
e	50x1 1/2"	Each	482.00
f	63x2"	Each	689.00

II	Female Adopter		
	Diameter -Main pipe outer diameter in mm & tapping size in inches		
a	20x1/2"	Each	146.00
b	25x3/4"	Each	172.00
c	32x1"	Each	216.00
d	40x1 1/4"	Each	404.00
e	50x1 1/2"	Each	518.00
f	63x2"	Each	731.00
III	Coupling		
a	Outer Diameter in mm		
b	20x20 -	Each	239.00
c	25x25	Each	285.00
d	32x32	Each	366.00
e	40x40	Each	592.00
f	50x50	Each	811.00
g	63x63	Each	1120.00
IV	Reducing Coupling		
	Outer Diameter in mm		
a	25x20	Each	256.00
b	32x20	Each	338.00
c	32x25	Each	338.00
d	40x25	Each	578.00
e	40x32	Each	578.00
f	50x32	Each	748.00
g	50x40	Each	748.00
h	63x50	Each	1060.00
V	Elbow 90 Degree		
	Outer Diameter in mm		
a	20	Each	260.00
b	25	Each	311.00
c	32	Each	381.00
d	40	Each	625.00
e	50	Each	886.00
f	63	Each	1201.00
VI	90 Degree Elbow -Male threaded offtake		
	Diameter -Main pipe outer diameter in mm & tapping size in inches		
a	20x1/2"	Each	156.00
b	25x3/4"	Each	190.00
c	32x1"	Each	250.00
d	40x1 1/4"	Each	394.00
e	50x1 1/2"	Each	539.00
f	63x2"	Each	748.00
VII	90 Degree Elbow -Female threaded offtake		
	Diameter -Main pipe outer diameter in mm & tapping size in inches		
a	20x1/2"	Each	179.00
b	25x3/4"	Each	221.00
c	32x1"	Each	265.00
d	40x1 1/4"	Each	515.00

e	50x1 1/2"	Each	689.00
f	63x2"	Each	933.00
VIII 90 Degree Elbow threaded male/Female offtake in metal			
Diameter -Main pipe outer diameter in mm & tapping size in inches			
a	20x1 1/2"	Each	336.00
b	25x3/4"	Each	418.00
c	32x1"	Each	614.00
d	40x1 1/4"	Each	2141.00
e	50x1 1/2"	Each	2791.00
f	63x2"	Each	4093.00
IX Equal Tee			
Sizes in mm			
a	20x20x20	Each	311.00
b	25x25x25	Each	408.00
c	32x32x32	Each	528.00
d	40x40x40	Each	872.00
e	50x50x50	Each	1180.00
f	63x63x63	Each	1678.00
X End cap			
Sizes in mm			
a	20	Each	137.00
b	25	Each	179.00
c	32	Each	216.00
d	40	Each	366.00
e	50	Each	539.00
f	63	Each	731.00
Valve with quick joint			
15074	Supply at store or site of work including railway freight, carting, loading, unloading, stacking etc.PVC ball valves in PN 16 rating with one end compression using Blue colour compression nut in polypropylene material 7 other end with female threads conforming to ISO:4422-4		
Diameter -Main pipe outer diameter in mm & tapping size in inches			
a	20x1 1/2"	Each	429.00
b	25x3/4"	Each	472.00
c	32x1"	Each	576.00
d	40x1 1/4"	Each	1022.00
e	50x1 1/2"	Each	1371.00
f	63x2"	Each	2108.00
RCC PIPES			
15075	Providing at store or site work non-pressure RCC pipes of with collar joints conforming to IS:458-2003 revised as per amendment No.11 , including freight, carting, loading, unloading, stacking etc. complete.		
I	NP2 Class		
Dia in mm			
a	80	Metre	475.00

b	100	Metre	521.00
c	150	Metre	636.00
d	200	Metre	758.00
e	225	Metre	820.00
f	250	Metre	885.00
g	300	Metre	1092.00
h	350	Metre	1478.00
I	400	Metre	1629.00
j	450	Metre	1842.00
k	500	Metre	2007.00
l	600	Metre	2566.00
m	700	Metre	3621.00
n	800	Metre	4085.00
o	900	Metre	4746.00
p	1000	Metre	6193.00
q	1100	Metre	6874.00
r	1200	Metre	7643.00
s	1400	Metre	9065.00
t	1600	Metre	10522.00
u	1800	Metre	12483.00
II	NP3 Class		
	Dia in mm		
a	80	Metre	475.00
b	100	Metre	525.00
c	150	Metre	653.00
d	200	Metre	845.00
e	225	Metre	922.00
f	250	Metre	997.00
g	300	Metre	1312.00
h	350	Metre	2325.00
I	400	Metre	2535.00
j	450	Metre	2758.00
k	500	Metre	3025.00
l	600	Metre	3849.00
m	700	Metre	5032.00
n	800	Metre	6073.00
o	900	Metre	7101.00
p	1000	Metre	9177.00
q	1100	Metre	10188.00
r	1200	Metre	11388.00
s	1400	Metre	14201.00
t	1600	Metre	17133.00
u	1800	Metre	21071.00
STONE WARE PIPES			
15076	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. salt glazed stone ware pipes conforming to IS : 651 with up to date amendments in standard length of 60 cms bearing ISI certifications mark. Grade A		
	Nominal Diameter in mm		
a	100	Each	61.00
b	150	Each	110.00
c	200	Each	178.00

d	230	Each	227.00
e	250	Each	319.00
f	300	Each	531.00
15077	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. short bend conforming to BIS specifications suitable for salt glazed stoneware pipes including testing etc. complete.		
	Nominal Diameter in mm		
a	100	Each	79.00
b	150	Each	134.00
c	200	Each	189.00
d	230	Each	256.00
15078	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. single junction Tee 60cm long conforming to BIS specifications for salt glaze stoneware pipes including testing etc. complete		
	Nominal Diameter in mm		
a	100	Each	122.00
b	150	Each	195.00
c	200	Each	268.00
d	230	Each	365.00
15079	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. double junction Tee long conforming to BIS specifications for salt glaze stoneware pipes including testing etc. complete		
	Nominal Diameter in mm		
a	100	Each	189.00
b	150	Each	304.00
c	200	Each	420.00
15080	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. unplasticised non-pressure PVC pipes for using underground drainage and sewerage system confirming to IS : 15328 - 2003 stifness class SN-4 (4 KN/m ² ,SDR - 41)		
	Dia in mm		
a	125	Metre	350.00
b	160	Metre	547.00
c	200	Metre	862.00
15081	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. unplasticised non-pressure PVC pipes for using underground drainage and sewerage system confirming to IS : 15328 - 2003 stifness class SN-8 (8 KN/m ² ,SDR - 34)		
	Dia in mm		
a	110	Metre	302.00
b	125	Metre	393.00
c	160	Metre	654.00
d	200	Metre	1022.00

15082	Supply of UPVC SWR Cut piece /Accessories		
I	Class -A Double Socket) 6 feet length		
a	Dia in mm	Each	214.00
b	75	Each	401.00
c	110		
II	Class -B (Double Socket) 6 feet length		
	Dia in mm		
a	75	Each	384.00
b	110	Each	588.00
c	160	Each	1015.00
III	Class -A (Single Socket) 6 feet length		
	Dia in mm		
a	75	Each	210.00
b	110	Each	368.00
IV	Class -B (Single Socket) 6 feet length		
	Dia in mm		
a	75	Each	363.00
b	110	Each	564.00

VALVES

CAST IRON SLUICE VALVES

15083	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C. I. Sluice valve conforming to IS : 14846-2000 and bearing ISI mark double flanged with cap. TYPE P.N. 1.0		
	Nominal Diameter in mm		
a	50	Each	5514.00
b	80	Each	6803.00
c	100	Each	10780.00
d	150	Each	14663.00
e	200	Each	23144.00
f	250	Each	38459.00
g	300	Each	53511.00
h	350	Each	83815.00
i	400	Each	90712.00
j	450	Each	123642.00
k	500	Each	156664.00
l	600	Each	235400.00
m	700	Each	412817.00
n	750	Each	582125.00
o	800	Each	645701.00
p	900	Each	870399.00
q	1000	Each	1027918.00
r	1200	Each	1626181.00

15084	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / Fouress brand Cast iron double flanged manually operated Sluice Valve generally conforming to IS : 14846 - 2000 having body, door, dome, gland in graded cast iron to IS:210 Gr. FG 260, four faces and spindle nut of leaded tin bronze to IS:318 Gr. LTB 2, inside screw of non-rising stainless steel AISI 410 IS 6603 GR 12 CR 12 spindle, Flanges drilled to IS:1538 Table 4 & 6. Valves tested by closed end method only (350mm and above will be fitted with BTB and gear box. and back seat bush.) TYPE P.N. 1.0		
	Nominal Diameter in mm		
a	50	Each	8749.00
b	65	Each	10870.00
c	80	Each	12822.00
d	100	Each	19408.00
e	125	Each	26906.00
f	150	Each	31918.00
g	200	Each	53563.00
h	250	Each	73170.00
I	300	Each	104663.00
j	350	Each	211948.00
k	400	Each	224223.00
l	450	Each	290042.00
m	500	Each	362216.00
n	600	Each	617933.00
o	700	Each	1022291.00
p	750	Each	1272924.00
q	800	Each	1401055.00
r	900	Each	1567778.00
S	1000	Each	1899390.00
t	1100	Each	2480380.00
u	1200	Each	2748950.00
v	1300	Each	3372966.00
w	1400	Each	3962564.00
15085	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C. I. Sluice valve conforming to IS:14846-2000 and bearing ISI mark double flanged/plain ended with cap. TYPE P.N. 1.6		
	Dia in mm		
a	50	Each	7169.00
b	65	Each	8844.00
c	80	Each	14014.00
d	100	Each	19062.00
e	150	Each	30087.00
f	200	Each	49997.00
g	250	Each	69565.00
h	300	Each	108960.00
I	350	Each	117925.00
j	400	Each	160734.00
I	450	Each	203664.00
j	500	Each	306021.00
k	600	Each	536520.00
l	700	Each	536520.00

15086	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / Fouress brand Cast iron double flanged manually operated Sluice Valve, generally conforming to IS:14846 - 2000, having body, door, dome, gland in graded cast iron to IS:210 Gr. FG 260, four faces and spindle nut of leaded tin bronze to IS:318 Gr. LTB 2, inside screw of non-rising stainless steel AISI 410 IS 6603 GR 12 CR 12 spindle, flanges drilled to IS:1538 Table 4 & 6. Valves tested by closed end method only (350mm and above will be fitted with BTB and gear box. and back seat bush.) etc complete TYPE P.N. 1.6		
	Dia in mm		
a	50	Each	9902.00
b	65	Each	11854.00
c	80	Each	16197.00
d	100	Each	21967.00
e	125	Each	29904.00
f	150	Each	36863.00
g	200	Each	65128.00
h	250	Each	87860.00
I	300	Each	117867.00
j	350	Each	245370.00
k	400	Each	279115.00
l	450	Each	352248.00
m	500	Each	447430.00
n	600	Each	678265.00
o	700	Each	1517538.00
p	750	Each	1743151.00
q	800	Each	1989949.00
r	900	Each	2215449.00
s	1000	Each	2756262.00
t	1100	Each	3307173.00
u	1200	Each	3587537.00
v	1300	Each	3943081.00
w	1400	Each	4773935.00
15087	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / Fouress brand Ductile iron double flanged manually operated Sluice Valve, generally conforming to IS:14846 - 2000, having body, door, dome, gland in graded ductile iron to IS:210 Gr. FG 200, four faces and spindle nut of leaded tin bronze to IS:318 Gr. LTB 2, inside screw of non-rising stainless steel AISI 410 spindle, flanges drilled to IS:1538 Table 4 & 6. Valves tested by closed end method only (350mm and above will be fitted with BTB and gear box. and back seat bush.) etc complete TYPE P.N. 1.6		
	D. I. Construction - PN-1.6		
a	900	Each	1660325.00
b	1000	Each	2105395.00
c	1100	Each	2741492.00
d	1200	Each	2953344.00
e	1400	Each	4725349.00
BUTTERFLY VALVES			

15088	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C. I. Butterfly (tight shut off) valve with cast iron body conforming IS:210 FIG. 260 and disc shafts seal rings, clamping ring, nitrite rubber seal leaded bronze bearings manually operated complete conforming to BS:5155/IS:13095 etc complete. TYPE P.N. 1.0		
	Dia in mm		
a	80	Each	6563.00
b	100	Each	8388.00
c	150	Each	12364.00
d	200	Each	16480.00
e	250	Each	20597.00
f	300	Each	32588.00
g	350	Each	66279.00
h	400	Each	71203.00
I	450	Each	82262.00
j	500	Each	90324.00
k	600	Each	111541.00
l	700	Each	180523.00
m	750	Each	224077.00
n	800	Each	246537.00
o	900	Each	340496.00
p	1000	Each	405283.00
q	1200	Each	621951.00
r	1400	Each	948312.00
s	1600	Each	1178322.00
15089	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar/ Fouress brand C.I.Butterfly (tight Shut off) valve with cast iron body confirming IS : 210 FIG. 260 and disc IN SG IRON IS 1865, shafts IS SS AISI 410 BODY seat ring in SS304/ASTM A 351 CF8, MS, clamping ring, nitrite rubber seal ON DISC leaded bronze bearings manually operated complete confirming to BS: 5155/IS:13095. TYPE P.N. 1.0 GEAR OPERATED FOR SIZE 150 MM AND ABOVE.		
	Dia in mm		
a	100	Each	19464.00
b	150	Each	27405.00
c	200	Each	35424.00
d	250	Each	63219.00
e	300	Each	89769.00
f	400	Each	138585.00
g	450	Each	151666.00
h	500	Each	225785.00
I	600	Each	356586.00
j	700	Each	549672.00
k	750	Each	622547.00
l	800	Each	677356.00
m	900	Each	884457.00
n	1000	Each	1004358.00
o	1200	Each	1535344.00

15090	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand generally conforming to BS:5155, cone sphere eccentric design, double flanged butterfly valve having body, disc and end cover in graded cast iron to IS:210 Gr. FG 260, synthetic rubber face ring secured on disc by a SS retaining ring with stainless steel screws, the rubber ring seating on a corresponding integral Model 60 / SS 316 seat in body, stub shaft of AISI 431 riding in Teflon bearings, flanges drilled to IS:1538 Table 4 & 6. TYPE P.N. 1.0		
	Dia in mm		
a	80	Each	12885.00
b	100	Each	19014.00
c	125	Each	48940.00
d	150	Each	59993.00
e	200	Each	79437.00
f	250	Each	97973.00
g	300	Each	114241.00
h	350	Each	128756.00
I	400	Each	215351.00
j	450	Each	305961.00
k	500	Each	396361.00
l	600	Each	434097.00
m	700	Each	514149.00
n	750	Each	674862.00
o	800	Each	807442.00
p	900	Each	923284.00
15091	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C. I. Butterfly (tight shut off) valve with cast iron body conforming to IS:210 FIG. 260 and disc shafts seal rings, clamping ring, nitrite rubber seal leaded bronze bearings manually operated complete conforming to BS:5155 / IS:13095. TYPE P.N. 1.6		
	Dia in mm		
a	80	Each	7547.00
b	100	Each	9646.00
c	150	Each	14219.00
d	200	Each	18953.00
e	250	Each	23686.00
f	300	Each	37476.00
g	350	Each	76221.00
h	400	Each	81883.00
I	450	Each	94601.00
j	500	Each	103873.00
k	600	Each	128273.00
l	700	Each	207601.00
m	750	Each	257689.00
n	800	Each	283518.00
o	900	Each	391571.00
p	1000	Each	506604.00
q	1200	Each	777440.00
r	1400	Each	1185390.00
s	1600	Each	1472903.00

15092	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand generally conforming to BS:5155, cone sphere eccentric design, double flanged butterfly valve having body, disc and end cover in graded cast iron to IS:210 Gr. FG 260, synthetic rubber face ring secured on disc by a SS retaining ring with stainless steel screws, the rubber ring seating on a corresponding integral Model 60 / SS316 seat in body, stub shaft of AISI 431 riding in Teflon bearings, flanges drilled to IS:1538 Table 4 & 6. TYPE P.N. 1.6		
	Dia in mm		
a	80	Each	15102.00
b	100	Each	22774.00
c	125	Each	63468.00
d	150	Each	77645.00
e	200	Each	101118.00
f	250	Each	125168.00
g	300	Each	145975.00
h	350	Each	163274.00
I	400	Each	273088.00
j	450	Each	387990.00
k	500	Each	506426.00
l	600	Each	558945.00
m	700	Each	662021.00
n	750	Each	865915.00
o	800	Each	1029587.00
p	900	Each	1161638.00
15093	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand generally conforming to BS:5155, cone sphere eccentric design, double flanged butterfly valve having body, disc and end cover in graded cast iron to IS:210 Gr. FG 260, synthetic rubber face ring secured on disc by a SS retaining ring with stainless steel screws, the rubber ring seating on a corresponding integral Model 60 seat in body, stub shaft of AISI 431 riding in Teflon bearings, flanges drilled to IS:1538 Table 4 & 6. TYPE P.N. 1.6		
	DUCTILE IRON CONSTRUCTION		
1	1400	Each	1984237.00
2	1500	Each	2726185.00
AIR VALVES			
15094	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C. I. single large orifice air valve similar to Glen field fig H4 or similar with steel ferrule at inlet screwed suitable to working pressure of 15kg/sq.cm for 12 mm to 20 mm and of 10kg/sq.cm. for 25mm and above.		
	Dia in mm		
a	20	Each	1905.00
b	25	Each	2098.00
c	40	Each	2511.00
d	50	Each	2924.00

15095	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/Kirloskar/Fouress brand cast iron single orifice type Air valve with gunmetal ferrule at inlet screwed bspt male, valves suitable for a maximum working pressure of 10 kg/cm ² generally conforming to IS:14845 standard rated. TYPE		
	Dia in mm		
a	25	Each	8409.00
b	40	Each	9531.00
15096	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C. I.. Double orifice type air valve similar to glenfield fig. H 40 screwed on isolating valve small orifice, elastic ball resting on a bronze orifice nipple, large orifice vulcanite ball resting on a moulded seating, inlet faced and drilled BST "D" suitable to working pressure of 10 kg /cm ² TYPE P.N. 1.0		
	Dia in mm		
a	40	Each	6360.00
b	50	Each	8564.00
c	65	Each	11678.00
d	80	Each	12351.00
e	100	Each	14608.00
f	150	Each	26919.00
g	200	Each	55567.00
15097	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / fouress brand cast iron Air valve double orifice type combined with screw - down isolating valve, small orifice elastic ball resting on a gunmetal orifice nipple, large orifice vulcanite ball seating on moulded seat ring, inlet faced and drilled to IS:1538 Table 4 & 6 . Valves suitable for a maximum working pressure of 10kg/cm ² generally conforming to G & K, Fig H - 40. TYPE P.N. 1.0		
a	50	Each	11215.00
b	80	Each	15535.00
c	100	Each	22823.00
d	150	Each	40028.00
e	200	Each	58748.00
15098	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / fouress brand cast iron Air valve double orifice type combined with screw - down isolating valve, small orifice elastic ball resting on a gunmetal orifice nipple, large orifice vulcanite ball seating on moulded seat ring, inlet faced and drilled to IS:1538 Table 4 & 6 . Valves suitable for a maximum working pressure of 10kg/cm ² generally conforming to G & K, Fig H - 40. TYPE P.N. 1.6		
	Dia in mm		
a	50	Each	12615.00
b	80	Each	17478.00
c	100	Each	25677.00
d	150	Each	45031.00
e	200	Each	78992.00

15099	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C.I. Kinetic double orifice type air release valve, generally conforming to IS: 14845, having small orifice elastic ball resting on gunmetal orifice nipple and large orifice vulcanite ball seating on moulded seat ring, with built in Kinetic features of isolating sluice valve mounted in horizontal position operated by miter wheel gearing, inlet faced and drilled to IS: 1538 Table 4&6. TYPE P.N. 1.0		
	Dia in mm		
a	50	Each	18329.00
b	80	Each	20674.00
c	100	Each	31765.00
d	150	Each	47569.00
e	200	Each	58932.00
15100	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. cast iron kinetic double orifice air release valve, generally conforming to IS:14845, having small orifice elastic ball resting on a gunmetal orifice nipple and large orifice vulcanite ball seating in a molded seat ring, with built in kinetic features, isolating sluice valve mounted in a horizontal position and operated by miter wheel gearing, inlet faced and drilled to IS:1538		
	Dia in mm		
a	50	Each	21078.00
b	80	Each	23776.00
c	100	Each	36530.00
d	150	Each	54705.00
e	200	Each	67771.00
15101	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Tamper proof Kinetic air valve generally conforming to IS:14846, having low pressure chamber (large orifice) with vulcanite coated Aluminium core ball, L.P. seat ring with M.S. impregnation moulded synthetic rubber high pressure chamber (small orifice) with rubber coated Aluminium core ball, small orifice plug of H.T. Brass must be fitted from bottom side of HP cover valves should complete with separate isolating sluice valve mounted in horizontal position and operated by machine cut miter gear arrangement. TYPE P.N. 1.0		
	Dia in mm		
a	50	Each	22572.00
b	80	Each	25249.00
c	100	Each	35795.00
d	150	Each	65434.00
e	200	Each	79105.00

