



IS : 3989:2009



**CENTRIFUGALLY
Spun**

CAST IRON
Pipes, Fittings
and
Manhole Covers



Pattern Makers & Founders

The Preferred Choice of

ARCHITECTS

PLUMBERS

CONTRACTORS



www.goyaliron.com

COMPANY PROFILE

Goyal Iron Group is engaged in the foundry business since 1974, producing Cast Iron Soil Pipes, Fittings, Manhole Covers, Gratings, Ornamental Castings and hand pumps in our plants in Agra and Sasni.

Our Products are the first choice of all Architects, Builders, Contractors & Plumbers due to Superior quality, timely delivery and competitive rates. We cater mainly to demand from Government & Semi Government Sector.

To meet the increasing demand for centrifugal pipes & fittings, our sister concern  installed the latest technology available in the market to manufacture centrifugal pipes & fittings with IS Code IS:3989-2009 under brand .

Our Product Range covers the following items :

1. CI Centri Pipe Fittings IS:3989:2009
2. C.I. Soil Pipe
3. C.I. Main Hole & Gratings
4. Hand Pumps
5. Ornamental Castings

WHY CAST IRON ?

- High resistance to wear, tear & corrosion
- Environment friendly 100% recyclable
- Low chance of thermal expansion & contraction hence chance of deformation is negligible.
- Fire Proof, hence no toxic and poisonous gases.
- Low maintenance Cost & Long Life.
- Resistant upto 400°C temperature, good bonding with concrete, does not leak at the joints.

MANUFACTURING PROCESS

- All raw materials such as Pig Iron, Cast Iron, Scrap, Carbon and ferro alloys are analysed for Carbon, Silicon and Manganese Composition in our Chemical Analysis Lab.
- Consumables such as sand, bentonite, coal dust etc. are tested for Mesh Size, permeability and other parameters in our Sand Testing Lab.
- Tested Metal is then melted in our divided blast cupola furnace. All furnace parameters such as Air Pressure, Air Volume per unit time, molten metal temperature and its carbon equivalent are continuously monitored during casting. Equipments used are CE Analyser, Optimal Pyrometer and Pressure Gauge.
- Centrifugal pipes 3000 mm Max long are manufactured by Centrifugal Casting Machine (CCM).
- After casting, all pipes and fittings are subjected to extensive finishing operations which include chipping. Internal & external grinder, Shotblasting, internal Bitumen coating and external coat of Red Oxide followed by Red Paint. Abrasive cutter is used to cut the pipes in required length.

QUALITY CONTROL & ASSURANCE

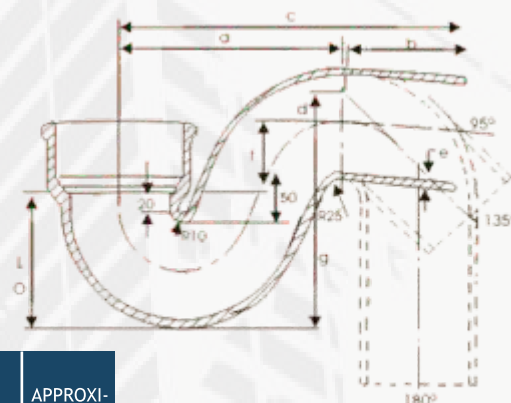
Material Grade	FG 150 as per IS:210
Density	7.15 kg/m ³
Tensile Strength	150N/m ² minimum
Hardness	230 HBS (max)

Chemical Properties

C	-	3.5% to 3.8%
Si	-	1.8% to 2.2%
CE	-	>4.3

- **Hammer Test** : Clear ringing sound when struck with light hand hammer
- **Hydrostatic Test** : Should bear water pressure > 0.07 MPA for minimum 15 seconds
- **Coating Test** : No flow upto 65°C temperature and at 0°C for chip off.
- **Dimensional Check** : Conforming to tolerance as specified in Standard specification according to IS:3989-2009

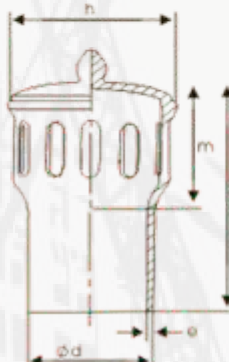
P. TRAP



ANGLE o	NOMINAL DIAMETER DN	DIMENSIONS								APPROXI- MATE MASS kg
		e	a	b	c	d	L	f	g	
95°	50	3.5	137	99	236	--	86	47	133	2.1
	75	3.5	170	105	275	--	110	55	165	4.3
	100	4.0	214	116	330	--	135	71	206	7.0
	150	5.0	285	140	425	--	186	98	284	10.5

(All dimensions in millimeters)

COWELL



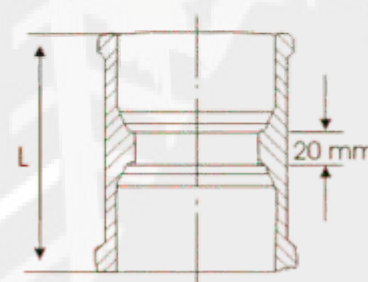
NOMINAL DIAMETER DN	DIMENSIONS					APPROXIMATE MASS kg
	e	m	d	L	h	
50	3.5	90	57	160	90	1.0
75	3.5	95	82	175	115	1.5
100	4.0	110	109	200	145	2.7
150	5.0	110	161	210	195	5.8