15102	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/Kirlosker/Fouress brand C.I. Kinetic double orifice type air release valve, generally conforming to IS: 14845, having small orifice elastic ball resting on gunmetal orifice nipple and large orifice vulcanite ball seating on moulded seat ring, with built in Kinetic features of isolating sluice valve mounted in horizontal position operated by miter wheel gearing, inlet faced and drilled to IS: 1538 Table 4&6. TYPE P.N. 1.0		
	Dia in mm		
a	50	Each	27171.00
b	80	Each	34120.00
c	100	Each	44864.00
d	150	Each	93626.00
e	200	Each	120098.00
15103	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/ Fouress brand cast iron kinetic double orifice air release valve, generally conforming to IS:14845, having small orifice elastic ball resting on a gunmetal orifice nipple and large orifice vulcanite ball seating in a molded seat ring, with built in kinetic features, isolating sluice valve mounted in a horizontal position and operated by miter wheel gearing, inlet faced and drilled to IS:1538 Table 4 & 6 . TYPE P.N. 1.6		
	Dia in mm		
a	50	Each	30062.00
b	80	Each	37518.00
c	100	Each	49378.00
d	150	Each	101730.00
e	200	Each	125994.00
15104	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / fouress brand cast iron total Tamper Proof Kinetic Air release valve, generally conforming to: 14845. WITH TAMPER PROOF DESIGN OF COWL, TAMPER PROOF BOLTING, TAMPER PROOF HIGH PREESSURE ORIFICE COVER AND NIPPLE. TYPE P.N, 1.0		
	Dia in mm		
a	50	Each	32752.00
b	80	Each	45661.00
c	100	Each	54257.00
d	150	Each	113566.00
e	200	Each	132722.00
15105	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand cast iron Temper Proof Kinetic Air release valve, generally conforming to IS:14845, with TAMPER PROOF DESIGN OF COWL, TAMPER PROOF BOLTING, TAMPER PROOF HIGH PRESSURE ORIFICE COVER AND NIPPLE. TYPE P.N. 1.6		
	Dia in mm		
a	50	Each	35764.00
b	80	Each	48235.00
c	100	Each	57690.00
d	150	Each	120939.00

e	200	Each	145995.00
REFLUX VALVES			
15106	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C.I. Reflux valve conforming to IS:5312 part-I. Valve double flanged ends without bypass arrangements and drilled to IS:1538 part IV & VI bearing ISI Certificate mark TYPE P.N. 1.0		
	Dia in mm		
a	50	Each	3710.00
b	80	Each	5134.00
c	100	Each	6970.00
d	150	Each	11827.00
e	200	Each	22049.00
f	250	Each	37623.00
g	300	Each	48378.00
h	350	Each	82831.00
i	400	Each	106439.00
j	450	Each	124531.00
k	500	Each	202235.00
l	600	Each	334606.00
15107	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / Fouress brand Cast Iron double flanged single door swing non-return valve generally conforming to IS:5312 part-I, having body, door, cover in graded cast iron to IS:210 Gr. FG 260 and door in CS ASTM A216Gr. WCB for 350mm & above body Ring in leaded tin bronze IS 318 GR LTB2 and door ring in natural rubber & bearing block of leaded tin bronze to IS:318 Gr. LTB 2 (350 mm & above), hinge pin of stainless steel AISI 410, Flanges drilled to IS:1538 Table 4 & 6 TYPE P.N. 1.0		
	Dia in mm		
a	50	Each	8100.00
b	65	Each	10015.00
c	80	Each	12514.00
d	100	Each	17806.00
e	125	Each	25205.00
f	150	Each	26295.00
g	200	Each	45146.00
h	250	Each	71796.00
I	300	Each	97594.00
j	350	Each	179612.00
k	400	Each	230268.00
l	450	Each	352669.00
m	500	Each	459630.00
n	600	Each	652261.00
15108	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. C.I. Reflux valve conforming to IS:5312 part-I. Valve double flanged ends without bypass arrangements and drilled to IS:1538 part IV & VI bearing ISI Certificate mark TYPE P.N. 1.6		
	Dia in mm		
a	50	Each	4421.00

b	80	Each	6118.00
c	100	Each	8307.00
d	150	Each	14095.00
e	200	Each	26277.00
f	250	Each	44836.00
g	300	Each	57652.00
h	350	Each	98710.00
I	400	Each	126844.00
j	450	Each	148404.00
k	500	Each	241005.00
l	600	Each	398752.00
15109	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC / Kirloskar / Fouress brand Cast Iron double flanged single door swing non-return valve generally conforming to IS:5312 part-I, having body, door, cover in graded cast iron to IS:210 Gr. FG 200, body Ring in leaded tin bronze IS 318 GR LTB2 and door ring in natural rubber & bearing block of leaded tin bronze to IS:318 Gr. LTB 2 (350 mm & above), hinge pin of stainless steel AISI 410, Flanges drilled to IS:1538 Table 4 & 6		
	Dia in mm		
a	50	Each	8532.00
b	65	Each	10663.00
c	80	Each	13094.00
d	100	Each	18664.00
e	125	Each	26538.00
f	150	Each	28932.00
g	200	Each	49644.00
h	250	Each	78987.00
i	300	Each	107215.00
j	350	Each	189099.00
k	400	Each	242460.00
l	450	Each	371154.00
m	500	Each	483831.00
n	600	Each	686464.00
15110	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand cast iron double flanged multi door swing check valve generally conforming to IS:5312 Part II, having body comprising of inlet & outlet shell in graded cast iron to IS:210 Gr. FG 260, diaphragm fitted with gunmetal faces, diaphragm & door of graded cast iron, CS ASTM A216 Gr. WCB for 350mm & Above, stainless steel AISI 410 stub pins, Flanges drilled to IS:1538 Table 4 & 6 . TYPE P.N. 1.6		
	Dia in mm		
a	600	Each	1221560.00
b	700	Each	1412390.00
c	750	Each	1523684.00
d	800	Each	1794563.00
e	900	Each	2089924.00
f	1000	Each	2531568.00
g	1100	Each	3166220.00
h	1200	Each	3674612.00

CAST STEEL REFLUX VALVES

15111	Supplying Cast Steel Reflux valves conforming IS:5312 part-I. Valves double flanged ends without bypass arrangement bearing ISI Certificate mark Class-150 (20/30 kg/cm2)		
	Dia in mm		
a	50	Each	13413.00
b	80	Each	16034.00
c	100	Each	24556.00
d	150	Each	41598.00
e	200	Each	79091.00
f	250	Each	101025.00
g	300	Each	148819.00
15112	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Cast Steel Reflux valves conforming IS:5312 part-I. Valves double flanged ends without bypass arrangement bearing ISI Certificate mark Class - 300 (52/78 kg/cm2)		
	Dia in mm		
a	50	Each	15424.00
b	80	Each	18455.00
c	100	Each	28239.00
d	150	Each	53285.00
e	200	Each	88223.00
f	250	Each	118909.00
g	300	Each	171133.00
15113	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand Cast Steel Reflux valves conforming IS:5312 part-I. Valves double flanged ends without bypass arrangement bearing ISI Certificate mark Class - 300 (52/78 kg/cm2)		
	Dia in mm		
a	50	Each	21411.00
b	80	Each	38857.00
c	100	Each	46787.00
d	150	Each	89134.00
e	200	Each	134018.00
f	250	Each	195080.00
g	300	Each	270415.00
15114	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Cast steel double flanged dual plate check valve having body, plate in cast carbon steel ASTM A-216 Gr. WCB, hinge pin & stub pin in stainless AISI 304, Spring in stainless steel AISI 304, body & seat ring in AISI 304. Valve conform to API 594. Class 150		
	Size in mm		
a	100	Each	9227.00
b	150	Each	16742.00
c	200	Each	28878.00
d	250	Each	48909.00
e	300	Each	65964.00
f	350	Each	104259.00
g	400	Each	133612.00

h	450	Each	150097.00
I	500	Each	157163.00
j	600	Each	218044.00
k	700	Each	328527.00
l	750	Each	342348.00
m	800	Each	377015.00
n	900	Each	478638.00
o	1000	Each	614370.00
p	1200	Each	1481872.00
15115	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand Cast steel double flanged dual plate check valve having body, plate in cast carbon steel ASTM A-216 Gr. WCB, hinge pin & stub pin in stainless AISI 304, Spring in stainless steel AISI 304, body & seat ring in AISI 304. Valve conform to API 594. Class 150		
	Size in mm		
a	100	Each	13957.00
b	150	Each	22839.00
c	200	Each	31086.00
d	250	Each	41236.00
e	300	Each	81838.00
g	400	Each	152257.00
h	450	Each	234730.00
I	500	Each	266450.00
j	600	Each	304515.00
k	700	Each	843760.00
l	750	Each	919888.00
m	800	Each	1015049.00
n	900	Each	1522574.00
o	1000	Each	2696225.00
p	1200	Each	3869876.00
15116	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Cast steel double flanged dual plate check valve having body, plate in cast carbon steel ASTM A-216 Gr. WCB, hinge pin & stub pin in stainless AISI 304, Spring in stainless steel AISI 304, body & seat ring in AISI 304. Valve conform to API 594. Class 300		
	Size in mm		
a	100	Each	10179.00
b	150	Each	18930.00
c	200	Each	33553.00
d	250	Each	61996.00
e	300	Each	85845.00
f	350	Each	111203.00
g	400	Each	158549.00
h	450	Each	187318.00
I	500	Each	210312.00
j	600	Each	245060.00

15117	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand Cast Steel single door swing check type Reflux (non return) valve havin body bonnet in graded cast steel i.e ASTM A 216 Gr WCB faced with 13% cr steel. Hinge pin in stainless steel ASTM A 479 type 410, cover stud in alloy steel ASTMA 193 Gr B 7, Gasket in metallic spiral wound AISI 304 with graphite in the construction and testing of the valves will be as per BS 1868 & BS 6755 part I respectively. Flanged ends without bypass arrangements flanges drilled to IS 1538 table 4&6 or ANSI B 16.50 as per the requirement. Class 150		
	Dia in mm		
a	50	Each	18737.00
b	80	Each	31411.00
c	100	Each	41064.00
d	150	Each	70636.00
e	200	Each	110781.00
f	250	Each	160272.00
g	300	Each	233666.00
h	350	Each	331729.00
i	400	Each	457526.00
j	450	Each	558347.00
k	500	Each	750030.00
l	600	Each	1049582.00
15118	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand Cast Steel single door swing check type Reflux (non return) valve havin body bonnet in graded cast steel i.e ASTM A 216 Gr WCB faced with 13% cr steel. Hinge pin in stainless steel ASTM A 479 type 410, cover stud in alloy steel ASTMA 193 Gr B 7, Gasket in metallic spiral wound AISI 304 with graphite in the construction and testing of the valves will be as per BS 1868 & BS 6755 part I respectively. Flanged ends without bypass arrangements flanges drilled to IS 1538 table 4&6 or ANSI B 16.50 as per the requirement. Class 300		
	Dia in mm		
a	50	Each	26381.00
b	80	Each	43669.00
c	100	Each	58991.00
d	150	Each	98829.00
e	200	Each	152917.00
f	250	Each	242860.00
g	300	Each	352414.00
h	350	Each	491848.00
i	400	Each	562024.00
j	450	Each	744667.00
k	500	Each	996720.00
l	600	Each	1397400.00
CAST STEEL AIR VALVES			

15119	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Cast steel Kinetic Air Valves having body, small & large orifice cover as per ASTM A- 216 Gr. WCB. Valve conforming to IS :14845. Isolating sluice valve as per IS : 14846. Low pressure chamber (Large orifice) contains vulcanite covered aluminum ball seats on moulded synthetic rubber ring, high pressure chamber with rubber covered aluminum ball seats on small orifice plug of H.T. Brass. Flanges drilled to IS : 1538 PART 4 & 6. Valves are to be tested in different test pressure rating: Body : 30 Kg/cm ² , Seat :20 Kg/cm ² , Class 150		
	Size in mm		
a	50	Each	32166.00
b	80	Each	48262.00
c	100	Each	55162.00
d	150	Each	128917.00
e	200	Each	155617.00
CAST STEEL SLUICE VALVES			
15120	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Cast steel double flanged manually operated sluice valves having body, door, bonnet stuffing box, hand wheel etc. in graded cast iron i.e. ASTM A-216 Gr WCB. inside screw non rising type stainless steel AISI 410 spindle. Spindle Nut and four faces of gun metal as IS:318 Gr. 2 LTB. Valve conform to IS:14846 - 2000 and flanges faced and drilled to IS:1538 part 4 & 6. Valve sizes 400 mm and above will be provided with ball thrust bearing and gear box. Valves are to be tested in different test pressure rating: Class 150		
	Size in mm		
a	50	Each	13331.00
b	80	Each	18591.00
c	100	Each	26160.00
d	150	Each	42617.00
e	200	Each	64482.00
f	250	Each	93781.00
g	300	Each	138002.00
15121	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand Cast steel double flanged manually operated sluice valve/ gate valve haing body, bonnet in cast steel ASTM A 216 Gr WCB, wedge and steel ring in cast steel ASTM A-216 Gr. WCB with 13% Cr cteel, inside screw rising stem in stainless AISI 410 spindle, bonnet brush and gland brush in stainless steel ASTM A 479 Gr 410, bonnet stud in aiiyoy steel ASTM A 193 Gr B 7, and gasket of metallic spiral wound inAISI 304 with graphite filled in. The construction and testing of valve will be as per applicable requirements of API 600 & 589 respectively. Flanges drilled to IS 1568, table 4&6 or ANSI 16.50 as per requirements. Class 150		
	Dia in mm		
a	50	Each	17687.00
b	80	Each	29419.00
c	100	Each	39225.00

d	150	Each	68338.00
e	200	Each	105571.00
f	250	Each	156288.00
g	300	Each	228303.00
h	350	Each	321770.00
i	400	Each	439752.00
j	450	Each	529848.00
k	500	Each	709426.00
l	600	Each	1009744.00
15122	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. Cast steel double flanged manually operated sluice valves having body, door, bonnet stuffing box, hand wheel etc. in graded cast iron i.e. ASTM A- 216 Gr WCB. inside screw non rising type stainless steel AISI 410 spindle. Spindle Nut and four faces of gun metal as IS:318 Gr. 2 LTB. Valve conform to IS:14846-2000 and flanges faced and drilled to IS:1538 part 4 & 6. Valve sizes 400 mm and above will be provided with ball thrust bearing and gear box. Valves are to be tested in different test pressure rating : Class 300		
	Size in mm		
a	50	Each	15343.00
b	80	Each	21349.00
c	100	Each	30087.00
d	150	Each	49018.00
e	200	Each	74077.00
f	250	Each	107833.00
g	300	Each	158725.00
15123	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand Cast steel double flanged manually operated sluice valve/ gate valve haing body, bonnet in cast steel ASTM A 216 Gr WCB, wedge and steel ring in cast steel ASTM A-216 Gr. WCB with 13% Cr cteel, inside screw rising stem in stainless AISI 410 spindle, bonnet brush and gland brush in stainless steel ASTM A 479 Gr 410, bonnet stud in aiioy steel ASTM A 193 Gr B 7, and gasket of metallic spiral wound inAISI 304 with graphite filled in. The construction and testing of valve will be as per applicable requirements of API 600 & 589 respectively. Flanges drilled to IS 1568, table 4&6 or ANSI 16.50 as per requirements. Class 300		
	Dia in mm		
a	50	Each	26381.00
b	80	Each	42596.00
c	100	Each	58225.00
d	150	Each	96531.00
e	200	Each	149853.00
f	250	Each	232287.00
g	300	Each	339850.00
h	350	Each	474993.00
i	400	Each	559266.00
j	450	Each	712490.00
k	500	Each	927003.00

l	600	Each	1310063.00
MISCELLANEOUS VALVES			
15124	Supplying C.I. Equilibrium float valve including lever arm and copper float to close against a working pressure of 7 kg/sq.cm and test pressure of 14kg/sq.cm		
	Dia in mm		
a	50	Each	33299.00
b	80	Each	40632.00
c	100	Each	47840.00
d	150	Each	73487.00
e	200	Each	123661.00
15125	Supplying C.I. Foot valve with metal valve and seat full bore type having total area through strainer perforations three times that of pipe size suitable for working pressure of 2 kg/sq. cm. as per IS:4038 (lift		
	Dia in mm		
a	50	Each	2905.00
b	80	Each	3555.00
c	100	Each	5633.00
d	150	Each	7631.00
e	200	Each	12748.00
f	250	Each	14581.00
g	300	Each	28003.00
h	350	Each	35225.00
i	400	Each	62278.00
j	450	Each	82145.00
k	500	Each	97925.00
l	600	Each	1310063.00
15126	Providing and laying C.I. Right angled type spring loaded single seat pressure relief valve similar to Glenfield H 19 having valve and seat gun metal bushes in cover stay rods of forged mild steel spring of best quality square section cast iron bend, wheel for adjustment with necessary pointer and index.		
	Dia in mm		
a	50	Each	15584.00
b	80	Each	17015.00
c	100	Each	23810.00
d	150	Each	43125.00
e	200	Each	70341.00
f	300	Each	105740.00
15127	Supplying at store or site of work including railway freight, carting, loading, unloading, stacking etc. IVC/ Kirloskar/Fouress brand cast iron spring loaded right angle type pressure relief valve having body, cover & crosshead of cast iron, valve & seat of gunmetal, spindle of brass working in gunmetal bushes in cover, stay rods of mild steel with spring of best quality spring steel, cast iron hand wheel for adjustment with necessary pointer and index, flanges drilled to IS:1538 Table 4 & 6. Valves suitable for a maximum blow off pressure of 10 kg/cm ² at the site of work. TYPE P.N. 1.0		
	Dia in mm		

a	50	Each	22016.00
b	65	Each	31139.00
c	80	Each	32566.00
d	100	Each	39858.00
e	150	Each	57297.00
f	200	Each	100576.00
G. I. FITTINGS / SPECIALS			
15128	Supply of malleable G.I fittings conforming to IS:1879-1987 with amendments no.1 to 7 galvanized with 610 gm/m2 as per IS:4759-1996 with latest amendments.		
I	Elbow		
	Nominal Diameter in mm		
a	15	Each	19.00
b	20	Each	29.00
c	25	Each	46.00
d	32	Each	75.00
e	40	Each	107.00
f	50	Each	156.00
g	65	Each	314.00
II	Reducing Elbow		
	Nominal Diameter in mm		
a	20x15	Each	35.00
b	25x15	Each	52.00
c	25x20	Each	52.00
d	32x15	Each	86.00
e	32x20	Each	86.00
f	32x25	Each	86.00
III	Tees		
	Nominal Diameter in mm		
a	15	Each	29.00
b	20	Each	46.00
c	25	Each	64.00
d	32	Each	99.00
e	40	Each	128.00
f	50	Each	215.00
g	65	Each	398.00
IV	Reducing Tees		
	Nominal Diameter in mm		
a	20x15x20	Each	52.00
b	25x15x25	Each	72.00
c	25x20x25	Each	72.00
V	Socket		
	Nominal Diameter in mm		
a	15	Each	16.00
b	20	Each	23.00
c	25	Each	29.00
d	32	Each	52.00
e	40	Each	60.00
f	50	Each	107.00
g	65	Each	174.00

VI	Reducing Socket		
	Nominal Diameter in mm		
a	20x15	Each	29.00
b	25x15	Each	37.00
c	25x20	Each	35.00
d	32x15	Each	64.00
e	32x20	Each	64.00
f	32x25	Each	64.00
g	50x32	Each	137.00
h	65x50	Each	216.00
i	100x80	Each	528.00
VII	Hexagonal Nipples		
	Nominal Diameter in mm		
a	15	Each	20.00
b	20	Each	31.00
c	25	Each	44.00
d	32	Each	75.00
e	40	Each	93.00
f	50	Each	145.00
g	65	Each	279.00
VIII	Plugs		
	Nominal Diameter in mm		
a	15	Each	7.00
b	20	Each	12.00
c	25	Each	29.00
d	32	Each	38.00
e	40	Each	41.00
f	50	Each	74.00
IX	Union		
	Nominal Diameter in mm		
a	15	Each	52.00
b	20	Each	75.00
c	25	Each	102.00
d	32	Each	163.00
e	40	Each	207.00
f	50	Each	314.00
g	65	Each	604.00
MANHOLE COVERS			
15129	Supply of low density solid manhole cover and frame at domestic places or other places where they are subjected to traffic loads as per IS:1726 part-VII-1994 having size -		
a	450mm x 450mm with weight not less than 50kg	Each	4129.00
b	450mm x 600mm with weight not less than 75kg	Each	5978.00
c	610mm x 455mm with weight not less than 38kg	Each	3122.00
d	450mm dia with weight not less than 50kg	Each	4129.00
e	450mm x 450mm with weight not less than 60kg	Each	4982.00
f	480mm dia with weight not less than 75kg	Each	5978.00
g	450mm dia with weight not less than 70kg	Each	5786.00

15130	Supplying of medium duty solid type manhole cover and frame where light traffic conditions such as footpath and cycle tracks as per IS:1726 Part V-1974 having size -		
a	500mm dia with weight not less than 128kg	Each	10096.00
b	600mm x 450mm with weight not less than 144kg	Each	11338.00
c	525mm dia with weight not less than 175 kg	Each	13743.00
d	500mm dia with weight not less than 160kg	Each	12621.00
15131	Supplying of heavy duty solid type circular type manhole cover and frame for use under heavy traffic conditions as per IS:1726 Part V-1974 having size -		
a	500mm dia with weight not less than 230 kg	Each	17914.00
b	560mm with weight not less than 250kg	Each	19426.00
c	600mm dia with weight not less than 250kg	Each	14570.00
d	600mm dia with weight not less than 290kg	Each	16902.00
15132	Supply of heavy duty solid type manhole cover and frame for use under heavy traffic conditions per IS:1726 Part V-1974 having size-		
a	560mm x 560mm with weight not less than 225kg	Each	17566.00
b	560mm x 560mm with weight not less than 260 kg	Each	20286.00
c	600mm x 600mm with weight not less than 250kg	Each	19426.00
d	600mm x 900mm with weight not less than 250kg	Each	19426.00
e	600mm x 900mm with weight not less than 375kg	Each	29141.00
f	1200mm x 900mm with weight not less than 970kg	Each	50665.00
g	1200mm x 900mm with weight not less than 1128kg	Each	96956.00
15133	Supply of D.I manhole cover and frame as per EN-124 standards at the site of work.		
I	SQUARE COVER WITH FRAME (HINGED)		
a	Size - 450mm x 450mm		
	Class B -125		
	Grade - MD		
	Weight - 45Kg	Each	5334.00
b	Size - 600mm x 600mm		
	Class C - 250		
	Grade - HD		
	Weight - 90Kg	Each	10669.00
II	RECTANGULAR COVER WITH FRAME (HINGED)		
a	Size - 450mm x 600mm		
	Class B - 125		
	Grade - MD		
	Weight - 70Kg	Each	8298.00
b	Size - 450mm x 600mm		
	Class C - 250		
	Grade - HD		
	Weight (Kg) - 100	Each	11854.00
c	Size - 450mm x 900mm		
	Class A -15		
	Grade - LD		

	Weight - 50Kg	Each	5927.00
d	Size - 450mm x 900mm		
	Class B -125		
	Grade - MD		
	Weight - 75Kg	Each	8891.00
e	Size - 600mm x 900mm		
	Class B - 125		
	Grade - MD		
	Weight - 105Kg	Each	12447.00
III	CIRCULAR COVER WITH SQUARE FRAME (HINGED)		
a	Size - 500mm		
	Class B - 125		
	Grade - MD		
	Weight - 45Kg	Each	5334.00
b	Size - 500mm		
	Class C - 250		
	Grade - HD		
	Weight - 65Kg	Each	7705.00
c	Size - 525mm		
	Class B -125		
	Grade - MD		
	Weight - 50Kg	Each	5927.00
d	Size - 525mm		
	Class C - 250		
	Grade - HD		
	Weight - 75Kg	Each	8891.00
IV	GRATING WITH FRAME (HINGED)		
a	Size - 450mm x 450mm		
	Class A-15		
	Grade - LD		
	Weight - 32Kg	Each	3793.00
b	Size - 450mm x 600mm		
	Class A - 15		
	Grade - LD		
	Weight - 38Kg	Each	4505.00
c	Size - 600mm x 600mm		
	Class B -125		
	Grade - MD		
	Weight - 70Kg	Each	8298.00
d	Size - 600mm x 600mm		
	Class C - 250		
	Grade - HD		
	Weight - 90Kg	Each	10669.00

15134	Supplying and fixing at the site of work of Steel Fibre Reinforced Concrete (SFRC) manhole covers with frames made as per IS :12592 (part I and II)- 1991 in concrete M45grade. The covers and lapped in 2mm thick. steel plate and this plate & lifting hooks are duly painted in corrosion resistant epoxy paint etc. complete.		
I	Light Duty (2.50 Metric Tonne Capacity)		
	Size in mm		
a	300x300	Each	621.00
b	450x450	Each	1371.00
c	450x600	Each	1568.00
d	450x900	Each	1742.00
II	Medium Duty (10.00 Metric Tonne Capacity)		
	Size in mm		
a	450x450	Each	1789.00
b	450x600	Each	1916.00
c	450x900	Each	2654.00
d	600x600	Each	2416.00
e	600x900	Each	3136.00
f	500 mm Diameter	Each	2323.00
III	Supply of HEAVY DUTY composite cast iron & SFRC manhole cover with frame as per IS:12952 Part I &Part II, the cover of outer ring C.I. of 12mm thickness with 4 prizing slots, internal portion SFRC, frame of inner ring C.I. 12mm thick encased in SFRC with clear opening as mentioned below.		
a	500 mm diameter	Each	6388.00
b	540 mm diameter	Each	6899.00
c	600 mm diameter	Each	7666.00
15135	Supply of C.I. Surface box with chain and lid complete		
a	175mm dia at bottom and 100mm dia at top with 300mm height weight 15kg	Each	1158.00
b	100mm top dia 160mm bottom dia with 160mm high weight 15kg	Each	1799.00
c	200mm dia top 300mm dia bottom with 300mm height weight 32kg	Each	3839.00
15136	Supplying of C. I. Foot rests for manhole conforming to IS:5455-1969 weighing 5.4 kgs	Each	830.00

WATER METERS

Mechanical Type Meters

Domestic Meters.

15137	Supply of Domestic Water Meter, horizontal inferential, Single Jet type with magnetic drive and dry dial suitable for ambient 50 degree C temperature duly sealed against tampering complete with couplings at both ends and conforming to Class A as per IS 779/1994 (Reaffirmed:2004) with amendments 1 to5 with ISI mark along with manufacturer's test certificate and guarantee certificate, including cost of all materials and labours with I S I mark.		
	Dia in mm		
a	15	Each	675.00

15138	Supply of Domestic Water Meter, horizontal inferential, Single Jet type with magnetic drive and dry dial suitable for ambient 50 degree C temperature duly sealed against tampering complete with couplings at both ends and conforming to Class B as per IS 779/1994 (Reaffirmed:2004) with amendments 1 to5 with ISI mark along with manufacturer's test certificate and guarantee certificate, including cost of all materials and labours with I S I mark.		
	Dia in mm		
a	15	Each	702.00
15139	Supply of Domestic Water Meter, horizontal inferential, Multi Jet type with magnetic drive and dry dial suitable for ambient 50 degree C temperature duly sealed against tampering complete with couplings at both ends and conforming to Class B as per IS 779/1994 (Reaffirmed:2004) with amendments 1 to 5 with ISI mark along with manufacturer's test certificate and guarantee certificate, including cost of all materials and labours with I S I mark.		
	Dia in mm		
a	15	Each	1225.00
b	20	Each	2085.00
c	25	Each	3774.00
15140	Supply of inferential, dry dial, type Domestic Water Meter,suitable for horizontal installation, duly, sealed against tampering with couplings at both ends having pulse output facility compatable for automatic reading system ,conforming to IS:779-1974 and ISO 4064 and bearing EEC mark, along with test certificate from FCRI/NABL as desired by the department		
A	Class B-single Jet Water meters		
	Dia in mm		
a	15	Each	2030.00
b	20	Each	2680.00
15141	Supply of inferential, dry dial, type Domestic Water Meter,suitable for horizontal installation, duly, sealed against tampering with couplings at both ends having pulse output facility compatable for automatic reading system ,conforming to IS:779-1994 and ISO 4064 and bearing EEC mark, along with test certificate from FCRI/NABL as desired by the department		
A	Class B-Multi Jet Water meters		
	Dia in mm		
a	15	Each	3703.00
b	20	Each	4346.00
c	25	Each	6717.00
d	32	Each	9762.00
e	40	Each	12855.00
f	50	Each	27129.00

15142	Supply of flange ended bulk water meter of class B with FGI-250 cast iron body confirming to IS 2373 and ISO 4064 ,marked to read in metric system bearing EEC mark along with test certificate from FCRI/NABL as desired by the department		
I	Removable mechanism type (EEC mark)		
	Dia in mm		
a	50	Each	38857.00
b	80	Each	48532.00
c	100	Each	75336.00
d	150	Each	88658.00
e	200	Each	139569.00
f	250	Each	146706.00
g	300	Each	195080.00
h	400	Each	268036.00
i	500	Each	578895.00
STRAINERS (FILTERS OR DIRT BOX)			
15143	Providing and fixing C.I. Strainers for Water Meters including cost of all materials and labour.		
I	C.I. Strainer 'Y' type with screwed ends.		
	Sizes in mm		
a	15	Each	279.00
b	20	Each	381.00
c	25	Each	660.00
d	40	Each	1173.00
15144	C.I. Stainer 'T' (Basket) type with flanged ends and with stainless steel or Brass mesh with opening of 2.5mm to 3mm and suitable for operating pressure of 16 kg/cm ² and test pressure of 24 kg/cm ²		
II	C.I. Stainer 'T' (Basket) type with flanged ends		
	Sizes in mm		
a	50	Each	1979.00
b	80	Each	2786.00
c	100	Each	4259.00
d	150	Each	7954.00
e	200	Each	17228.00
f	250	Each	21626.00
g	300	Each	29727.00
h	400	Each	59446.00
i	500	Each	115608.00
15145	Supply of Strainer/Dirt Box with m.s. body and SS mesh suitable for flanged connections in installation of Bulk water meters		
	Sizes in mm		
a	50	Each	6488.00
b	80	Each	9203.00
c	100	Each	12579.00
d	150	Each	26217.00
e	200	Each	39061.00

f	250	Each	68589.00
g	300	Each	100301.00
h	400	Each	165514.00
i	500	Each	231719.00
Ultrasonic Flow Meter			
15146	Ultrasonic Clamp-on portable type Flow Meter (Single Channel)		
	Providing, installing and giving satisfactory test & trial of ultrasonic clamp on portable type flow meter confirming to ISO standard working on following conditions & specifications, calibration, inspection, testing, training along with accredited flow ring certificate of compliance with guarentee period of 12 months, suitable for maximum working pressure of 16 kg /sq.cm.		
a)	Mandatory Accessories :		
	1) Integrated single converted transmitter enclosed in anticorrosive ABS die cast aluminium case confirming to IP-67 or better - 1 No.		
	2) Pair of transducers (Sensors) confirming to IP-67 or better - 1 No.		
	3) Stainless straps for mounting transducers - 1 pair		
	4) Grease/sonic couplant, 100 ml - 1 Bottle		
	5) Coaxial signal & power cables for each transducer - 5 mtrs.length/each		
	6) Built in Portable battery backup for 12 hours continous operation and separate battery charger working on 230 V AC, 50 Hz, A.C. power supply for charging battery -01 No.		
	7) Data storage capacity with built in or separate for date, time, actual flow rate, Totaliser & error messages if any with storage capacity of 120 days at 5 minutes interval data logging - 1 No.		
	8) Dot matrix printer of EPSON, WIPRO or Hewlett Packard make printer interface unit for printing of stored data - 1 No.		
	9) Suitable surge suppressor (arrestor) for protection from lighting or incoming signal cable from transducer and power supply cable of meter - 1 set.		
	10) Measuring steel tape 5 meters in length - 1 No.		
	11) Ultrasonic thickness gauge - 1 No.		
	12) suitable carrying case - 1 No.		
	13) Velocity range 0.50 m/sec to 12m/sec		
b)	Working condition & Specifications :		
	a) Water Temp. : 10 Deg. to 50 Deg.		
	b) Water Quality : Raw water, turbid in natrue, potable chlorinated water. Homogenous liquid not containing heavy suspended particals.		
	c) Operating pressure : 10-16 kg/cm ²		
	d) Pipeline MOC : CI, DI, MS with/without mortar lined, Non metallic pipes		
	e) Pipe diameter : > 50mm - 4000 mm		
	f) Flow - Up to 300 MLD		
	g) Pipe condition : Pipe shall be running full.		
	h) Ultrasonic flow meters shall be designed, manufactured to international standard with accuracy of +/-2% of actual flow. The supplier should have full ISO-9000 series.The supplier should have flow calibration laboratory accredited to ISO 17025		
	i) Functional details : Freely programmable		

	j) Measurement - Volumetric flow rate, totalized flow		
	k) Flow Direction - Forward & Reverse.		
	l) Display - Graphic 128 x 64 / 16 x 2 LCD display with suitable lines, digits, segments, markers, for identification of current output. The digit shall be clear, bold and can be read from 1 mtrs. distance		
	m) Out put - RS232/ RS485		
	n) Meter shall be suitable for remote facility.		
	o) Power supply - 85 - 260 V AC (45-65 Hz)/16-62V DC		
	p) Galvanic isolation - Input & output Galvanically isolated from power supply from the sensor and from each other	Each	810355.00
15147	Providing, installing and giving satisfactory test & trial of ultrasonic clamp on, fixed type flow meter confirming to ISO standard working on following conditions & specifications, calibration, inspection, testing, training with accredited flow ring certificate of compliance along with guarantee period of 12 months, suitable for maximum working pressure of 16 kg /sq.cm.,		
a)	Mandatory Accessories :		
	1) Integrated single converted transmitter enclosed in Anticorrosive ABS die cast aluminium case confirming to IP-67 or better - 1 No.		
	2) Pair of transducers (Sensors) confirming to IP-67 or better - 1 No. for Single Channel		
	Pair of transducers (Sensors) confirming to IP-67 or better - 2 Nos. for Dual Channel		
	3) Stainless straps for mounting transducers - 1 Pair		
	4) Grease couplant, 100 ml - 1 Bottle		
	5) Coaxial signal & power cables for each transducer - 15 mtrs. length/each		
	6) UPS working on 230 V AC,50 Hz power supply suitable for 12 hrs continuous operation-1No.		
	7) Data storage capacity with built in or separate for date,time,actual flow rate,Totaliser & error messages if any with storage capacity of 120 days at 5 minutes interval data logging - 1 No.		
	8) Dot matrix printer of EPSON, WIPRO or Hewlett Packard make with printer interface unit for printing of stored data - 1 No.		
	9) Suitable surge suppressor (arrestor) for protection from lightning or incoming signal cable from transducer and power supply cable of meter - 1 set.		
b)	Working Condition & Specifications :		
	a) Water Temp. : 10 Deg. to 50 Deg.		
	b) Water Quality : Raw water, turbid in nature, potable chlorinated water		
	c) Operating pressure : 10-16 kg/cm ²		
	d) Pipeline MOC : CI, DI, MS with/without mortar lined, Non metallic pipes		
	e) Pipe diameter : >80mm - 4000 mm		
	f) Flow - Up to 300 MLD		
	g) Pipe condition : Pipe shall be running full.		

	h) Ultrasonic flow meters shall be designed, manufactured to international standard with accuracy of +/-2% of actual flow. The supplier should have full ISO-9000 series. The supplier should have flow calibration laboratory accredited to ISO-17025		
	i) Functional details : Freely programmable		
	j) Measurement - Volumetric flow rate, totalized flow		
	k) Flow Direction - Forward & Reverse.		
	l) Display - Graphic 128 x 64 / 16 x 2 LCD display with suitable lines, digits, segments, markers, for identification of current output. The digit shall be clear, bold and can be read from 1 mtrs. distance		
	m) Out put - for current - 4mA - 20 mA hart for measuring flow in pipeline. Frequency output shall be 1 Khz, Open collector, passive.		
	n) Meter shall be suitable for remote facility.		
	o) Power supply - 85 - 260 V AC (45-65 Hz)/16-62V DC		
	p) Galvanic isolation - Input & output Galvanically isolated from power supply from the sensor and from each other		
I	Ultrasonic Clamp-on, Fixed type Flow Meter (Single Channel/Path)	Each	725612.00
II	Ultrasonic Clamp-on, Fixed type Flow Meter (Dual Channel/Path)	Each	1125494.00
15148	Ultrasonic insertion type Flow Meter (Single Channel)		
	Providing, installing and giving satisfactory test & trial of Single channel insertion type Ultrasonic Flow meter confirming to ISO working on 85-260 V AC, 50 Hz/24V DC electric power supply of following type working on time of flight principles suitable for satisfactory continuous operation in all seasons & with following accessories, working conditions specifications with accredited flow ring certificate of compliance along with guarantee period of 12 months, suitable for maximum working pressure of 16 kg /sq.cm.		
a)	Mandatory Accessories :		
	1) Integrated single converted transmitter enclosed in Anticorrosive ABS die cast aluminium confirming to IP-67 or better - 1 No.		
	2) Pair of transducers (Sensors) confirming to IP-67 or better - 1 No.		
	3) Coaxial signal & power cables for each transducer - 30 mtrs. length/each		
	4) UPS working on 230 V AC, 50 Hz power supply suitable for 12 hrs continuous operation-1No.		
	5) Data storage capacity with built in or separate for date, time, actual flow rate, Totaliser & error messages if any with storage capacity of 120 days at 5 minutes interval data logging - 1 No.		
	6) Dot matrix printer of EPSON, WIPRO or Hewlett Packard make with printer interface unit for printing of stored data - 1 No.		
	7) Suitable surge suppressor (arrestor) for protection from lightning or incoming signal cable from transducer and power supply cable of meter - 1 set.		
b)	Working Condition & Specifications :		
	a) Water Temp. : 10 Deg. to 50 Deg.		
	b) Water Quality : Raw water, turbid in nature, potable chlorinated water		
	c) Operating pressure : 10-16 kg/cm ²		

	d) Pipeline MOC : CI, DI, MS with/without mortar lined, Non metallic pipes		
	e) Pipe diameter : >80mm - 4000 mm		
	80mm- 600mm: Single Path/track/channel		
	600mm- 800mm: Single Path/track/channel		
	800mm and above: Single Path/track/channel		
	f) Flow - Up to 300 MLD		
	g) Pipe condition : Pipe shall be running full.		
	h) Ultrasonic flow meters shall be designed, manufactured to international standard with accuracy of +/-1% of actual flow. The supplier should have flow calibration laboratory accredited to International Standard		
	i) Functional details : Freely programmable		
	j) Measurement - Volumetric flow rate, totalized flow		
	k) Flow Direction - Forward & Reverse.		
	l) Display - Graphic 128 x 64 / 16 x 2 LCD display with suitable lines, digits, segments, markers, for identification of current output. The digit shall be clear, bold and can be read from 1 mtrs. distance		
	m) Out put - for current - 4mA - 20 mA HART for measuring flow in pipeline. Frequency output shall be 1 Khz, Open collector, passive.		
	n) Meter shall be suitable for remote facility.		
	o) Power supply - 85 - 260 V AC (45-65 Hz)/ 16-62 V DC		
	p) Galvanic isolation - Input & output Galvanically isolated from power supply from the sensor and from each other		
I	Ultrasonic insertion type Flow Meter (Single Channel/path)	Each	699130.00
II	Ultrasonic insertion type Flow Meter (Two Channel/path)	Each	932173.00
III	Ultrasonic insertion type Flow Meter (Four Channel/path)	Each	1211561.00
15149	Battery powered, inline Ultrasonic Flow Meter		
	Supply and Commission installation & successful testing of Battery powered, inline ultrasonic flow meter confirming to ISO - 17025 working on following conditions & specifications, calibration, inspection, testing, training along with accredited flow ring certificate of compliance with guarantee period of 12 months, suitable for maximum working pressure of 16 kg /sq.cm.		
b)	Working Condition & Specifications :		
	1) Fluid suitability :- Raw, turbid and muddy water with aquatic lives like fish and floating material/clear, cold chlorinated water.		
	2) Operating pressure :- 0 to 16 kg/cm ²		
	3) Pipe line diameter (D.I/C.I/M.S with or without cement mortar lining, & non metallic pipes):- 50 mm to 500 mm		
	4) Water temperature :- 10 to 50 deg. C		
	5) Accuracy :- +1% of reading		
	6) Display :- Alphanumeric LCD display for flow rate & totaliser		
	7) Logger capacity :- Hourly record for 1 year/Daily record for 5 years		
	8) communication :- RS 232		
	9) Ingress protection : IP 67		
	10) Material of sensor : Stainless steel/Epoxy		
	11) Battery Type :- Li-SOCL2		

	12) Battery life : Two years minimum, five years maximum		
	13) Ingress Protection : IP-67		
	14) Connectivity :- Facility for GSM connectivity should be available inbuilt		
	Remote Monitoring System for data acquisition/date transfer & alert SMS/Warning based on GSM technology with complete hardware like wireless communication device, HART cables, necessary software system		
	1) GSM/GPRS modem shall be installed in conjunction with ultrasonic flowmeter Picosonic at various location at NMC		
	2) Successful contractor has to study the serial protocol of Picosonic flowmeter for physibility		
	3) while executing contract performance of present system shall not be hampered		
	4) Successful contractor has to arrange demonstration of his system within 8 days from notice		
	5) GSM/GPRS modem shall be installed in conjunction with ultrasonic flowmeter Picosonic at various location at NMC		
	6) Successful contractor has to study the serial protocol of Picosonic flowmeter for physibility		
	7) while executing contract performance of present system shall not be hampered		
	8) Successful contractor has to arrange demonstration of his system within 8 days from notice		
	9) GSM/GPRS system shall send SMS to Central Monitoring room or Central Monitoring rooms with user predefined frequency 1Hr-24Hr.		
	10) GSM/GPRS system shall send SMS to min 3 cell nos.with user predefined frequency 1Hr-24Hr. With additions to central Monitoring room.		
	11) GSM/GPRS system shall send SMS to min 1 cell no in predefined alarm condition such as high flow rate, low flow rate		
	12) GSM/GPRS system shall work at least 12 hours in absence of electric supply		
	13) Successful contractor has to carry out survey of necessary strength of RF signal for proper functioning of system		
	14) Successful contractor has to give location wise suitability of service provider		
	15) Successful Bidder shall have experience of supply installation & commissioning of minimum 5 ultrasonic flowmeter with GSM modems in single contract		
a	50mm dia	Each	112691.00
b	65mm dia	Each	131473.00
c	80mm dia	Each	155820.00
d	100mm dia	Each	208688.00
e	150mm dia	Each	235122.00
f	200mm dia	Each	260164.00
g	250mm dia	Each	296337.00
h	300mm dia	Each	333900.00
i	350mm dia	Each	413202.00

j	400mm dia	Each	513372.00
k	450mm dia	Each	550936.00
l	500mm dia	Each	584326.00
15150	Manufacture, Supply and Commission Full Bore Electromagnetic Flow Meter (FBEM), for Raw/Pure water with accuracy +/-0.5% of measured valve and protection as per given specifications for size 100 mm – 1000 mm including sensor, transmitter, surge arrestor, 15 metres sensor / transmitter cable.		
A	Mandatory Accessories:		
1	The sensor should be as per IP-68 protection and with flanges of up to PN 10 rating from CS – 1 No.		
2	The sensor coil housing shall be powder coated cast aluminum with NEMA 4 X rating (IP – 67/IP-68) or painted steel. The paint should be anti-corrosive grade.		
3	The transmitter shall have one scalable pulse output, one current (4 mA-20mA HART) output – 1 No.		
4	The current output shall be galvanically isolated. It shall be fitted with switched mode power supply capability 85-260 V and 45-65 Hz to cope with power transients without damage.		
5	Coaxial signal and power cable – 25 metres length/Each.		
6	50 mm GI duct for routine of cable with suitable digging, laying and concealing the duct – 25 metres.		
7	Data storage capacity with built in for date, time, actual flow rate, totalize and error message if any with storage capacity of 21 days.		
8	Suitable Surge Suppressor (arrestor) for protection from lightning on incoming signal cable from transducer and power supply cable of meter – 1 Sec.		
9	Suitable over voltage protection unit for protection of instruments from higher voltage (up to 275 V – 300 V AC).		
B	Working Condition & Specifications for clamp on and insertion type ultrasonic flowmeter		
a	Water Temp: -20 Deg to 70 Deg		
b	Water Quality : Raw water, turbid in nature. Potable chlorinated		
c	Operating pressure : 10 - 16 Kg./ cm ²		
d	Pipeline MOC : CI, DI, MS with / without mortar lined, Non-metallic pipes.		
e	Pipe diameter : > 2000mm – 4000mm		
f	Flow – Up to 300 Mld		
g	Pipe condition: Pipe shall be running full.		
h	Electromagnetic Flow meters shall be designed, manufactured to international standards with accuracy of +/- 1-2 % of actual flow		
i	The supplier should have full ISO series accreditation & facility for fully traceable calibration flow rig duly accredited in accordance with ISO		
j	Functional details: Freely programmable.		
k	Measurement – Volumetric Flow rate, Totalized flow.		
l	Flow direction – Forward & Reverse		
m	Display – 2line LCD display 16 characters each. The digit shall be clear, bold & can be read from 1 Metres distance.		