(All dimensions in millimeters)

COLLARS

NOMINAL DIAMETER DN	L	APPROXIMATE MASS kg
50	140	1.6
75	150	2.3
100	160	3.4
150	170	6.4

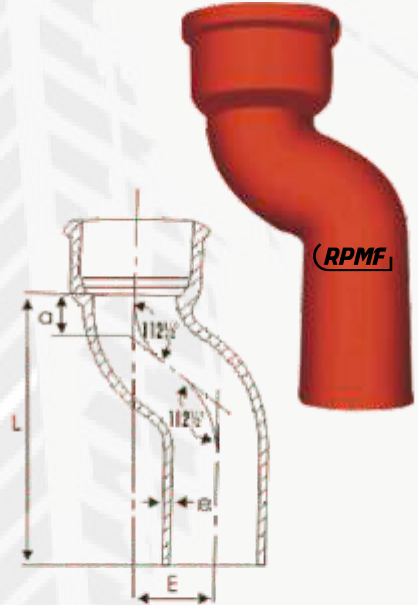
(All dimensions in millimeters)



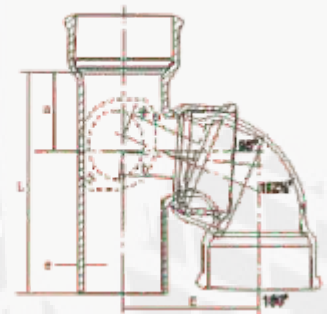
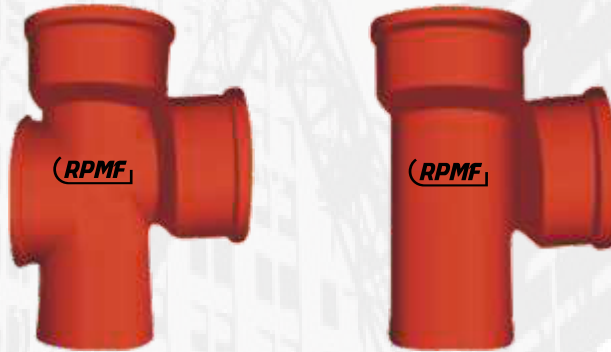
OFFSET

OFFSET E	NORMAL DIAMETER DN	DIMENSIONS			APPROXIMATE MASS Kg
		a	e	l	
75	50	40	3.5	200	1.8
	75	45	3.5	225	2.7
	100	55	4.0	250	4.3
	150	75	5.0	275	8.4
115	50	40	3.5	200	1.9
	75	45	3.5	225	2.9
	100	55	4.0	250	4.5
	150	75	5.0	290	8.8
150	50	40	3.5	200	2.0
	75	45	3.5	225	3.1
	100	55	4.0	250	4.8
	160	75	5.0	300	9.5

(All dimensions in milimeters)



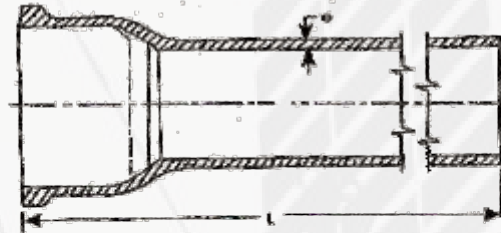
EQUAL & UN-EQUAL INVERTED BRANCHES SOCKET TYPE WITH AND WITHOUT ACCESS DOOR



ANGLE o	NOMINAL DIAMETER		DIMENSIONS					APPROXIMATE MASS kg
	Body DN	Branches DN	a	b	E	L	e	
95°	50	50	70	38	-	192	3.5	2.4
	100	100	98	66	-	276	4.0	6.0
	100	50	70	63	-	210	4.0	4.4

(All dimensions in milimeters)

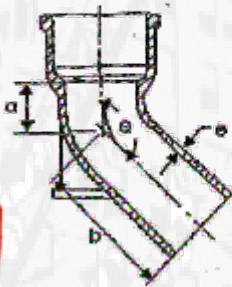
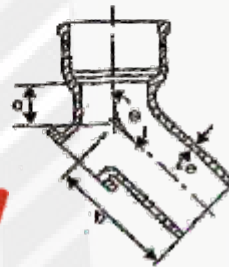
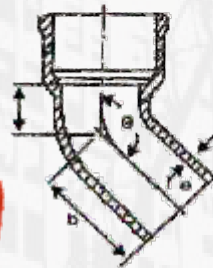
DIMENSIONS OF SOCKETS AND SPIGOTS OF PIPES



NOMINAL DIAMETER DN	THICKNESS e	APPROXIMATE MASS INCLUDING MASS OF SOCKET FOR PIPES OF LENGTH (L) IN METERS				
		3.000 m (kg)	2.500 m (kg)	2.000 m (kg)	1.800 m (kg)	1.500 m (kg)
75	3.5	20	16.8	13.6	12.5	10.6
100	4.0	30	25.5	21	18.8	16
150	4.0	56	47	38.5	34.9	29.5