n	Output – for current – 4mA – 20mA HART (active / passive) for measuring flow in pipeline and Frequency output shall be 1 kHz, open collector, passive.		
o	Status output – Open collector.		
p	Meter shall be suitable for remote facility.		
q	Power supply – 85 – 260 V AC (45 – 65 Hz)/ 16 – 62 V DC.		
r	Galvanic Isolation – Input & outputs galvanically isolated from power supply, from the sensor and from each other.		
s	Functionality verification check should be possible inline using recommended software tools.		
t	Future upgradation to Fieldbus Foundation, PROFIBUS should be possible with minimal changes.		
u	Power consumption: AC < 18 VA, DC< 10 Watt.		
v	The sensor coil housing shall be powder coated cast aluminium with or painted steel. The paint should be anti-corrosive grade.		
1	100	Each	314350.00
2	150	Each	357371.00
3	200	Each	380287.00
4	250	Each	467346.00
5	300	Each	566082.00
6	350	Each	703387.00
7	400	Each	798511.00
8	450	Each	900727.00
9	500	Each	947021.00
10	600	Each	1048453.00
11	700	Each	1091900.00
12	750	Each	1173012.00
13	800	Each	1256729.00
14	900	Each	1409159.00
15	1000	Each	1605364.00
15151	Supply and Commission installation & succesful testing OF INBUILT BATTERRRY OPERATED Electromagnetic Flow Meter (EMF), for Raw / Pure water with accuracy +/-1% of measured valve and protection as per given specifications for size 100 mm – 1000 mm including sensor, transmitter, surge arrestor, 25 mtrs sensor / transmitter		
	Mandatory Accessories		
1	The sensor should be as per IP-68 protection and with flanges of up to PN 10 rating from CS – 1 No.		
2	The sensor coil housing shall be powder coated cast aluminum with NEMA 4 X rating (IP – 67/IP-68) or painted steel. The paint should be anti-corrosive grade.		
3	The transmitter shall have one scalable pulse output, one current (4 mA-20mA HART) output – 1 No.		
4	The current output shall be galvanically isolated. It shall be fitted with switched mode power supply capability 85-260 V and 45-65 Hz to cope with power transients without damage.		
5	Coaxial signal and power cable – 25 mtrs length/Each.		
6	50 mm GI duct for routine of cable with suitable digging, laying and concealing the duct – 25 mtrs.		

7	In built battery should provide power to meter for min five years, also it should be suitable to work on 230V AC if required.		
8	Data strong capacity with built in for date, time, actual flow rate, totalize and error message if any with storage capacity of 21 days.		
9	Suitable Surge Suppressor (arrestor) for protection from lightning on incoming signal cable from transducer and power supply cable of meter.		
10	Suitable over voltage protection unit for protection of instruments from higher voltage (up to 275 V – 300 V AC).		
1	100	Each	353691.00
2	150	Each	399100.00
3	200	Each	423290.00
4	250	Each	489218.00
5	300	Each	603235.00
6	350	Each	725263.00
7	400	Each	820387.00
8	450	Each	922603.00
9	500	Each	968898.00
10	600	Each	1070330.00
11	700	Each	1113775.00
12	750	Each	1194887.00
13	800	Each	1278603.00
14	900	Each	1431036.00
15	1000	Each	1627240.00
15152	Additional / Optional Accessories :		
1	Sensor / Transmitter cable		
	3 x 0.38 mm 2 PVC cable with common, braided copper shield(7 mm dia) and individually shielded cores. With empty pipe detection 9 EPD 4 x 0.38 mm 2 PVC cable with common braided copper shield (7 mm dia) and individually shielded cores Conductor resistant.	Metre	543.00
2	Coil Cable		
	3 x 0.75 mm 2 PVC cable with common, braided copper shield (7 mmdia) – Conductor resistance : ≤ 37 Ohm/km. – Capacitance : core / core, shield grounded : ≤ 120 pF/m Permanent operating temperature : 20... +80 Deg.C	Metre	516.00
3	Pressure Transmitter Cable		
	3 x 0.75 mm 2 PVC cable with common , braided copper shield (7mm dia) – Conductor resistance : ≤ 37 Ohm/km. – Capacitance: core/core, shield grounded: ≤ 120 pF/m Permanent operating temperature : 20...+80 deg.C	Metre	185.00
4	GI duct of 50 mm with suitable rating		
	For laying underground with all the necessary fitting joints etc for housing the cables between sensor and transmitter. The cable shall be installed in a suitable GI duct to minimize the risk of damage during excavation. All cable laid at a minimum depth.	Metre	1258.00
5	Other Civil Works		
(a)	Flow meter chamber works with suitable man hole for entering the chamber and removal of flow meter for maintenance in future, providing and constructing BB Masonry flow meter chamber with 15 cm thick 1;3:6 proportion PCC bedding, including excavation.	Each	3331.00

(b)	Addition for every increase in depth of 30 cm or part thereof	Each	2856.00
©	Construction of Meter room with roof slab (100 mm) brick masonry with required foundation of minimum 1.5 M x 1.5M or as per instruction from Engineer-in-charge with RCC beam / Column minimum 0.15m x 0.15 size with steel door and cement jail ventilator and pl.	Each	76130.00

CHAPTER VI

LAYING PIPES AND ACCESSORIES ETC.

NOTES:-

Carriage

1 The items for laying of pipes include for carriage of pipes from stacks at site. If the pipes are to be transported from departmental stores to site, separate provision for this shall be made in the estimate.

2 Soil Cover

2.1. For AC/RCC/PVC/ Stoneware pipes, the minimum soil cover shall be

- (i) 75cm when laid under footpath
- (ii) 90cm when laid under light traffic or cultivated soil
- (iii) 100 cm under roads with heavy traffic and if soil has a poor bearing capacity
- (iv) Pipes line subjected to heavy traffic pipe shall be laid on concrete cradle

2.2. For C.I/D.I pipes, shall not be less than 1 meter under roads and not less than 95cm elsewhere.

2.3. For G.I. pipes, the soil cover shall be 60cm. for pipe diameter 15mm to 50mm and 75cm for pipe diameter 65mm to 100 mm.

2.4. For PVC pipes, the soil cover shall be 90cm .

2.5. The initial backfill for 15cm shall be in soft soil and bedding for pipes shall be soft soil free from rock and gravel.

3 The road crossing shall always be done with a casing pipe for A.C. /G.I /PVC/ HDPE pipelines.

4 The trench width

4.1. for A.C./ C.I/D.I/ PVC/HDPE shall be such as

- (i) To provide a space of 300mm on either side of the pipe.
- (ii) Nominal diameter plus 40cm but not less than 60 cm in case of all kinds of soil excluding hard rock and not less than 100cm in case of hard rock.
- (iii) For G.I pipe of diameter from 15 to 50mm shall be 30cm and 45cm for 65 to 100mm.

(iv) For refilling the initial back filling material for first 30cm shall be free of large stones and dry lumps. In rocky areas the material for backfilling shall be shared from the side of trenches. The initial backfilling shall be done in layers of 10cm thick and properly consolidated and continued for minimum 30cm cover from the pipe balance of the backfill need not be so carefully selected as the initial material.

5 Plastic/jute bags and marshy earth with vegetable matter shall not be used for bedding for pipes for laying and gravel or crushed stone shall be used.

6 The hydraulic test shall be conducted as per relevant is specification. The rate for jointing is inclusive of charges for hydraulic testing. Separate item is provided for hydraulic testing of the pipeline as per the standards of “manual on water supply and treatment” (published by CPHEEO). This item is inclusive of cost of water required for hydraulic testing. If water is supplied by the department for testing, the same shall be recovered at the prevailing commercial rates.

- 7 Rates for hoisting and laying of sluice valves, reflux valves, double orifice type air valve are inclusive of the cost of flanged joints including the cost of nut bolts and rubber packing etc as required for fixing completely the unit.
- 8 For AC pipe, the laying rate is including of cutting and filing charges wherever require and for G.I. pipe the rate inclusive of cutting and threading of pipes and specials required. For C.I. pipes and D.I, separate for each cut according to diameter shall be estimated.
- 9 For sluice valves and butterfly valves, non return valves, water meter etc. where there is not complete item (Providing and laying) available separate rates for hoisting and laying and jointing as required shall be made.
- 10 . The rates for masonry chambers, includes the rates for earthwork required for such work either in soil or rock as applicable and as such no extra shall be paid on this account.
- 11 Reference in the CPHEEO manual on water supply and treatment is to be made for design of water supply schemes as per table-1.

Table-1.

Description	Clause no	Appendix No
Population forecast	2.2.7	Appendix 2.1
Economics of Rising main and design of Pump set	6.14	Appendix 6.5
Design of thrust blocks	16.16.18	Appendix 6.6
Service Reservoir	10.4	Appendix 10.1
Testing of Pipe line	6.44	---

CHAPTER VI

LAYING PIPE AND ACCESSORIES

A CONVEYING & LAYING

Item No	Description	Unit	Rate
15201	Conveying carefully from stack at site, 250m from both sides rolling and lowering in trenches, laying and jointing true to line and level and perfect linking of joints		
a	Cast iron or Ductile iron or A.C. or S & S or flanged & PVC pipes.	QTL	153.00
b	S&S flanged/plain ended specials	QTL	376.00
15202	Conveying carefully from stack at site, 250m from both sides rolling and lowering in trenches, laying and jointing true to line and level and perfect linking of joints, including tack welding for mild steel pipes for water supply pipeline complete in all respects as per the direction of the engineer incharge		

	Nominal diameter in mm		
a	200	Metre	89.00
b	250	Metre	111.00
c	300	Metre	134.00
d	350	Metre	143.00
e	400	Metre	151.00
f	450	Metre	160.00
g	500	Metre	166.00
h	600	Metre	179.00
i	700	Metre	191.00
j	750	Metre	197.00
k	800	Metre	203.00
l	900	Metre	215.00
m	1000	Metre	227.00
n	1100	Metre	238.00
o	1200	Metre	250.00
15203	Conveying carefully from stack at site, 250m from both sides rolling and lowering in trenches, laying true to line and level and perfect linking for joints for P.V.C / H.D.P.E complete in all respects as per the direction of the engineer incharge		
a	63 mm OD	Metre	1.20
b	75 mm OD	Metre	1.30
c	90 mm OD	Metre	1.50
d	110 mm OD	Metre	1.70
e	140 mm OD	Metre	2.50
f	160 mm OD	Metre	2.70
g	180 mm OD	Metre	2.92
h	200 mm OD	Metre	3.20
i	225 mm OD	Metre	3.50
j	250 mm OD	Metre	3.90
k	280 mm OD	Metre	4.40
l	315 mm OD	Metre	5.00
B	CONVEYING, LAYING & JOINTING		
15204	Conveying carefully from stack at site, 250m from both sides rolling and lowering into trenches, laying and jointing true to line and level, RCC spun pressure and non pressure pipes of various classes, specials including collar and perfect linking of joint with jack to correct position including cost of jointing material in cement mortar 1:2, necessary hydraulic testing, curing of cement mortar etc. complete.		
	Nominal diameter in mm		
a	100	Metre	32.00
b	150	Metre	38.00
c	250	Metre	55.00
d	300	Metre	76.00
e	350	Metre	99.00
f	400	Metre	106.00
g	450	Metre	131.00
h	500	Metre	139.00
i	600	Metre	152.00
j	700	Metre	179.00
k	800	Metre	196.00

l	900	Metre	224.00
m	1000	Metre	263.00
n	1100	Metre	307.00
o	1200	Metre	359.00
15205	Conveying carefully from stack at sites 250m from both the sides rolling and lowering into trenches, laying, jointing G.I. Pipes with G.I Fittings of sizes given below true to line and level including fixing sockets, elbows tees bends, gland packing and other fittings with cutting and threading as required including hydraulic testing. etc complete.		
	Nominal diameter in mm		
a	15	Metre	10.00
b	20	Metre	11.00
c	25	Metre	16.00
d	32	Metre	19.00
e	40	Metre	24.00
f	50	Metre	31.00
g	65	Metre	48.00
h	80	Metre	52.00
i	100	Metre	70.00
j	125	Metre	83.00
k	150	Metre	94.00
15206	Conveying carefully from stack at site, 250m from both sides into trenches, laying and jointing salt glazed stone ware pipes true to line and level including perfect linking at joints, including caulking with hemp dipped in tar and jointing with Cement mortar 1:1 and testing with water etc. complete.		
	Nominal diameter in mm		
a	100	Metre	65.00
b	150	Metre	97.00
c	200	Metre	114.00
d	230	Metre	150.00
e	250	Metre	183.00
f	300	Metre	205.00
C	JOINTING		
15207	Making C.I Detachable joints to A.C. pressure pipes of various classes and C.I Plain ended specials with collar, rubber rings, nut and bolts, etc. complete including testing of joints but excluding the cost of joints		
	Nominal diameter in mm		
a	50	Each	32.00
b	80	Each	39.00
c	100	Each	54.00
d	125	Each	68.00
e	150	Each	82.00
f	200	Each	97.00
g	250	Each	111.00
h	300	Each	125.00
i	350	Each	136.00

j	400	Each	151.00
k	450	Each	165.00
l	500	Each	179.00
15208	Jointing of RING FIT PVC pipes by cleaning the pipes and hydraulic testing of joints etc. complete,as directed by the engineer incharge		
	Outer Diameter in mm		
a	63	Each	3.00
b	75	Each	3.40
c	90	Each	4.00
d	110	Each	4.90
e	140	Each	5.90
f	160	Each	7.10
g	180	Each	8.40
h	200	Each	15.00
i	225	Each	16.70
j	250	Each	18.70
k	315	Each	21.20
15209	Jointing of rigid / SEL FIT PVC pipes by cleaning the pipe with solvent cement including the cost of solvent cement and hydraulic testing of joints etc. complete as per IS:7634-1975 Part 3, including hydraulic testing of joints as directed by the engineer incharge.		
	Outer Diameter in mm		
a	63	Each	11.00
b	75	Each	14.00
c	90	Each	19.00
d	110	Each	30.00
e	140	Each	41.00
f	160	Each	60.00
g	180	Each	73.00
h	200	Each	116.00
i	225	Each	168.00
j	250	Each	195.00
k	315	Each	298.00
15210	Jointing of HDPE pipes by heating the two ends of the pipe with electrically heated mirror, to the required temperature,including the hirecharges of heating mirror and the generator set for the electricity for the heating mirror etc complete as per the direction of the engineer in charge		
I	63 mm to180 mm OD		
a	63 mm OD	Each	21.00
b	75 mm OD	Each	23.00
c	90 mm OD	Each	26.00
d	110 mm OD	Each	30.00
e	125 mm OD	Each	35.00
f	140 mm OD	Each	42.00
g	160 mm OD	Each	53.00
h	180 mm OD	Each	59.00
II	for diameter from 200 mmto 630 mm diameter		
a	200 mm OD	Each	45.00
b	225 mm OD	Each	50.00
c	250 mm OD	Each	56.00

d	280 mm OD	Each	60.00
e	315 mm OD	Each	64.00
f	355 mm OD	Each	69.00
g	400 mm OD	Each	75.00
h	450 mm OD	Each	82.00
i	500 mm OD	Each	90.00
j	560 mm OD	Each	101.00
k	630 mm OD	Each	114.00
15211	Jointing of C.I/D.I pipes and specials with rubber gaskets (TYTON joints) EPDM type including cleaning the socket and spigot ends with kerosene oil/below lamp and applying soft soap to socket and spigot ends before inserting for rubber gasket jacking and fixing in proper condition including cost of rubber gasket, oil, soft soap and hydraulic testing of jointing as per IS:3144-1985.		
	Nominal diameter in mm		
a	80	Each	150.00
b	100	Each	202.00
c	125	Each	234.00
d	150	Each	272.00
e	200	Each	422.00
f	250	Each	542.00
g	300	Each	730.00
h	350	Each	842.00
i	400	Each	1180.00
j	450	Each	1291.00
k	500	Each	1663.00
l	600	Each	2353.00
m	700	Each	3432.00
n	750	Each	3644.00
o	800	Each	3839.00
p	900	Each	5831.00
q	1000	Each	7318.00
15212	Jointing of C.I/D.I pipes and specials with rubber gaskets (TYTON joints) SBR type including cleaning the socket and spigot ends with kerosene oil/below lamp and applying soft soap to socket and spigot ends before inserting for rubber gasket jacking and fixing in proper condition including cost of rubber gasket, oil, soft soap and hydraulic testing of jointing as per IS:3144-1985		
	Nominal diameter in mm.		
a	80	Each	142.00
b	100	Each	174.00
c	125	Each	202.00
d	150	Each	256.00
e	200	Each	394.00
f	250	Each	514.00
g	300	Each	717.00
h	350	Each	803.00
i	400	Each	1106.00
j	450	Each	1192.00
k	500	Each	1578.00
l	600	Each	2174.00
m	700	Each	3017.00

n	750	Each	3347.00
o	800	Each	3684.00
p	900	Each	5129.00
q	1000	Each	7195.00
15213	Jointing of PVC pipes of ASTM Schedule40/ 80 with by cleaning the pipe and joining with solvent cement including the cost of solvent cement and hydraulic testing of joints etc. complete as per IS:7634-1975 Part 3, as per the direction of the engineer incharge		
a	20 mm O.D	Each	13.10
b	25 mm O.D	Each	15.20
c	32 mm O.D	Each	16.80
d	40 mm O.D	Each	22.80
e	50 mm O.D	Each	25.10
15214	Jointing of PVC pipes of ASTM Schedule40/ 80 with by threadeing the pipe and joining with threaded fittings including the cost of threading, fittings and hydraulic testing of joints etc. complete as per IS:7634-1975 Part 3, as per the direction of the engineer incharge		
a	20 mm O.D	Each	3.30
b	25 mm O.D	Each	4.40
c	32 mm O.D	Each	5.40
d	40 mm O.D	Each	6.40
e	50 mm O.D	Each	7.50
15215	Making joints to CI/DI pipes and specials with yarn and lead including melting lead caulking and hydraulic testing of the joints as per IS:782-1978 but excluding the cost of lead for the following sizes.		
	Nominal diamter in mm		
a	100	Each	102.00
b	125	Each	147.00
c	150	Each	153.00
d	200	Each	202.00
e	250	Each	252.00
f	300	Each	305.00
g	350	Each	323.00
h	400	Each	414.00
i	450	Each	461.00
j	500	Each	490.00
k	600	Each	651.00
l	700	Each	712.00
m	750	Each	783.00
n	800	Each	853.00
o	900	Each	925.00
15216	Making hydrotite coupling joint to AC pressure pipes of various classes and C.I Plain ended specials with collars, rubber rings etc. complete including testing of joints but excluding cost of joints.		
	Nominal diameter in mms		
a	80	Each	20.00
b	100	Each	24.00
c	150	Each	33.00
d	200	Each	45.00

e	250	Each	52.00
f	300	Each	73.00
15217	Making C.I Detachable joints to P.V.C. pressure pipes of 6 KGS / Cm2 and C.I Plain ended specials with collar, rubber rings, nut and bolts, etc. complete including testing of joints excluding cost of joints		
	outer diameter in mms		
a	63	Each	11.00
b	75	Each	25.00
c	90	Each	67.00
d	110	Each	88.00
e	140	Each	109.00
f	160	Each	130.00
g	200	Each	152.00
15218	Making joints to D.I/ C.I pipes with mechanical joints by nut bolts rubber rings that are provided with the joints,for pushon tight joints including the cost of work force, tools, hydraulic testing of joints etc complete as per the direction of the engineer incharge.		
I	Double socketed specials such as bends, collar couplings etc		
	Nominal Diameter in mm		
a	80	Each	78.00
b	100	Each	108.00
c	125	Each	136.00
d	150	Each	164.00
e	200	Each	194.00
f	250	Each	222.00
g	300	Each	250.00
h	350	Each	272.00
i	400	Each	302.00
j	450	Each	330.00
k	500	Each	358.00
l	600	Each	388.00
l	700	Each	416.00
m	750	Each	444.00
n	800	Each	474.00
o	900	Each	502.00
p	1000	Each	530.00
II	All Socket Tee		
	Nominal Diameter in mm		
a	80x80	Each	117.00
b	100x80	Each	147.00
c	100x100	Each	162.00
d	150x80	Each	203.00
e	150x100	Each	218.00
f	150x150	Each	246.00
g	200x80	Each	233.00
h	200x100	Each	248.00
i	200x150	Each	276.00
j	200X200	Each	291.00
k	250x80	Each	261.00
l	250x100	Each	276.00
m	250x150	Each	304.00

n	250x200	Each	319.00
o	250x250	Each	333.00
p	300x80	Each	289.00
q	300x100	Each	304.00
r	300x150	Each	332.00
s	300x200	Each	347.00
t	300x250	Each	361.00
u	300x300	Each	375.00
v	350x80	Each	311.00
w	350x100	Each	326.00
x	350x150	Each	354.00
y	350x200	Each	369.00
z	350x250	Each	383.00
a1	350x300	Each	397.00
b1	350x350	Each	408.00
c1	400x80	Each	341.00
d1	400x100	Each	356.00
e1	400x150	Each	384.00
f1	400x200	Each	399.00
g1	400x250	Each	413.00
h1	400x300	Each	427.00
i1	400x350	Each	438.00
j1	400x400	Each	453.00
k1	450x100	Each	384.00
l1	450x200	Each	427.00
m1	450x250	Each	441.00
n1	450x300	Each	455.00
o1	450x350	Each	466.00
p1	450x400	Each	481.00
q1	450x450	Each	495.00
r1	500x100	Each	412.00
s1	500x150	Each	440.00
t1	500x200	Each	455.00
u1	500x350	Each	494.00
v1	500x400	Each	509.00
w1	500x500	Each	537.00
x1	600x150	Each	470.00
y1	600x200	Each	485.00
z1	600x300	Each	513.00
a2	600x350	Each	524.00
b2	600x400	Each	539.00
c2	600x500	Each	567.00
III	Double Socket Reducer		
	Nominal Diameter in mm		
a	100x80	Each	93.00
b	150x80	Each	121.00
c	150x100	Each	136.00
d	200x80	Each	136.00
e	200x100	Each	151.00
f	200x150	Each	172.00
g	250x80	Each	150.00
h	250x100	Each	165.00
I	250x150	Each	193.00
j	250x200	Each	208.00

k	300x80	Each	164.00
l	300x100	Each	179.00
m	300x150	Each	207.00
n	300x200	Each	222.00
o	300x250	Each	236.00
p	350x80	Each	175.00
q	350x100	Each	190.00
r	350x150	Each	218.00
s	350x200	Each	233.00
t	350x250	Each	247.00
u	350x300	Each	261.00
v	400x80	Each	190.00
w	400x100	Each	205.00
x	400x150	Each	233.00
y	400x200	Each	248.00
z	400x250	Each	262.00
a1	400x300	Each	276.00
b1	400x350	Each	287.00
c1	450x250	Each	267.00
d1	450x300	Each	280.00
e1	450x350	Each	301.00
f1	450x400	Each	316.00
g1	500x100	Each	228.00
h1	500x150	Each	254.00
i1	500x200	Each	268.00
j1	500x250	Each	281.00
k1	500x300	Each	294.00
l1	500x350	Each	315.00
m1	500x400	Each	330.00
n1	500x450	Each	344.00
o1	600x350	Each	330.00
p1	600x400	Each	345.00
q1	600x500	Each	373.00
15219	Making joints to D.I/ C.I pipes with mechanical joints by nut bolts rubber rings that are provided with the joints,for pushon tight joints, and including the cost of rebber ring,nut bolts, for flanged joint, including the cost of work force, tools, hydraulic testing of joints etc complete as per the direction of the engineer incharge.		
I	All Socket branch flange Tee		
	Nominal Diameter in mm		
a	80x80	Each	398.00
b	100x40	Each	167.00
c	100x50	Each	182.00
d	100x80	Each	428.00
e	100x100	Each	728.00
f	150x40	Each	223.00
g	150x50	Each	238.00
h	150x80	Each	484.00
I	150x100	Each	784.00
j	150x150	Each	893.00
k	200x80	Each	514.00
l	200x100	Each	814.00
m	200x150	Each	923.00
n	200X200	Each	988.00

o	250x80	Each	542.00
p	250x100	Each	842.00
q	250x150	Each	951.00
r	250x200	Each	1016.00
s	250x250	Each	1361.00
t	300x80	Each	570.00
u	300x100	Each	870.00
v	300x150	Each	979.00
w	300x200	Each	1044.00
x	300x250	Each	1389.00
y	300x300	Each	1725.00
z	350x80	Each	592.00
a1	350x100	Each	892.00
b1	350x150	Each	1001.00
c1	350x200	Each	1066.00
d1	350x250	Each	1411.00
e1	350x300	Each	1747.00
f1	350x350	Each	1862.00
g1	400x80	Each	622.00
h1	400x100	Each	922.00
i1	400x150	Each	1031.00
j1	400x200	Each	1096.00
k1	400x250	Each	1441.00
l1	400x300	Each	1777.00
m1	400x350	Each	1892.00
n1	400x400	Each	4213.00
o1	450x80	Each	650.00
p1	450x100	Each	950.00
q1	450x150	Each	1224.00
r1	450x200	Each	1124.00
s1	450x250	Each	1469.00
t1	450x300	Each	1805.00
u1	450x350	Each	1920.00
v1	450x400	Each	4241.00
w1	450x450	Each	4465.00
x1	500x80	Each	678.00
y1	500x100	Each	978.00
z1	500x150	Each	1087.00
a2	500x200	Each	1152.00
b2	500x250	Each	1497.00
c2	500x300	Each	1833.00
d2	500x350	Each	1948.00
e2	500x400	Each	4269.00
f2	500x500	Each	4493.00
g2	600x80	Each	708.00
h2	600x100	Each	1628.00
i2	600x150	Each	1846.00
j2	600x200	Each	1182.00
k2	600x250	Each	1527.00
l2	600x300	Each	1863.00
m2	600x350	Each	1978.00
n2	600x400	Each	4299.00
o2	600x500	Each	4523.00
p2	600x600	Each	6807.00

II	Flanged Socket		
a	80	Each	359.00
b	100	Each	674.00
c	150	Each	811.00
d	200	Each	891.00
e	250	Each	1250.00
f	300	Each	1600.00
g	350	Each	1726.00
h	400	Each	4062.00
I	450	Each	4101.00
j	500	Each	4314.00
k	600	Each	6419.00
15220	Making flanged joints for C.I./D.I. Pipes and specials with rubber insertion, nuts and bolts including necessary hydraulic testing etc. complete including cost of rubber insertion nuts and bolts, as directed by the engineer in charge.		
	Nominal diameter in mm.		
a	80	Each	320.00
b	100	Each	620.00
c	125	Each	656.00
d	150	Each	729.00
e	200	Each	794.00
f	250	Each	1139.00
g	300	Each	1475.00
h	350	Each	1590.00
i	400	Each	3911.00
j	450	Each	3936.00
k	500	Each	4135.00
l	600	Each	6225.00
m	700	Each	6357.00
n	750	Each	6774.00
o	800	Each	9276.00
p	900	Each	9962.00
	D-HYDRAULIC TESTING		
15221	Hydraulic testing of pipeline as per CLAUSE NO 6.4.4 of CPHEEO MANUAL on water supply and treatment, as to the required test pressure by providing all work force, materials, reciprocating pump, pressure gauge, including the cost of water required, maintaining the test pressure for a period of 24 hours from the time the pipe line has attained the test pressure for successful testing, as per the standards, and maintaining the records of hydraulic test as required as per the direction of the engineer in charge		
I	R.C.C/A.C/G.I.		
a	80 mm diameter	Metre	6.10
b	100 mm diameter	Metre	6.20
c	125 mm diameter	Metre	7.40
d	150 mm diameter	Metre	7.50
e	200 mm diameter	Metre	9.70
f	250 mm diameter	Metre	12.00

g	300 mm diameter	Metre	15.00
h	350 mm diameter	Metre	18.00
i	400 mm diameter	Metre	23.00
j	450 mm diameter	Metre	27.00
k	500 mm diameter	Metre	32.00
l	600 mm diameter	Metre	42.00
m	700 mm diameter	Metre	56.00
n	750 mm diameter	Metre	63.00
o	800 mm diameter	Metre	72.00
p	900 mm diameter	Metre	88.00
15222	Hydraulic testing of pipeline as per CLAUSE NO 6.4.4 of CPHEEO MANUAL on water supply and treatment, a to the required test pressure by providing all work force, materials, reciprocating pump, pressure gauge, including the cost of water required, maintaining the test pressure for a period of 24 hours from the time the pipe line has attained the test pressure for successful testing, as per the standards, and maintaining the records of hydraulic test as required as per the direction of the engineer in charge For PVC/HDPE pipeline		
a	63 mm to 110 mm OD	Metre	7.00
b	140mm to 160 mm OD	Metre	8.00
c	180mm to 225 mm OD	Metre	9.00
d	250 mm OD & above	Metre	12.00
15223	Hydraulic testing of pipeline as per CLAUSE NO 6.4.4 of CPHEEO MANUAL on water supply and treatment, to the required test pressure by providing all work force, materials, reciprocating pump, pressure gauge, including the cost of water required, maintaining the test pressure for a period of 24 hours from the time the pipe line has attained the test pressure for successful testing, as per the standards, required as per the direction of the engineer in charge for ductile Iron/ Mildsteel/cast iron pipeline.		
a	200 mm	Metre	9.00
b	250 mm	Metre	15.00
c	300 mm	Metre	18.00
d	350 mm	Metre	21.00
e	400 mm	Metre	25.00
f	450 mm	Metre	30.00
g	500 mm	Metre	35.00
h	600 mm	Metre	45.00
i	700 mm	Metre	59.00
j	750 mm	Metre	66.00
k	800 mm	Metre	75.00
l	900 mm	Metre	91.00
m	1000 mm	Metre	111.00
n	1100 mm	Metre	133.00
o	1200 mm	Metre	156.00
E	HOISTING & LAYING / FIXING OF APPURTUNANCES		

15224	Hosting laying cast iron sluice valves/butterfly valves/reflux valve of size given below at location in pipeline etc. complete as directed as per IS:2685-1971 CLASS I		
	Nominal diameter in mm.		
a	80	Each	121.00
b	100	Each	167.00
c	125	Each	212.00
d	150	Each	273.00
e	200	Each	457.00
f	250	Each	676.00
g	300	Each	911.00
15225	Hosting laying cast iron sluice valves/butterfly valves/reflux valve of size given below at location in pipeline etc .complete as directed as per IS:2685-1971 CLASS II & III.		
	Nominal diameter in mm.		
a	350	Each	1230.00
b	400	Each	2049.00
c	450	Each	2406.00
d	500	Each	2933.00
e	600	Each	4031.00
f	700	Each	5151.00
g	750	Each	5753.00
15226	Fixing C.I. Single large orifice air valve of similar make with bronze ferrule at inlet screwed suitable to working pressure of 15kg/sq. cm for 12 mm to 20mm and 10kg/sq. cm for 25mm to 50mm,complete,as directed by the engineer incharge,of following sizes.		
	Nominal diameter in mm.		
a	15	Each	86.00
b	20	Each	95.00
c	25	Each	105.00
d	40	Each	126.00
e	50	Each	146.00
15227	Fixing C.I. Double orifice / Kinetic type air valve of following sizes with bronze ferrule at inlet screwed on isolating valve small orifice elastic ball resting valve small orifice elastic ball resting on small bronze orifice nipple and large orifice vulcanite ball resting on moulded seat ring inlet faced and drilled to BST "D" suitable to working pressure of 10 kg/sq. cm.		
	Nominal diameter in mm.		
a	40	Each	214.00
b	50	Each	235.00
c	65	Each	266.00
d	80	Each	470.00
e	100	Each	827.00
f	150	Each	973.00
g	200	Each	1076.00

15228	Fixing C.I. Tamper proof Kinetic double orifice type air valve. Small orifice elastic ball resting on bronze orifice nipple and large orifice vulcanite ball resting on moulded seat ring with built in Kinetic features of isolating sluice valve of rating P.N. 1.6 with ISI mark mounted on a horizontal mounting operated by mitered wheel gear suitable for working pressure of 10 kg / sq. cm		
	Nominal diameter in mm.		
a	50	Each	235.00
b	80	Each	470.00
c	100	Each	827.00
d	150	Each	973.00
e	200	Each	1076.00
15229	Providing and fixing C.I. stand post fire hydrant conforming to IS:908-1969 bearing ISI certification mark consisting of two nos. 80mm sluice valves one duck foot bend, one no. C.I. surface box, 100x160x180mm, 80 mm dia tail piece and stand post including bronze coupling etc. complete.		
	Nominal diameter in mm.		
a	80	Each	29916.00
15230	Providing and fixing C.I. underground fire hydrant conforming IS:906-1969 bearing ISI certification mark consisting of two no.100mm sluice valve one duck foot bend, one number C.I. surface box, 100x160x180mm 80mm dia tail piece and stand post including bronze coupling etc. complete but underground fire hydrant bearing to IS:909-1969 including gun metal instantaneous metal coupling instead of stand post.		
	Nominal diameter in mm.		
a	80	Each	25519.00
15231	Providing and fixing M.S. ladders 50x50x6mm (2" x2" x 1/4) equal with 18 mm M.S. rods 45 cm wide for steps placed at 30 cm c/c welded including two coats of red oxide etc. complete.	Metre	705.00
15232	Providing and fixing 40mm (1½)dia G.I. Ladder medium class G.I. Pipe with 20 mm dia G.I. Pipe (medium class) steps 45cm wide place at 30cm c/c welded in the interior of reservoir including painting two coats with non- poisonous red oxide paint etc. complete.	Metre	1155.00
15233	Providing and fixing 80x60cm M.S. inspection door with 25x25x5mm angle iron frame welded and M.S. shutter 3mm thick with locking arrangement iron but hinges 100mm x 40mm size painting with red oxide paint in two coats. complete	Each	1272.00
15234	Providing and fixing 25mm G.I. pipe railing (medium class) in three horizontal rows of pipes and angles of a size 65x65x8mm, 1.15m height and placed at 1.85m to centre including painting two coats and embedded in cement concrete complete.	Metre	1750.00

15235	Providing and fixing water level indicator (gauge) with M.S. Sheet 3 to 4mm thick with copper floats indicator and flexible copper/nylon wire fixed on standard pullies including necessary arrangement to prevent the swinging by hooks, painting figure with approved enamel paint etc. complete.	Metre	1858.00
15236	Construction of masonry chamber 60x60x75cm inside in 40kg/sq. cm brickwork complete with 23 cms wall thickness and in cement mortar 1:4(1 cement : 4coarse sand) for sluice valves 50 to 80mm with necessary excavation, foundation concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone ballast 40 mm nominal size) and inside plastered with CM 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement complete and chamber cover as specified below etc. all complete as per standard drawing . (rate is inclusive of rate earthwork excavation, cost of surfacecover and all other materials and labour as per details below)		
a	with C.I. Surface box 100mm top dia 160mm bottom dia and 160mm deep of wt 15kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	6501.00
b	with C.I. Surface box 200mm top dia 300mm bottom dia and 300 mm deep of wt 32kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	8541.00
c	with C.I. cover and frame 600mm x600mm weighing not less than 230 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	23667.00
d	Withn D.I hinged, square, frame and cover as per EN 124 standards of size 600mm x 600mm size wighing not less than 98 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	14910.00
e	with M.S. sheet cover with 6 mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	6220.00
f	with M.S. sheet cover with 12mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	7539.00
g	Without surface box and with 120 mm thick R.C.C. slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	4702.00

15237	Construction of masonry chamber 90x90x100 cm inside in 40kg/sq. cm brickwork complete with 23 cms wall thickness and in cement mortar 1:4(1 cement : 4 coarse sand) for sluice valve of sizes 100 mm, 120 mm 150 mm and 200mm dia with necessary excavation, foundation concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone ballast 40 mm nominal size) and inside plastered with CM 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement complete and chamber cover as specified below etc. all complete as per standard drawing . (rate is inclusive of rate earthwork excavation, cost of surfacecover and all other materials and labour as per details below)		
a	with C.I. Surface box 100mm top dia 160mm bottom dia and 160mm deep of wt 15kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	10569.00
b	with C.I. Surface box 200mm top dia 300mm bottom dia and 300 mm deep of wt 32kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	12584.00
c	with C.I. cover and frame 600mm x600mm weighing not less than 230 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	27747.00
d	With D.I hinged, square, frame and cover as per EN 124 standards of size 600mm x 600mm size weighing not less than 98 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	18990.00
e	with M.S. sheet cover with 6 mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	13598.00
f	with M.S. sheet cover with 12mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	17555.00
g	Without surface box and with 120 mm thick R.C.C. slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	8783.00

15238	Construction of masonry chamber 120x120x100 cm inside in 40kg/sq. cm brickwork complete with 23 cms wall thickness and in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve size beyond 200mm dia with necessary excavation, foundation concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone ballast 40 mm nominal size) and inside plastered with CM 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement complete and chamber cover as specified below etc. all complete as per standard drawing . (rate is inclusive of rate earthwork excavation, cost of surface cover and all other materials and labour as per details below)		
a	with C.I. Surface box 100mm top dia 160mm bottom dia and 160mm deep of wt 15kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	13807.00
b	with C.I. Surface box 200mm top dia 300mm bottom dia and 300 mm deep of wt 32kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	15823.00
c	with C.I. cover and frame 600mm x600mm weighing not less than 230 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	30834.00
d	With D.I hinged, square, frame and cover as per EN 124 standards of size 600mm x 600mm size weighing not less than 98 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	22077.00
e	with M.S. sheet cover with 6 mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	16685.00
f	with M.S. sheet cover with 12mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	20642.00
g	Without surface box and with 120 mm thick R.C.C. slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	12022.00
15239	Add or deduct for every 0.10 m depth or part thereof for brick masonry chamber.		
a	60cm x60cmx75cm	Per 10 cms	332.00
b	90cm x90cmx100cm	Per 10 cms	523.00
c	120cm x120cmx 100cm	Per 10 cms	649.00

15240	Construction of masonry chamber 60x60x75cm inside in laterite masonry in neatly dressed stones complete with 23 cms wall thickness and in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valves 50 to 80mm with necessary excavation, foundation concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone ballast 40 mm nominal size) and inside plastered with CM 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement complete and chamber cover as specified below etc. all complete as per standard drawing . (rate is inclusive of rate earthwork excavation, cost of surfacecover and all other materials and labour as per details below)		
a	with C.I. Surface box 100mm top dia 160mm bottom dia and 160mm deep of wt 15kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	5918.00
b	with C.I. Surface box 200mm top dia 300mm bottom dia and 300 mm deep of wt 32kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	7958.00
c	with C.I. cover and frame 600mm x600mm weighing not less than 230 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	23084.00
d	Withn D.I hinged, square, frame and cover as per EN 124 standards of size 600mm x 600mm size wighing not less than 98 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	12476.00
e	with M.S. sheet cover with 6 mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	5637.00
f	with M.S. sheet cover with 12mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	6956.00
g	Without surface box and with 120 mm thick R.C.C. slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	4119.00

15241	Construction of masonry chamber 90 x 90 x100 cm inside in 40kg/sq. cm laterite masonry in neatly dressed stones complete with 23 cms wall thickness and in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve of sizes 100 mm, 120 mm 150 mm and 200mm dia with necessary excavation, foundation concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone ballast 40 mm nominal size) and inside plastered with CM 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement complete and chamber cover as specified below etc. all complete as per standard drawing . (rate is inclusive of rate earthwork excavation, cost of surfacecover and all other materials and labour as per details above)		
a	with C.I. Surface box 100mm top dia 160mm bottom dia and 160mm deep of wt 15kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	9353.00
b	with C.I. Surface box 200mm top dia 300mm bottom dia and 300 mm deep of wt 32kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	11369.00
c	with C.I. cover and frame 600mm x600mm weighing not less than 230 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	26532.00
d	Withn D.I hinged, square, frame and cover as per EN 124 standards of size 600mm x 600mm size wighing not less than 98 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	17775.00
e	with M.S. sheet cover with 6 mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	12383.00
f	with M.S. sheet cover with 12mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	16340.00
g	Without surface box and with 120 mm thick R.C.C. slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	8783.00

15242	Construction of masonry chamber 120 x 120 x100 cm inside in laterite masonry in neatly dressed stones complete with 23 cms wall thickness and in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve size beyond 200mm dia with necessary excavation, foundation concrete 1:5:10 (1 cement : 5 coarse sand: 10 graded stone ballast 40 mm nominal size) and inside plastered with CM 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement complete and chamber cover as specified below etc. all complete as per standard drawing . (rate is inclusive of rate earthwork excavation, cost of surfacecover and all other materials and labour as per details above)		
a	With C.I. Surface box 100mm top dia 160mm bottom dia and 160mm deep of wt 15kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	12269.00
b	With C.I. Surface box 200mm top dia 300mm bottom dia and 300 mm deep of wt 32kg inside with chain lid in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	14285.00
c	with C.I. cover and frame 600mm x600mm weighing not less than 230 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	29296.00
d	With D.I hinged, square, frame and cover as per EN 124 standards of size 600mm x 600mm size wighing not less than 98 kgs in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	18688.00
e	with M.S. sheet cover with 6 mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	15147.00
f	with M.S. sheet cover with 12mm thick M.S. plate and frame of Angle iron 5050x6mm in 120 mm thick RCC slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	19104.00
g	Without surface box and with 120 mm thick R.C.C. slab cover in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone ballast 20 mm nominal size)	Each	10484.00
15243	Add or deduct for every 0.10cm depth or part thereof for laterite stone masonry chamber.		
a	60cm x60cmx75cm	Per 10 cms	253.00
b	90cm x90cmx75cm	Per 10 cms	402.00
c	120cm x120cmx75cm	Per 10 cms	495.00

15244	Fixing of water meter by conveying and laying of pipeline, including threading, jointing of pipes inside the meter box with necessary fittings(four elbows and one union joint) in "U "shape(vertical side of U measuring 15cms and horizontal side of U having 0.55 or more as required), conforming to IS specification 2401-1973 for installation of meter including making holes in the masonry of the meter box but excluding cost of meter and valves, at various scattered locations as directed by the Engineer incharge.		
a	Size from 15mm to 25 mm size	Each	324.00
15245	Fixing of water meter including providing and laying of pipeline, including threading, laying and jointing of pipes inside the meter box with necessary fittings(four elbows and one union joint) in "U "shape(vertical side of U measuring 15cms and Horizontal side of U having 0.55 or more as required), conforming to IS 2401-1973 specification in meter for installation of meter ncluding making holes in the masonry of the meter box but excluding cost of meter and valves, at various scattered locations as directed by the Engineer incharge.		
a	with G.I pipes and fittings		
i	15 mm nominal diamter	Each	558.00
ii	20 mm nominal diamter	Each	701.00
iii	25 mm nominal diamter	Each	920.00
b	with U-pvc plumbing threadable pipes and fittings		
i	20mm outer diamter	Each	416.00
ii	25mm outer diamter	Each	493.00
15246	Making connection to individual 15mm GI/20mm od Blue PVC pipeline with existing distribution line of any diameter with saddle piece / and necessary pipe and specials required suitable to the distribution line with road cutting trenching refilling the same including the cost of labour and accessories etc. complete. as per the direction of engineer -in- charge.	Each	1840.00
15247	Blast cleaning the surface of the old or new pipeline internally to remove all rust etc. complete, including providing sand, machinery, labour cutting of pipes at required places and rewelding the same etc., complete as directed by the engineer-in-charge (pipes pieces if required for rewelding of old pipeline shall be paid separately)	Sq. m.	600.00

15248	Cleaning of new or old pipeline internally with mechanical cleaning machine having steel scaper blades with required passes including removing all rust, scaling etc. including cutting the pipes required places, rewelding the same including cost of all the material and labour etc. complete(pipes pieces if required for welding of old pipeline shall be paid separately) as per the direction of engineer -in-charge.	Sq. m.	750.00
15249	Blast cleaning the surface of the old or new pipeline /concrete/R.C.C. Externally to remove all rust including providing sand machinery etc. complete as directed by the Engineer-in-charge.	Sq. m.	550.00
15250	Providing & applying primer and one coat of Red Oxide of iron paints, internally, including cleaning the surface of pipes with steel scrappers, wire brushes, and metal cleaning solution, etc,as per the direction of engineer -in- charge.	Sq. m.	350.00
15251	Gas cutting (either square cut or V cut) pipes, plates etc. of thickness.		
a	Upto 5 mm dia.	Metre	200.00
b	Above 5 mm upto 10 mm dia.	Metre	300.00
c	Above 10 mm upto 14 mm dia.	Metre	350.00
15252	Gas cutting holes upto 50 mm dia. (for plugs) thickness of shell : 5 mm to 12 mm	Each	200.00
15253	Providing and making inner cement mortar lining to M.S. pipes with mechanical devices in cement mortar 1:1 proportion, including cost of all material, labour, special sand & required, machinery power generation all equipments and tacking necessary access opening and manholes cuts at suitable intervals as directed by the Engineer-in-charge.and rewelding the same after done with doubler plates pipes including necessary excavation refilling, concrete breaking and remaking if any, breaking guniting and remaking the same, repainting whenever required with epoxy paint in 3 coats, all dewatering including emptying the pipeline and refilling the same after done with(water to be supplied by the departmentfree of cost within 5 kms. lead at fixed point and all other arrangement to be done by agency) including carrying out "C" value performance test of the pipelin, complete job as per the directions of the engineer-in-charge.		
a	10 mm to 12mm thick for pipes upto 700 mm dia.	Sq.m.	900.00
b	10 mm to 12mm for pipes above 700 mm dia.and upto 1250 mm Dia.	Sq.m.	1200.00

15254	Construction precast public fountain consisting of RCC vertical foundation slab in cement concrete 1:1. 5:3 (1 cement: 1.5 coarse Sand : 3 coarse aggregate 20mm nominal size) with nominal reinforcement at 80kg cum. of cement concrete including finishing and plastering with 6mm thick plaster, foundation, platform curb and footrest in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 stone aggregate 20 mm nominal size) including 12mm thick plaster for platform and foot rest in cement mortar 1:3 (1cement: 3 coarse sand) and providing and fixing G.I. Pipe 20mm nominal bore of length 4m including fixing of brass bib cock 20mm size (heavy duty) as per standard design etc. complete .		
a	circular platform or square platform type	Each	6386.00
15255	Disinfecting C.I. water mains by flushing with water containing bleaching powder at 0.5 gms per litre of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory , as per the direction of the engineer incharge		
	Nominal diameter in mm.		
a	80	Metre	3.50
b	100	Metre	3.80
c	125	Metre	4.80
d	150	Metre	5.80
e	200	Metre	7.90
f	250	Metre	10.10
g	300	Metre	11.50
h	350	Metre	13.00
i	400	Metre	14.70
j	450	Metre	16.50
k	500	Metre	18.30
l	600	Metre	22.40
15256	Extra for every operation of disinfecting the C.I. main by flushing with water containing bleaching powder at 0.5 gms per litre of water and cleaning the same with fresh water, including getting the samples of water tested in the municipal laboratory, as per the direction of the engineer incharge		
	Nominal diameter in mm.		
a	80	Metre	1.10
b	100	Metre	1.30
c	125	Metre	1.60
d	150	Metre	1.90
e	200	Metre	2.80
f	250	Metre	3.40
g	300	Metre	3.90
h	350	Metre	4.60
i	400	Metre	5.40
j	450	Metre	6.20
k	500	Metre	7.10
l	600	Metre	8.90

CHAPTER VII

R.C.C. GROUND LEVEL AND OVERHEAD TANKS

NOTES:-

- 1 Rates for the R.C.C works in construction of ground level and overhead reservoirs are inclusive of
 - (a) Cost of concreting, centering & shuttering.
 - (b) 6mm rendering for all external surfaces of reservoirs,
 - (c) 12 mm thick plastering for the inside surfaces (including the bottom surface of dome) of water tank,
 - (d) Construction of working platform for all necessary stages required for the required height of Ground level reservoir and overhead reservoir.
 - (e) Water tightness test as per IS- 3370 required for the construction of reservoir.
- 2 The rates for guniting the reservoirs are inclusive of construction of working platform with necessary staging, water tightness test as per IS- 3370 for ground and overhead reservoirs.
- 3 Rates for Ready mix concrete as well as design mix concrete are furnished in the section for GLR and OHR. Preference shall be given for ready mix concrete for reservoir works.
- 4 Rates for the ready mix concrete are for initial lead of 10 kilometers from the plant. In case the distance to the work site is more than 10 kilometers from the nearest plant additional lead is to be provided in the respective item of the estimate by rate analysis by providing additional lead as required.
- 5 The measurement for any member shall be made exclusive of thickness of plaster and rendering.
- 6 Service reservoirs are to be designed as per the clause no 10.4 of the CPHEEO manual on water supply and treatment. (Vide appendix 10.1 for the example).

RESERVOIRS

READY MIXED CONCRETE-GROUND LEVEL RESEVOIR

Item No	Description	Unit	Rate
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15301	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design of M- 15(by using 325kg of cement per cu.m of concrete in Ground level reservoir) including the cost of pumping the R.M.C from transit mixer to the site of laying,including the cost of centering shuttering for plain cement concrete work, complete in all respects in Ground level reservoir as per the direction of the Engineer-in-charge..		
a	Foundation and Plinth	Cu.m	5837.00
15302	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design of M- 30(by using 410kg of cement per cu.m of concrete in Ground level reservoir) for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying, excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including rendering in cement mortar of 1:3 in 6mm thickness for all external R.C.C surfaces,and 12mm cement mortar of 1:3 for internal surfaces, in carrying including the cost of successful water tightness test as per IS code with relevant latest amendments complete in all respects complete in all respects in Ground level reservoir as per the direction of the Engineer-in-charge.		
a	Bottom slab of GLR Including Haunch portion	Cu.m	7401.00

15303	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design of M- 30 (by using 410kg of cement per cu.m of concrete in Ground level reservoir)for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including construction of working platforms with staging, at suitable heights for the construction of the ground reservoir for a height of 6 meter with ballies, bamboos, planks rafters, and allied components, including rendering in cement mortar of 1:3 in 6mm thickness for all external R.C.C. surfaces of reservoir, including the cost of plastering in cement mortar in 1:3 in 12 mm thickness for all internal surfaces of reservoir (with mechanical machine mixer for plaster) including the cost of successful water tightness test as per IS code with relevent latest amendments complete in all respect in <u>Ground level reservoir as per the direction of the Engineer-in-charge</u>		
a	From ground level Up to 5M height in walls	Cu.m	21161.00
b	Dome More than 5m upto 6.5m including ring beam	Cu.m	40923.00
READY MIXED CONCRETE - RESEVOIRS RECTANGULAR OR SQUARE IN PLAN			
IN			
15304	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design, including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability in M- 15 grade of concrete for cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering, and near even finishing etc. complete in all repects as per the direction of the engineer in charge in Ground level reservoir/Under ground reservoir.		
a	Foundation and Plinth	Cu.m	5802.00

15305	<p>Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10 kilometers distance having continuous agitated mixer, manufactured as per the mix design, including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete to improve workability without impairing strength and durability in M- 30 grade of concrete with 420 kg of cement per cu.m of concrete, for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including Plastering in cement mortar of 1:3 in 12mm thickness with water proofing compound with a neat finishing floating coat of cement for internal R.C.C surfaces of bottom slab complete in all respects as per the direction of the engineer in charge in Ground level reservoir/Under ground reservoir.</p>		
a	<p>Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10 kilometers distance having continuous agitated mixer, manufactured as per the mix design, including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete to improve workability without impairing strength and durability in M- 30 grade of concrete with 420 kg of cement per cu.m of concrete, for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including Plastering in cement mortar of 1:3 in 12mm thickness with water proofing compound with a neat finishing floating coat of cement for internal R.C.C surfaces of bottom slab complete in all respects as per the direction of the engineer in charge in Ground level reservoir/Under ground reservoir.</p>	Cu.m.	7425.00

15306	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design, including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/retard setting of concrete to improve workability without impairing strength and durability of concrete, in M- 30 grade of concrete with 420 kg of cement per cu.m of concrete, for reinforced cement concretework including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including construction & removal of working platforms at suitable heights for the construction of the ground level reservoir/Under ground reservoir for a height of 6 meter with ballies, bamboos, planks rafters, and allied components, including plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces of reservoir, including the cost of plastering in cement mortar in 1:3 in 12 mm thickness with waterproofing compound for all internal surface of reservoir (with mechanical machine mixer for plaster),including the cost of water tightness test as per IS code with relevant latest amendments complete in all respects as per the direction of the engineer in charge in Ground level reservoir/Under ground reservoir.		
a	Up to 5M height in straight walls	Cu.m	20495.00
15307	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design, including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete to improve workability without impairing strength and durability of concrete, in M- 30 grade of concrete with 420 kg of cement per cu.m of concrete, for reinforced cement concretework including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including construction & removal of working platforms at suitable heights for the construction of the ground level reservoir/Under ground reservoir for a height of 6 meter with ballies, bamboos, planks rafters, and allied components, including plastering in cement mortar of 1:3 in 12mm thickness for all external R.C.C surfaces of coulums beams and bracings,including the cost of plastering in cement mortar in 1:3 in 12 mm thickness with waterproofing compound for all surfaces of columns beams bracings etc in reservoir (with mechanical machine mixer for plaster), complete in all respects as per the direction of the engineer in charge in Ground level reservoir/Under ground reservoir.		
a	columns beams bracings upto roof slab level	Cu.m	9730.00

15308	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer, manufactured as per the mix design including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete to improve workability without impairing strength and durability of concrete, in M- 30 for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including construction & removal of working platforms at suitable heights for the construction of the ground level reservoir/sump for a height of 6 meter with ballies, bamboos, planks rafters, and allied components, including plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces of reservoir roof slab, including the cost of plastering in cement mortar in 1:3 in 6 mm thickness for all internal surface of reservoir roof slab (with mechanical machine mixer for plaster), including the cost of water tightness test as per IS code with relevant latest amendments complete in all respects as per the direction of the engineer in charge in Ground level reservoir/sump.		
a	Suspended Roof slab for Ground level reservoir/ under ground reservoir	Cu.m	12191.00
READY MIXED CONCRETE-OVERHEAD RESERVOIR			
15309	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C., from the transit mixer to the site of laying, including the cost of centering, shuttering, finishing the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability in M-15 grade of plain cement concrete by using 325 kg of cement per cu.m of concrete in overhead reservoir as per the directions of the Engineer in Charge.		
a	Foundation and Plinth	Cu.m	5890.00

15310	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability of M- 30 for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying, excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces complete in all respects as per the direction of the engineer in charge in overhead reservoir.		
a	Foundation and footing, beams columns, braces, landing slabs, cantilever portion etc. upto ground level	Cu.m	7714.00
15311	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10 kilometers distance having continuous agitated mixer,manufactured as per the mix design including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability of M- 30 for reinforced cement concrete work including the cost of pumping the R.M.C from transit mixer to the site of laying, excluding the cost of reinforcement ,including the cost of centering shuttering for R.C.C work, including construction of working platforms with staging at suitable heights for the construction of the overhead reservoir for a height of 25 meter with ballies, bamboos, planks rafters, and allied components, including plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces of columns, beams ,bracings, girdersof over head reservoir, (with mechanical machine mixer for plaster),including the cost of successful water tightness test as per IS code with relevant latest amendments complete in all respects as per IS code with relevant latest amendments complete in all respects as per the direction of the engineer in charge in overhead reservoir.		
a	From ground level Up to 5M height including 1st bracing beam (Column beam,bracings, landing slab etc)	Cu.m	17852.00
b	More than 5m Upto 10M height including 2nd bracing beam (Column an beam, bracings,landing slab etc)	Cu.m	27025.00
c	More than 10 m Up to 15M height including 3rd bracing beam (Column an beam, bracings,landing slab etc)	Cu.m	36212.00
d	More than 15m up to 20M. height in column, beams bracings, landing slabs etc	Cu.m	43015.00
e	Bottom dome including bottom ring beam up to 20M level	Cu.m	36350.00

f	Circular walls, circular conical walls and alike between 20 to 25M level	Cu.m	17862.00
g	Upper domes including top ring beam more than 20m up to 25m level	Cu.m.	33990.00
DESIGN MIX- GROUND LEVEL RESERVOIR OR UNDER GROUND RESERVOIR			
15312	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper, for cement concrete work of specified grade including the cost of laying, centering shuttering, finishing as per the direction of the Engineer-in-charge in M-15 grade of plain cement concrete by using 325kg of cement per cu.m of concrete in Ground level reservoir/sump		
a	Foundation and Plinth	Cu.M	5171.00
15313	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper for reinforced cement concrete work including the cost of laying, centering shuttering, including Plastering in cement mortar of 1:3 in 12mm thickness with water proofing compound with a neat finishing floating coat of cement for internal R.C.C surfaces of bottom slab with neat finish including the cost of successful water tightness test as per IS code with relevant latest amendments and excluding the cost of reinforcement in M-30 grade of reinforced cement concrete by using 420kg of cement per cu.m of concrete in Ground level/under ground reservoir as per the direction of the Engineer-in-charge.		
a	Bottom slab of GLR Including Haunch portion	Cu.m	6661.00
15314	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper for reinforced cement concrete work including the cost of laying, centering shuttering, plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces, including construction & removal of working platforms with staggging at suitable heights for the construction of the overhead reservoir for a height of 25 meter with ballies, bamboos, planks rafters, and allied components, plastering the internal surfaces with 12 mm thickness cement plaster in 1:3 with water proofing compound with neat finish including the cost of successful water tightness test as per IS code with relevant latest amendments and excluding the cost of reinforcement in M-30 grade of reinforced cement concrete by using 420kg of cement per cu.m of concrete in Ground level reservoir as per the direction of the Engineer-in-charge.		
a	Up to 5M height in walls	Cu.m	20421.00
b	Spherical dome including circular ring beam upto 6.5m	Cu.m.	40184.00
DESIGN MIX- RESERVOIRS RECTANGULAR OR SQUARE IN PLAN			

15315	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper, for cement concrete work of specified grade including the cost of laying , centering shuttering, finishing as per the direction of the Engineer-in-charge in M-15 grade of plain cement concrete by using 325kg of cement per cu.m of concrete in Ground level reservoir/sump		
a	Foundation and Plinth	Cu.m.	5136.00
15316	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper for reinforced cement concrete work including the cost of laying, centering shuttering, including Plastering in cement mortar of 1:3 in 12mm thickness with water proofing compound with a neat finishing floating coat of cement for internal R.C.C surfaces of bottom slab with neat finish including the cost of successful water tightness test as per IS code with relevant latest amendments and excluding the cost of reinforcement in M-30 grade of reinforced cement concrete by using 420kg of cement per cu.m of concrete in Ground level reservoir as per the direction of the Engineer-in-charge.		
a	Bottom slab of GLR Including Haunch portion	Cu.m.	6686.00
15317	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper for reinforced cement concrete work including the cost of laying, centering shuttering, plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces, plastering the internal surfaces with 12 mm thickness cement plaster in 1:3 with water proofing compound with neat finish, including construction of working platforms with staggings at suitable heights for the construction of the overhead reservoir for a height of 6 meter with ballies, bamboos, planks rafters, and allied components including the cost of successful water tightness test as per IS code with relevant latest amendments and excluding the cost of reinforcement in M-30 grade of reinforced cement concrete by using 420kg of cement per cu.m of concrete in Ground level reservoir as per the direction of the Engineer-in-charge.		
a	Up to 5M height in straight walls	Cu.m.	19756.00

15318	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper for reinforced cement concrete work including the cost of laying, placing in position, centering shuttering, plastering all the surfaces with 12 mm thickness cement plaster in 1:3 with water proofing compound with neat finish, including the cost of centering shuttering for R.C.C work, including construction of working platforms with staging at suitable heights for the construction of the overhead reservoir for a height of 6 meter with ballies, bamboos, planks rafters, and allied components including the cost of successful water tightness test as per IS code with relevant latest amendments and excluding the cost of reinforcement in M-30 grade of reinforced cement concrete by using 420kg of cement per cu.m of concrete in Ground level reservoir as per the direction of the Engineer-in-charge.		
a	Columns beams bracings upto roof slab level	Cu.m.	9005.00
15319	Providing and laying in position Design mixed concrete manufactured in continuous agitated mixer at site, manufactured as per the mix design in M-30 by using 420kg of cement per cu.m of concrete for reinforced cement concrete work including the cost of laying and placing in position from mixer to the site of laying excluding the cost of reinforcement, including the cost of centering shuttering for R.C.C work, including construction of working platforms at suitable heights for the construction of the ground level reservoir/sump for a height of 6 meter with ballies, bamboos, planks rafters, and allied components, including plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces of reservoir roof slab, including the cost of plastering in cement mortar in 1:3 in 6 mm thickness for all internal surface of reservoir roof slab (with mechanical machine mixer for plaster), including the cost of water tightness test as per IS code with relevant latest amendments complete in all respects as per the direction of the engineer in charge in Ground level reservoir/sump.		
a	Suspended Roof slab of rectangular/ square in plan for Ground level reservoir/ under ground reservoir	Cu.m.	11451.00
DESIGN MIX-OVERHEAD RESERVOIR			
15320	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper, for cement concrete work including the cost of laying, centering shuttering, finishing, as per the direction of the Engineer-in-charge in M-15 grade of plain cement concrete by using 325kg of cement per cu.m of concrete in overhead reservoir		
a	Foundation and Plinth	Cu.m.	5224.00

15321	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper, for cement concrete work including the cost of laying , centering shuttering, finishing , as per the direction of the Engineer-in-charge in M-30 grade of plain cement concrete by using 420kg of cement per cu.m of concrete ,including the cost of centering shuttering for R.C.C work, including plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces of foundation complete in all respects as per the direction of the engineer in charge in overhead reservoir.		
a	Foundation and footing, beams columns, braces,cantilever portion etc. upto ground level	Cu.m.	7049.00
15322	Providing and laying in position Design mix concrete mixed in the mechanical mixing mixer with hopper for reinforced cement concrete work including the cost of laying, centering shuttering, plastering in cement mortar of 1:3 in 15mm thickness for all external R.C.C surfaces, including construction of working platforms with staggging at suitable heights for the construction of the overhead reservoir for a height of 6 meter with ballies, bamboos, planks rafters, and allied components including the cost of sucessful water tighness test as per IS code with relevant latest amendments and excluding the cost of reinforcement in M-30 grade of reinforced cement concrete by using 420kg of cement per cu.m of concrete in Ground level reservoir as per the direction of the Engineer-in-charge.		
a	From ground level Up to 5M height including 1st bracing beam (Column beam,bracings, landing slab etc)	Cu.m.	17568.00
b	More than 5m Upto 10M height including 2nd bracing beam (Column an beam, bracings,landing slab etc)	Cu.m.	26734.00
c	More than 10 m Up to 15M height including 3rd bracing beam (Column an beam, bracings,landing slab etc)	Cu.m.	35913.00
d	More than 15m up to 20M. height in column, beams bracings, landing slabs etc	Cu.m.	42666.00
e	Bottom dome including bottom ring beam up to 20M level	Cu.m.	36109.00
f	Circlar walls, conical walls and alike between 20 to 25M level	Cu.m.	17584.00
g	Upper domes including top ring beammore than 20m up to 25mt. level	Cu.m.	33698.00
15323	12mm plaster in cement mortar 1:3 with neat finish for internal surfaces of the water tank such as one side of conical wall,one side of vertical wall, one surface of dome, complete as per the direction of the engineer in charge.	Sq.m	158.00
15324	20mm plaster with neat finish in cement mortar 1:3 for internal surfaces of the water tank such as one side of conical wall,one side of vertical wall, one surface of dome, complete as per the direction of the engineer in charge.	Sq.m	229.00

15325	Providing Corrosion resistant steel CRS-50 for R.C.C. work including bending, binding & placing in position with precast factory made concrete cover blocks of strength more than M-30 for maintaing the required clear cover for R.C.C structures in all the floors complete as per the direction of the engineer in charge.	Kg	71.00
15326	Providing Mild steel reinforcement for R.C.C. work (Conforming to I.S 1786 of 1986) including bending,binding & placing in position with precast factory made concrete cover blocks of strength morethan M-30 for maintaing the required clear cover for R.C.C structures in all the floors complete as per the direction of the engineer in charge.	Kg	61.00
15327	Providing TMT steel reinforcement for R.C.C. work(Conforming to I.S 1786 of 1986) including bending,binding & placing in position with precast factory made concrete cover blocks of strength more than M-30 for maintaing the required clear cover for R.C.C structures in all the floors complete as per the direction of the engineer in charge.	Kg	68.00
15328	Providing High yield strength steel (HYSD)for R.C.C. work (Conforming to I.S 1786 of 1986) including bending,binding & placing in position with precast factory made concrete cover blocks of strength more than M-30 for the required clear cover for R.C.C structures in all the floors complete as per the direction of the engineer in charge.	Kg	61.00
15329	providing and fixing ornamental cast iron stair case for over head reservoir full set consisting of 12 steps with tread,riser,side guard,baluster, central post , hand rail, foundation plate fastners for pivoting the stairacse including painting in black colour complete in all respects as per the direction of the engineer in charge.	set	70182.00
15330	Add or dedut for providing an fixing each step of ornamental cast iron stair case for over head reservoir set consisting of one step with tread,riser,side guard,baluster, central post , hand rail, foundation plate fastners for pivoting the stairacse including painting in black colour complete in all respects as per the direction of the engineer in charge.	Each	6068.00
15331	Drilling 40mm dia holes in masonry or concrete structure with providing and fixing0.5m long G.I Pipe nozzles for pressure grouting including all material labour cost and machinery Charges , etc. complete in all respects as per the direction of the engineer in charge. in Ground level reservoir .	Rmt	2183.00

15332	Providing pressure grouting at a pressure of 5.6kg/sqcm in required row / zigzag fashion as specified at 1.5m interval, as per the site condition to stop leakages, in water retaining structures, including the cost of water proofing compound, hardening materials, compressor, necessary allied equipments, scaffolding centering, shuttering, and necessary platform with stagging required, along with smooth finishing the grouted surface, water tightness test as per relevant Is code with latest amendments, etc in Ground level reservoir for reinforced concrete structure complete in all respects as per the direction of the engineer in charge.	Per Bag	8711.00
15333	Providing and applying one coat of gamma coating or equivalent such as DR. bake, krishna conchem, asia paints atul limited burger paints expoy primer 50 to 60 microns thick and covering two coats of gamma coating or equivalent such as DR. bake, krishna conchem, asia paints atul limited burger paints 30microns thick each to new M.S pipes and structural steel or concrete surface including preparing the surface by finishing by solvent degreasing and de-rusting by applying chemical method and scaffolding is necessary as per manufacture specifications complete in all respects as per the direction of the engineer in charge. in Ground level reservoir.	sq.m	1058.00
15334	Drilling 40mm dia holes in masonry or concrete structure with providing and fixing 0.5m long G.I Pipeline for pressure grouting including all material labour cost and machinery Charges, etc. complete in all respects as per the direction of the engineer in charge in overhead reservoir.	Rmt	4162.00
15335	Providing pressure grouting at a pressure of 5.6kg/sqcm in required row / zigzag fashion as specified at 1.5m interval, as per the site condition to stop leakages, in water retaining structures, including water proofing compound, hardening materials, compressor, necessary allied equipments, scaffolding centering, shuttering, and necessary platform with stagging required for the completion of the job along with smooth finishing the grouted surface etc in overhead reservoir for reinforced concrete structure complete in all respects as per the direction of the engineer in charge.	Per Bag	10861.00
15336	Providing and applying one coat of gamma coating or equivalent such as DR. bake, krishna conchem, asia paints atul limited burger paints expoy primer 50 to 60 microns thick and covering two coats of gamma coating or equivalent such as DR. bake, krishna conchem, asia paints atul limited burger paints 30microns thick each to new M.S pipes and structural steel or concrete surface including preparing the surface by finishing by solvent degreasing and de-rusting by applying chemical method and scaffolding is necessary etc. complete as per manufacture specifications in overhead reservoir.	sq.m	2410.93

15337	Providing and fixing MS clamps fabricated out M.S flat of 6mm thickness 100mm wide to hold the inlet/ outlet/ scour pipes in vertical position, supporting on R.C.C column of the reservoir, along with nut bolts , fixture ,inclusive of anticorrosive paint etc.complete in overhead reservoir.	Each	1114.00
15338	supplying and fixing of cast iron ladder in concrete ladder of width 45 cms (in side dimensions of ladder) for inside/outside for RC.C. reservoir with steps spcaed at 25 cms centre to centre with size of 15mm x 6mm for vertical supports in ladder and 10mmx 6 mm size for steps complete in all respects as per the direction of the engineer in charge.	Rm	983.00
15339	Hoisting laying CI /DI/ MS Flanged pipes including specials in vertical position and perfect alignment in correct plumbing for RCC overhead reservoir complete in all respects as per the direction of the engineer in charge.	Rm	438.00
15340	Providing & fixing P.V.C. water stopper 150mm wide and 6mm thick corrugated with centre bulb for insertion for construction joints in R.C.C. works complete in all respects as per the direction of the engineer in charge.	Rm	265.00
15341	Extra for carriage of R.M.C beyond the initial lead of 10kms.	per Km	23.00
15342	Supply of low density solid cast iron/ ductile iron inspection door,(cover and frame fixed with hinges by welding), at domestic places or other places having size, 610mm x 455mm with weight not less than 38kg for reservoirs	Each	2889.00

CHAPTER VIII **SEWERAGE**

NOTES:-

- 1 Earthwork and rubble packing for all type of manholes are to be estimated separately.
- 2 In case of saturated soil when the strata are met the datum shall be the level at which the actual water table is measured from ground level. However above the datum up to ground level extra rates for additional lifts involved shall only be considered in the estimate. The rates mentioned for the saturated soil is inclusive of all lifts for the particular depth mentioned in the item up to ground level.
- 3 The datum at which the water table is located, the stretches at which the centering and shuttering is to be left permanently in position, at site is to be furnished by the division chainage wise in the estimate. Accordingly the items for pipe laying and for manhole are to be selected from the section.
- 4 Item number 15409 is providing dry conditions in the trench for the work of laying sewer lines together with construction of manholes.

5 The design of the sewer lines are to be made as per chapter 3 of Manual on sewerage and
sewage treatment published by the ministry of urban development New Delhi. The sewer zones are
to be framed with the maximum depth of manhole to 5m

6 The rates for different kind of manhole are available in the section for depth varying from 1m to
5m. Rates for a depth between any two of the successive depths are to be arrived, by adding the
item of extra depth for the fractional part to the main item. Manholes are to be measured up to the
accuracy of one centimeter for depths.

7 Sewer chambers are suggested up to a depth of 1m. Above 1m up to 2.0 m depth circular/conical
manhole are to be preferred . The suggested depth and diameter of manholes are furnished below.

8 Sewer line estimate shall include the design of sewers, bedding, anti floatation blocks as per the
Manual on sewerage and sewage treatment.

Diameter of Manhole	Suggested depth	Type of manhole
0.9m	1m to 1.65m	Circular Brick masonry
1.2m	1.66m to 2.02m	Circular Brick masonry
1.2m	2.03m to 2.50m	Composite conical
1.5m	2.51m to 5.0m	Composite conical

CHAPTER VIII SEWERAGE WORK

Item No	Description	Unit	Rate
4005 A	Earthwork in excavation by manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10sq.m on plan) including disposal of excavated earth lead upto 50 m and lift upto 1.5m disposed earth to be leveled and neatly dressed as directed		
a	Ordinary soil	Cu.m.	121.00
b	Hard soil	Cu.m.	157.00
c	Ordinary rock including all types of lateritic rock soil requiring blasting	Cu.m.	393.00
d	All types of lateritic rock (requiring chiselling) where blasting is prohibited	Cu.m.	534.00
e	Hard rock (requiring blasting)	Cu.m.	493.00
f	Hard rock requiring chiselling (where blasting is prohibited)	Cu.m.	767.00
4006 A	Earthwork in excavation by manual means in foundation pipeline trenches drain (not exceeding 1.5m in width or 10 sq. m. on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50m.		
a	Ordinary soil	Cu.m.	130.00
b	Hard soil	Cu.m.	166.00
c	Ordinary rock including all types of lateritic rock soil requiring blasting	Cu.m.	445.00
d	All types of lateritic rock (requiring chiselling) where blasting is prohibited	Cu.m.	594.00

e	Hard rock (requiring blasting)	Cu.m.	549.00
f	Hard rock requiring chiselling (where blasting is prohibited)	Cu.m.	819.00
4010	Extra for additional depth of 1.5 M or part thereof in		
a	All types of soil	Cu.m.	14.00
b	Saturated soil	Cu.m.	25.00
c	All types of laterite rocks and hard rocks	Cu.m.	19.00
15401	Providing barricading for water supply / sewer trenches with wooden ballies/ bamboos of 2 m height with vertical spacing at 2 meter centre to centre, and horizontal bracing at 0.6m centre to centre by forming squares of size 2m x0.6m ,and securing the joints of frames firmly with coir rope, including fixing of cautionary sign indication board of size 0.6m x0.45m,and board painted with " caution" " work in progress" letters and an arrow for diversion, all painted in reflectory paint, and providing and fixing two rows of reflectory tape in red colour along the periphery of the barricading etc complete as per the direction of the Engineer incharge	Meter	127.00
15402	Closed planking in trenches including strutting and shoring, packing cavities (wherever required) complete for sewerage works in saturated soil strata.		
a	For works of depth up to 1.50 m	Sqm	431.00
b	For works of depth upto to 3.00 m	Sqm	526.00
c	For works of depth upto 4.50m	Sqm	734.00
d	For works at depth upto 6.00m	Sqm	791.00
e	For works at depth upto 7.500m	Sqm	840.00
15403	Earthwork in excavation over areas in saturated soil (exceeding 0.30 m depth up to a depth of 0.60 m) including disposal of excavated earth, upto a lift of 1.5 m & within a lead of 50m to be neatly dressed leveled, as directed by the Departmental Officer.		
a	excluding planking, timbering in trenches and dewatering.	Cu.m	282.00
15404	Earthwork in excavation in foundation pipeline trenches, drain in saturated soil up to a depth of 0.60 m lift up to 1.50 m including disposing the excavated soil within a lead of 50 m Disposed earth to be neatly dressed and leveled, as directed by the Departmental Officer.		
a	excluding planking, timbering in trenches and dewatering.	Cu.m	293.00
15405	Extra for earthwork excavated in saturated soil for every 0.30 m. depth or part thereof over 0.60 m. depth.	Cu.m	44.00
15406	Extra for additional depth of 1.5 m or part thereof in saturated soil .	Cu.m	25.00

15407-(4016)	Extra for planking and struting and packing material for cavities (in close timbering) if required to be left permanently in position (face area of timbering to be left permanently in position is to be measured)	sq.m	719.00
15408	Add extra for excavation in or under water and on liquid mud including cost of pumping and complete (extra rate per cu.m. of excavation qty. in saturated soil strata considering actual water table level during the construction as datum)		
a	Excavation work up to 1.5m depth from datum (measured from saturated soil/ strata level).	Cu.m	272.00
b	Excavation work upto 3.00m. depth from datum (measured from saturated soil/ strata level).	Cu.m	493.00
c	Excavation work upto 4.50 m depth from datum (measured from saturated soil/ strata level).	Cu.m	829.00
d	Excavation work upto 6.0 m & above depth from datum (measured from saturated soil/ strata level).	Cu.m	1565.00
15409	Pumping/bailing out water from the trench excavated in saturated soil strata to maintain dry/favourable working conditions while, rubble packing, laying, jointing & satisfactory testing of the sewer lines and allied works of manholes, construction encasing etc. (Payments are per finished pipelines length including manholes).		
I	For pipelines up to 300 mm dia		
a	For works up to 1.50 m depth or part thereof (measured from saturated soil/ strata level).	Metre	178.00
b	For works upto to 3.0 m.depth or part thereof (measured from saturated soil/ strata level).	Metre	300.00
c	For works upto to 4.50 m.depth or part thereof (measured from saturated soil/ strata level).	Metre	460.00
d	For works upto to 6.0 m.depth or more (measured from saturated soil/ strata level).	Metre	652.00
II	For pipelines between 350 mm dia and 600 mm dia		
a	For works up to 1.50 m depth or part thereof (measured from saturated soil/ strata level).	Metre	194.00
b	For works upto to 3.0 m.depth or part thereof (measured from saturated soil/ strata level).	Metre	327.00
c	For works upto to 4.50 m.depth or part thereof (measured from saturated soil/ strata level).	Metre	501.00
d	For works upto to 6.0 m.depth or more (measured from saturated soil/ strata level).	Metre	710.00
III	For pipelines from 650 mm dia and above		
a	For works up to 1.50 m depth or part thereof (measured from saturated soil/ strata level).	Metre	233.00
b	For works upto to 3.0 m.depth or part thereof (measured from saturated soil/ strata level).	Metre	393.00
c	For works upto to 4.50 m.depth or part thereof (measured from saturated soil/ strata level).	Metre	602.00
d	For works upto to 6.0 m.depth or more (measured from saturated soil/ strata level).	Metre	853.00

15410	Hydraulic testing of the sewer line as per IS :4127 including the cost of testing equipments and materials such as pump, water, labour, tools and plants and maintaining the necessary records etc complete as directed by the Engineer incharge		
a	150mm diameter	Metre	16.00
b	200mm diameter	Metre	23.00
c	230 mm diameter	Metre	28.00
d	250mm diameter	Metre	32.00
e	300mm diameter	Metre	43.00
15411	Providing and fixing C.I. foot rest having minimum weight 5.3 kgs in manhole with 20x20x10cm cement concrete blocks 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) as per standard design.	Each	1012.00
15412	Providing drop connection externally for 60cm drop from branch sewer line to main sewer manhole including inspection and cleaning eyes with chain and lid, HDPE drop pipe line, bend, all encased around with cement concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) with all centering shuttering required, cutting holes in manhole wall and making good with brick work in cement mortar 1:5 (1 cement : 5 coarse sand), plastering with cement mortar 1:3(1 cement : 3coarse sand) on inside of the manhole wall, HDPE welded joints between pipe, bend, drop including making required channels as per standard design and specification, etc complete as directed by the engineer incharge.		
a	With 110 mm OD HDPE pipe drop connection	Each	2546.00
b	With 160 mm OD HDPE pipe drop connection	Each	3831.00
c	With 180 mm OD HDPE pipe drop connection	Each	4193.00
d	With 200 mm OD HDPE pipe drop connection	Each	4458.00
e	With 225 mm OD HDPE pipe drop connection	Each	4620.00
f	With 250 mm OD HDPE pipe drop connection	Each	4995.00
g	With 280 mm OD HDPE pipe drop connection	Each	6143.00
h	With 315 mm OD HDPE pipe drop connection	Each	6834.00
15413	Extra for depth beyond 60cm of HDPE PIPE drop connection-		
a	With 110 mm OD HDPE pipe drop connection	Metre	1430.00
b	With 160 mm OD HDPE pipe drop connection	Metre	1822.00
c	With 180 mm OD HDPE pipe drop connection	Metre	2020.00
d	With 200 mm OD HDPE pipe drop connection	Metre	2231.00
e	With 225 mm OD HDPE pipe drop connection	Metre	2557.00
f	With 250 mm OD HDPE pipe drop connection	Metre	2886.00
g	With 280 mm OD HDPE pipe drop connection	Metre	3342.00
h	With 315 mm OD HDPE pipe drop connection	Metre	3923.00

15414	Providing and fixing square mouth S.W. gully trap grade 'A' complete with C.I. Grading brick masonry chamber and water light C.I. cover with frame 300x300mm size (inside) the weight of the cover to be not less than 4.53kg and frame to be not less than 2.72kg as per standard design.		
a	100 mm x 100 mm size P or S type	Each	2413.00
b	150 mmx 100mm P or S.type	Each	2415.00
RECTANGULAR MANHOLE INCLUSIVE OF COST OF MANHOLE COVER & FRAME			
15415	Construction of manhole rectangular in shape including cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 20mm nominal size) foundation thickness of concrete 20cms and offset 10cms on both sides and first class brick work with bricks class designation 100kg/cm ² in cement mortar 1:3 (1 cement : 3 coarse sand) 23cms thick including providing & fixing CI footrests confirming to IS 5445/69 or revised and whose weight shall not be less than 5.30kgs including fixing in man-hole at 30cm c / c in 20x 20x10cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) and 12mm thick plaster inside and outside with cement mortar 1:3 (1 cement : 3 coarse sand) including adding waterproofing compound of approved brand in cement mortar with a floating coat of neat cement and making channel in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20m nominal size) neatly finished complete as per standard design.		
I	Inside size 0.45x 0.45m and 0.60m deep (with medium duty DI manhole cover & frame of size 0.45x 0.45m weighing 45kgs) including fixing with cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size and applying the frame & cover with coal tar.	Each	10745.00
II	Inside size 0.45x 0.60m and 0.60m deep (with medium duty DI manhole cover & frame of size 0.45x 0.60m weighing 70kgs) including fixing with cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size and applying the frame & cover with coal tar.	Each	14303.00
III	Inside size 0.60x0.60m and 0.60m deep (with medium duty DI manhole cover & frame of size 0.60x 0.60m weighing 90kgs) including fixing with cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size and applying the frame & cover with coal tar.	Each	17270.00
IV	Inside size 0.90 x 0.60m and 1.00m deep (with medium duty DI manhole cover & frame of size 0.90x 0.60m weighing 105 kgs including fixing with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size and applying the frame & cover with coal tar.)	Each	23379.00

15416	Extra/Additional depth of above square/ rectangular manholes at above item no in fractions with 100kg/cm ² brickwork in cement mortar 1:3 (1cement:3coarse sand) 23cm thick including providing and fixing CI footrests not weighing less than 5.30kgs incl. fixing in manholes @ 30cmc/c staggered in 20x20x10cm cement concrete blocks 1:3:6(1cement:3coarse sand :6graded stone aggregate 20mm nominal size) 12mm thick plaster inside and outside with cement mortar 1:3 (1cement :3coarse sand)including adding water proofing compound of approved brand with a floating coat of neat cement.		
I	0.45 x 0.45m Manholes.	Per cms	96.00
II	0.45 x 0.60m Manholes.	Per cms	102.00
III	0.60 x 0.60m Manholes.	Per cms	109.00
IV	0.90 x 0.60m Manholes.	Per cms	121.00
15417	Providing and fixing RCC vent shaft of 7.30 m total height including necessary , CC 1:2:4, connecting RCC NP3 class pipes, encased with CC 1:2:4 etc as per standard drawing.	Each	31188.00
15418	Providing and laying cement concrete 1:3:6 with (1 cement :3 coarse sand : 6 graded granitic or basalt 20mm nominal size) for hunching including necessary centering shuttering and form work around SW SG pipes including concrete as per standard design given IS:4127.		
a	100mm dia S.W. pipes	Metre	510.00
b	150mm dia S.W. pipes	Metre	560.00
c	200mm dia S.W. pipes	Metre	652.00
d	230mm dia S.W. pipes	Metre	710.00
e	250mm dia S.W. pipes	Metre	748.00
f	300mm dia S.W. pipes	Metre	840.00
15419	Providing and laying cement concrete 1:2:4 with (1 cement :2 coarse sand : 4 graded granitic or basalt 20mm nominal size) for haunching including necessary centering shuttering and form work around SW SG pipes including concrete as per standard design given IS:4127.		
a	100mm dia S.W. pipes	Metre	790.00
b	150mm dia S.W. pipes	Metre	846.00
c	200mm dia S.W. pipes	Metre	1046.00
d	230mm dia S.W. pipes	Metre	1111.00
e	250mm dia S.W. pipes	Metre	1154.00
f	300mm dia S.W. pipes	Metre	1257.00
15420	Providing and laying cement concrete 1:3:6 (1cement : 3 coarse sand: 6 grade granite or basaltic stone 20mm nominal size) including centering shuttering and form work for encasing around S.W. pipes including bed concrete as per standard design in IS:4127.		
a	100mm dia S.W. pipes	Metre	979.00
b	150mm dia S.W. pipes	Metre	1033.00
c	200mm dia S.W. pipes	Metre	1251.00
d	230mm dia S.W. pipes	Metre	1326.00
e	250mm dia S.W. pipes	Metre	1376.00
f	300mm dia S.W. pipes	Metre	1498.00

15421	Providing and laying cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 grade granite or basaltic stone 20mm nominal size) including centering shuttering and form work for encasing around S.W. pipes including bed concrete as per standard design in I S:4127.		
a	100mm dia S.W. pipes	Metre	1071.00
b	150mm dia S.W. pipes	Metre	1132.00
c	200mm dia S.W. pipes	Metre	1364.00
d	230mm dia S.W. pipes	Metre	1449.00
e	250mm dia S.W. pipes	Metre	1505.00
f	300mm dia S.W. pipes	Metre	1641.00
15422	Making connections of drain or sewer line with existing manholes including Breaking and making good the walls, floors with cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone as ggrt. 20mm nominal size) 12mm thick cement plaster on both sides with cement plaster on both sides with cement mortar 1:3 (1 cement :3 coarse sand) finished with floating coat of neat cement and making necessary channels for drains etc. complete.		
a	For pipes 100 to 230 mm dia	Each	223.00
b	For pipes 250 to 300 mm dia	Each	289.00
c	For pipes 350 to 450 mm dia	Each	467.00
15423	Supplying of heavy duty C.I Cover with frame weighing not less than 230 kg- 500mm diameter as per IS 1726-1976 with latest ammendments	Each	
15424	Supplying and fixing C.I Cover 300x300mm with frame for gully trap (standard pattern the weight of cover to be not less than 7.0 kg	Each	741.00
15425	Detecting the Manhole location by metal detector and Raising manhole cover and frame slab to the required level including dismantling and demolishing disposing existing slab and making good the damage by reconstructing the R.C.C slab at desired level including fixing of frame and cover to the perfect fixing as required upto a depth of 20cms or part thereof		
a	Circular manhole 0.9m,1.2m and 1.5m dia	Each	1670.00
b	Rectangular manhole1.2 x 0.9m	Each	2371.00
15426	Constructing brick masonry road gully chamber 50x45x60 cm with bricks of class designation 100 in cement mortar 1:4 (1 cement : 4 coarse sand) including providing and fixing precast R.C.C. cover complete as per standard design.	Each	5430.00
15427	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks of class designation 100 in cement mortar 1:4 (1 cement : 4 coarse sand) including providing and fixing precast R.C.C. cover complete as per standard design.	Each	5843.00

15428	Constructing brick masonry road gully chamber 110x50x77.5 cm with bricks of class designation 100 in cement mortar 1:4 (1 cement : 4 coarse sand) including providing and fixing precast R.C.C. cover complete as per standard design.	Each	9576.00
15429	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with 100 kg per Sq.cm class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame not less than 38 kgs (minimum weight of cover 23 kgs & frame 15kgs) R.C.C top slab in 1:2:4 mix (1: cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1: cement: 5 coarse sand: 10 graded stone aggregate 40 mm nominal size) inside plastering inside surface with c:m 1:3 (1: cement: 3 coarse sand) finished with a floating coat of neat cement on walls and bed concrete etc complete as per standard design		
a	Inside dimensions 455x610 mm and 45 cm deep for single pipe line	Each	7770.00
b	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets	Each	8294.00
c	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets	Each	9399.00
15430	Providing and fixing at the site of work orange colour safety foot rest of minimum 6mm thick plastic encapsulated as per IS:10910 on 12mm dia steel bar conforming to IS:1786 having minimum cross section as 23mm x 25mm and over all minimum length 263mm and width as 165mm with minimum 112mm space between protruded legs having 2mm thread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138mm as per standard drawing and suitable to withstand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including including fixing in manholes with 30x20x15 in Cement Concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate. 20 mm nominal Size) complete as per standard design.	Each	210.00
15431	Providing and fixing leak proof HDPE collar type clamps for the holes in the manholes, made for the entry of sewer lines in to the manholes to have a perfect leakproof joint between masonry/ concrete/R.C.C surface of manhole and the HDPE surface of sewer		
a	With 160 mm OD HDPE pipe drop connection	Each	121.00
b	With 180 mm OD HDPE pipe drop connection	Each	152.00
c	With 200 mm OD HDPE pipe drop connection	Each	187.00
d	With 225 mm OD HDPE pipe drop connection	Each	243.00
e	With 250 mm OD HDPE pipe drop connection	Each	298.00
f	With 280 mm OD HDPE pipe drop connection	Each	373.00
g	With 315 mm OD HDPE pipe drop connection	Each	473.00

15432	construction of coffer dam in order to segregate the working area for laying of sewer lines across the nallah or drainage including all material, labour, tools and plants complete as directed by the engineer in charge.	Metre	1163.00
MANHOLES			
CONICAL BRICK MASONRY MANHOLES			
15433	Construction of manhole conical in shape including cement concrete 1:2:4 (1 cement:2coarse sand:4 graded stone aggregate 20mm nominal size) foundation thickness of concrete 25cms and offset 15cms on both sides and first class brick work with bricks class designation 100kg/cm ² in cement mortar 1:3 (1 cement : 3 coarse sand) 35cms thick including providing & fixing CI footrests confirming to IS 5445/69 or revised and whose weight shall not be less than 5.30kgs including fixing in man-hole at 30cm c/c in 20 x 20 x 10cm cement concrete block 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and 12mm thick plaster inside and outside with cement mortar 1:3 (1 cement : 3 coarse sand) including adding waterproofing compound of approved brand in cement mortar with a floating coat of neat cement and making channel in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20m nominal size) neatly finished including providing and fixing manhole cover and frame in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) complete as per standard design.		
A	With 500mm dia heavy duty solid type C.I. circular cover and frame weighing not less than 230 kgs.		
(i)	0.90m dia		
	(a) 1.00m deep	Each	34942.00
	(b) 1.50m deep	Each	43080.00
(ii)	1.20m dia		
	(a) 1.50m deep	Each	46015.00
	(b) 2.00m deep	Each	54646.00
	(c) 2.50m deep	Each	64317.00
B	With 500mm dia D.I. heavy duty class C-250 circular cover with square frame weighing not less than 65 kgs.		
(i)	0.90m dia		
	(a) 1.00m deep	Each	24733.00
	(b) 1.50m deep	Each	32872.00
(ii)	1.20m dia		
	(a) 1.50m deep	Each	35806.00
	(b) 2.00m deep	Each	44438.00
	(c) 2.50m deep	Each	54108.00
C	With 500mm dia SFRC cover consisting of cast iron frame of 12mm thick having four prizing slots and cover embeded in 12mm thick cast iron ring suiting to fit into the frame.		
(i)	0.90m dia		

	(a) 1.00m deep	Each	23416.00
	(b) 1.50m deep	Each	31555.00
(ii)	1.20m dia		
	(a) 1.50m deep	Each	34489.00
	(b) 2.00m deep	Each	43120.00
	(c) 2.50m deep	Each	52791.00
15434	Add extra for conical brick masonry manhole for fractional depth of each one centimeter or part thereof for		
a	0.90m dia manhole	Per cm	153.00
b	1.2m dia manhole	Per cm	182.00
COMPOSITE CONICAL MANHOLE AS PER STANDARD DRAWING			
15435	Construction of manholes conical in shape at top including laying cement concrete 1:1.5:3 (1cement:1.5coarse sand:3graded stone aggregate 20mm nominal size) at base thickness of concrete as per diagram and offset 15cm and PCC 1:2:4 (1cement:2coarse sand :4graded stone aggregate 20mm nominal size)in vertical and conical wall with first brick work in cement mortar 1:3 (1cement:3 coarse sand) with bricks of class designation 100 kg/sqcm incl.fixing C.I.footrests confirming to IS 5455/69 or revised whose weight shall not be less than 5.30kg including fixing in manhole at 30cm c/c staggered in 20x20x15cm cement concrete blocks 1:2:4 (1cement : 2 coarse sand : 4 graded stone agregate 20 mm nominal size) and 12mm thick plaster with cement mortar 1:3 (1 cement:3 coarse sand) inside and outside with water proofing compound and a floating coat of neat cement & providing and fixing C.I.manhole frame and cover 50cm dia heavy duty both weighing 230kgs in cement concrete 1:2:4 (1cement:2coarse sand:4 graded stone aggregate 20mm nominal size) and applying the frame and cover with coal tar and making channels in cement concrete 1:2:4 (1 cement : 2 Coarse sand: 4 graded stone aggregate 20mm nominal size) and neatly finished complete as per standard design.Cost of manhole inclusive of frame cover & footrest.		
A	With 500mm dia heavy duty solid type C.I. circular cover and frame weighing not less than 230 kgs.		
(i)	1.20m dia		
	2.00 m depth	Each	53691.00
	2.50 m depth	Each	59856.00
(ii)	1.50m dia		
	2.50 m depth	Each	66163.00
	3.00 m depth	Each	77703.00
	4.00 m depth	Each	95711.00
	5.00 m depth	Each	110643.00
B	With 500mm dia D.I. heavy duty class C-250 circular cover with square frame weighing not less than 65 kgs.		
(i)	1.20m dia		
	2.00 m depth	Each	43482.00
	2.50 m depth	Each	49648.00

(ii)	1.50m dia		
	2.50 m depth	Each	55954.00
	3.00 m depth	Each	67494.00
	4.00 m depth	Each	85502.00
	5.00 m depth	Each	100435.00
C	With 500mm dia SFRC cover consisting of cast iron frame of 12mm thick having four prizing slots and cover embeded in 12mm thick cast iron ring suiting to fit into the frame.		
(i)	1.20m dia		
	2.00 m depth	Each	42165.00
	2.50 m depth	Each	48330.00
(ii)	1.50m dia		
	2.50 m depth	Each	54637.00
	3.00 m depth	Each	66177.00
	4.00 m depth	Each	84185.00
	5.00 m depth	Each	99118.00
15436	Add extra for composite manhole for fractional depth for each one centimeter or part thereof		
a	1.20m dia	Per cms	159.00
b	1.50m dia	Per cms	183.00
	SCRAPPER TYPE MANHOLE		
15437	Construction of scrapper manhole in R.C.C as per standard drawing of 1.8m diameter consisting of		
I (a)	Circular cylindrical R.C.C section in design mix M-30 of wall thickness 0.20m for the required height		
(b)	Bottom R.C.C raft of 0.2m thickness in design mix M-30		
©	Laid on a bed concrete of 0.2m in C.C.in design mix M-15		
(d)	Plastering the inside and outside surfaces of manhole in c:m 1:3 with water proofing compound.		
(e)	Benching , making channel at the bottom of the manhole in cement concrete 1:2:4.		
(f)	C.C top slab in 15cms thick in M-15 mix to fix the manhole cover and frame		
(g)	Providing and fixing 2nos heavy duty manhole covers with frame.		
(h)	Providing and fixing of C.I. foot rests confirming to IS 5445/69 or revised and whose weight shall not be less than 5.30 kgs at a spacing of 30 cms centre to centre in staggered manner,including fixing in manholes with 20x20x10 in Cement Concrete blocks 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate. 20 mm nominal Size) complete as per standard design.		
(i)	Water tightness test as per IS 3370		
(j)	Including the cost of centering shuttering , reinforcement,material, labour tools as required for completion of work complete as per the direction of the engineer incharge.		
A	With 500mm dia heavy duty solid type C.I. circular cover and frame weighing not less than 230 kgs.		
	Depth of manhole in meter		

	(a) 3.00	Each	152467.00
	(b) 4.00	Each	175560.00
	(c) 5.00	Each	197636.00
B	With 500mm dia D.I. heavy duty class C-250 circular cover with square frame weighing not less than 65 kgs.		
	Depth of manhole in meter		
	(a) 3.00	Each	132049.00
	(b) 4.00	Each	155143.00
	(c) 5.00	Each	177218.00
C	With 500mm dia SFRC cover consisting of cast iron frame of 12mm thick having four prizing slots and cover embeded in 12mm thick cast iron ring suiting to fit into the frame.		
	Depth of manhole in meter		
	(a) 3.00	Each	129415.00
	(b) 4.00	Each	152508.00
	(c) 5.00	Each	174584.00
15438	Add extra for each centimeter or part thereof depth for scraper manhole	per cm	222.00

15439	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 100 resin Class IV (6kg/cm2)		
A	WITH EXCISE DUTY		
a	160	Metre	934.00
b	180	Metre	1177.00
c	200	Metre	1457.00
d	225	Metre	1835.00
e	250	Metre	2265.00
f	280	Metre	2832.00
g	315	Metre	3585.00
h	355	Metre	4542.00
i	400	Metre	5902.00
j	450	Metre	7455.00
k	500	Metre	9213.00
l	560	Metre	11516.00
m	630	Metre	14584.00
n	710	Metre	18509.00
o	800	Metre	23479.00
p	900	Metre	29740.00
q	1000	Metre	36741.00
B	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 100 resin Class IV (6kg/cm2)		
	WITHOUT EXCISE DUTY		
a	160	Metre	847.00
b	180	Metre	1067.00
c	200	Metre	1321.00
d	225	Metre	1663.00

e	250	Metre	2053.00
f	280	Metre	2568.00
g	315	Metre	3250.00
h	355	Metre	4118.00
i	400	Metre	5351.00
j	450	Metre	6758.00
k	500	Metre	8353.00
l	560	Metre	10441.00
m	630	Metre	13222.00
n	710	Metre	16780.00
o	800	Metre	21287.00
p	900	Metre	26963.00
q	1000	Metre	33310.00
C	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 100 resin Class IV (10 kg/cm²)		
	WITH EXCISE DUTY		
a	160	Metre	1432.00
b	180	Metre	1807.00
c	200	Metre	2229.00
d	225	Metre	2822.00
e	250	Metre	3482.00
f	280	Metre	4340.00
g	315	Metre	5519.00
h	355	Metre	7001.00
i	400	Metre	9070.00
j	450	Metre	11491.00
k	500	Metre	14169.00
l	560	Metre	17777.00
m	630	Metre	22463.00
D	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 100 resin Class X (10kg/cm²)		
	WITHOUT EXCISE DUTY		
a	160	Metre	1298.00
b	180	Metre	1638.00
c	200	Metre	2021.00
d	225	Metre	2558.00
e	250	Metre	3156.00
f	280	Metre	3935.00
g	315	Metre	5003.00
h	355	Metre	6347.00
i	400	Metre	8223.00
j	450	Metre	10418.00
k	500	Metre	12846.00

l	560	Metre	16117.00
m	630	Metre	20365.00
E	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 80 resin Class IV(6kg/cm2)		
	WITH EXCISE DUTY		
a	160	Metre	1128.00
b	180	Metre	1426.00
c	200	Metre	1757.00
d	225	Metre	2216.00
e	250	Metre	2744.00
f	280	Metre	3439.00
g	315	Metre	4336.00
h	355	Metre	5508.00
i	400	Metre	7153.00
j	450	Metre	9036.00
k	500	Metre	11149.00
l	560	Metre	13979.00
m	630	Metre	17688.00
n	710	Metre	22477.00
o	800	Metre	28460.00
15440	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 80 resin Class IV(6kg/cm2)		
	WITHOUT EXCISE DUTY		
a	160	Metre	1023.00
b	180	Metre	1292.00
c	200	Metre	1593.00
d	225	Metre	2009.00
e	250	Metre	2487.00
f	280	Metre	3118.00
g	315	Metre	3931.00
h	355	Metre	4994.00
i	400	Metre	6485.00
j	450	Metre	8192.00
k	500	Metre	10108.00
l	560	Metre	12674.00
m	630	Metre	16037.00
n	710	Metre	20378.00
o	800	Metre	25802.00
15441	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 80 resin Class X(10kg/cm2)		
	WITH EXCISE DUTY		
a	160	Metre	1702.00
b	180	Metre	2149.00
c	200	Metre	2661.00
d	225	Metre	3355.00

l	560	Metre	13979.00
e	250	Metre	4144.00
f	280	Metre	5209.00
g	315	Metre	6567.00
h	355	Metre	8353.00
i	400	Metre	10814.00
j	450	Metre	13667.00
k	500	Metre	16889.00
15442	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 80 resin Class X (10kg/cm2)		
	WITHOUT EXCISE DUTY		
a	160	Metre	1543.00
b	180	Metre	1948.00
c	200	Metre	2413.00
d	225	Metre	3042.00
e	250	Metre	3757.00
f	280	Metre	4722.00
g	315	Metre	5954.00
h	355	Metre	7573.00
i	400	Metre	9804.00
j	450	Metre	12391.00
k	500	Metre	15312.00

**CHAPTER IX
MISCELLANEOUS**

Item No	Description	Unit	Rate
15501	Construction of meter box of size 1.00x0.45x0.90 m in laterite stone masonry in cement		
(a)	In the various Scattered locations as per the direction of the engineer incharge	each	2768.00

l	560	Metre	13979.00
15502	Supply of water by tanker for domestic/commercial purpose (to & fro trip),excluding cost of water including the cost of hire charges of the vehicle with tanker, wages of driver, mazdoor, hose pipe for a length of 20 meters , cost of diesel, oil lubricant, etc. complete as per the direction of the Engineer incharge.		
a	For a distance upto 10 kilometers(to & fro totaled together)	cu. m.	90.00
b	For a distance upto 20 kilometers(to & fro totaled together)	cu. m.	111.00
c	For a distance upto 30 kilometers(to & fro totaled together)	cu. m.	123.00
d	For a distance upto 40 kilometers(to & fro totaled together)	cu. m.	135.00
15503	Supply of cast iron self closing tap (gravity operated) with pilferage proof arrangement and with ball for self closing action 20 mm size	Each	140.00
15504	Dismantling old C.I./D.I. Pipes including excavation and refilling trenches after taking out the pipes, breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes at site, lead up to 50 metres at site.		
	Diameter in mm		
a	80.0	Metre	136.00
b	100.0	Metre	140.00
c	125.0	Metre	144.00
d	150.0	Metre	147.00
e	200.0	Metre	154.00
f	250.0	Metre	161.00
g	300.0	Metre	167.00
h	350.0	Metre	170.00
i	400.0	Metre	174.00
j	450.0	Metre	178.00
k	500.0	Metre	181.00
l	600.0	Metre	185.00
15505	Manual cutting of C.I. Pipes with a steel saw/ hecksaw, by cutting the pipe vertically in two pieces including the cost of labour, tools etc complete as per the direction of engineer incharge		
	Dia in mm		
a	80.0	Each	30.00
b	100.0	Each	37.00
c	125.0	Each	48.00
d	150.0	Each	66.00
e	200.0	Each	85.00
f	250.0	Each	103.00
g	300.0	Each	127.00
h	350.0	Each	145.00
I	400.0	Each	163.00
j	450.0	Each	187.00
k	500.0	Each	206.00
l	600.0	Each	242.00

l	560	Metre	13979.00
15506	Cutting of cast iron / ductile iron pipes by mechanical grinder working on electricity, including the cost of hire charges of mechanical grinder, diesel operated electrical generator set, suitable for supplying power for the grinder for cutting, cost of grinding blades, skilled work force, fuel etc required for completion of job as per the direction of engineer in charge		
	Dia in mm		
a	80	each	110.00
b	100	each	113.00
c	125	each	116.00
d	150	each	124.00
e	200	each	127.00
f	250	each	136.00
g	300	each	146.00
h	350	each	161.00
i	400	each	175.00
j	450	each	191.00
k	500	each	210.00
l	600	each	239.00
m	700	each	269.00
n	750	each	359.00
o	800	each	431.00
p	900	each	553.00
q	1000	each	632.00
r	1100	each	737.00
s	1200	each	885.00
15507	Supply at store/site of work including taxes, transportation, loading & unloading etc. Blue Pig lead conforming to BIS specification of 99.99 purity	kg	320.00
15508	Supply at store/site of work including taxes, transportation, loading & unloading etc of Alumina ferric containing 15% of Al ₂ O ₃ content as per IS 299/1989 Grade -II packed in HDPE bags of uniform weight 30 kgs, suitable for treating water in water treatment plant	kg	22.00
15509	Conveying transporting, of empty liquid chlorine cylinders from the departmental store to the refilling place, refilling the cylinder to its designed capacity & retransporting to the departmental store from refilling plant including loading unloading, freight insurance, levies taxes etc. complete		
a	900kgs capacity cylinder	kg	57.00
b	1000 Kgs capacity cylinder	kg	37.00
15510	Supply at store/site of work Bleaching powder stable grade-I, conforming to IS specification 1065:1989 including transportation, all taxes, loading unloading etc. complete.		
a	34% available chlorine	kg	54.00
b	32% available chlorine	kg	52.00

1	560	Metre	13979.00
15511	Supplying of Filter sand of size conforming to the IS specification with latest amendments suitable for Rapid gravity sand filter media (sand) conforming to the IS specification with latest amendments suitable for Rapid gravity sand filter for treating water in treatment plants with following specification as per the sizes as given below;-	m3	10570.00
	a.Effective size - 4.50mm to 0.70mm		
	b.Uniformity Co-Efficient - 1.30 to1.70		
	c.Specific gravity - 2.55		
	d.Silica content more than - 90%		
	e Acid Solubility less than - 5%		
	f. Loss on ignition less than - 1.5%		
15112	Supplying of gravel media suitable for rapid gravity sand filter media as desired by the department of following size		
a	6mm to 12mm	m3	8323.00
b	12mm to 38mm	m3	8323.00
c	38mm to 50mm	m3	8323.00
15113	Supplying of grit media of size 2mm to 6mm suitable for rapid gravity sand filters as desired by the department	m3	8773.00
15514	Supplying of M.S. full Threaded/half treaded Nut & bolts	kg	209.00
15515	Supply at store/site of work including taxes,transportation, loading & unloading hydrated lime containing of 86% of calcium hydroxide Ca(OH) ₂ as confirming to IS 1540 and tested ,analyzed as per IS 1514 packed in HDPE bags suitable for for potable water treatment ,delivered at water treatment plant from the refilling place etc. complete	kg	23.00

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