(All dimensions in milimeters)

BEND WITH AND WITHOUT ACCESS DOORS



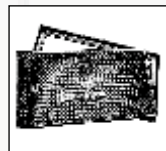
ANGLE o	NOMINAL DIA- METER DN	DIMENSIONS			APPROXIMATE MASS OF BEND kg		
		e	a	b1	Plain	With Door	With Heel Rest
92½°	75	3.5	78	140	2.4	2.4	2.7
	100	4.0	91	157	3.8	4.4	4.3
	150	5.0	117	186	7.9	8.7	8.7

(All dimensions in milimeters)

Cast Iron Manhole Covers, Frames & Gratings

Square & Rectangular Manhole Covers

with frame



Size (mm)

150x150

200x200

250x250

300x300

350x350

375x375

400x400

450x450

500x500

550x550

600x600

400x400 Double Sealed

500x500 Double Sealed

600x600 Double Sealed

400x550

450x600

450x600 Double Sealed

Weight (kg)

2

3

4

6,7

8

9

10.5

14

17

20,24

27

14

25,38

35,52

14

18

38

Gratings



Size (mm)

75x75

75 radius

100x100

100 radius

125x125

125 radius

150x150

150 radius

175x175

200x200

250x250

300x300

200x200 Tile

250x250 Tile

300x300 Tile

Weight (kg)

0.200

0.200

0.400

0.300

0.600

0.500

0.700

0.600

1.0

1.6

2.8

3.8

2.0

3.0

4.2

Circular



400

450

500

560

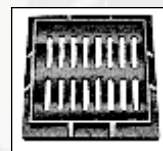
14

17

20

120, 208

Gratings with frames



150x150

200x200

250x250

300x300

375x375

1.8

2.5

3.8

5.5

8.0

RPMF Electrode

Earthing Pipe

Centrifugally Cast Iron Earthing Electrode

Salient Features

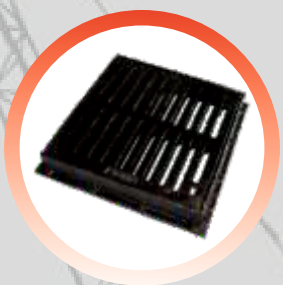
- Good Resistance to soil corrosion leading to good Conductivity.
- Cost Effective and durable compared to other Earthing Electrodes
- Excellent and uniform current dissipation
- Easy & Cost Effective installation & maintenance



RPMF Electrode

Range

- ▶ Nominal Bore (NB) - 75 mm 100mm 150 mm
- ▶ Length 1200 mm to 3000 mm (as per requirement)
- ▶ Thickness 3.5 mm to 13 mm (as per requirement)



RAJ PATTERN MAKERS & FOUNDERS PVT. LTD.

Manufacturers & Exporters of
C.I. Centrifugal Pipes & fittings
according to IS:3989

Manhole Covers, Gratings, Decorative Casting,
Iron Furniture, Spiral staircase, Lamp Posts,
and Customized castings according to
customer specifications.

Mobile: +91 9760 283 296, +91-9319 103 513

E-mail: info@goyaliron.com

Head Office & Works:

Nagla Kishan Lal
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3. C.I. Decorative Gate, Grills and Furniture

Rate List of (As Per IS-3989) Centrifugally Cast Iron Pipe & Fittings (W.E.F. 01-Aug-2022)

CODE	DESCRIPTION	SIZE	200 MM (8")	150 MM (6")	100MM (4")	75 MM (3")
A	C.I. CENTRIFUGAL SPUN PIPE					
1010	SINGLE SOCKET	3000 MM (10')	11990	7350	3840	3125
1011	DOUBLE SOCKET	3000 MM (10')	13930	8360	4355	3480
	C.I. SPUN PIPE CUT LENGTH					
1009	PIPE PCS	2700 MM (9')	10735	6685	3505	2905
1008	PIPE PCS	2400 MM (8')	9605	6520	3355	2765
1007	PIPE PCS	2100 MM (7')	8480	6355	3170	2635
1006	PIPE PCS	1800 MM (6')	7845	5070	2555	2080
1005	PIPE PCS	1500 MM (5')	6560	4265	2360	1950
1004	PIPE PCS	1200 MM (4')	5765	3980	2115	1745
1003	PIPE PCS	900 MM (3')	4975	3825	2005	1500
1002	PIPE PCS	600 MM (2')	4295	1910	1005	830
1015	PIPE PCS	450 MM (1.5')	3755	1455	840	645
1001	PIPE PCS	300 MM (1')	3575	1255	690	480
	Note:-Double Socket Pipe Pcs Are Also Available					
B	C.I. BEND					
2001	PLAIN BEND		2690	1285	605	410
2002	DEGREE BEND 45 °		2770	1440	720	590
2003	DOOR BEND		3300	1480	690	500
2004	H.R. BEND		....	1555	745	540
2005	SHOE BEND		....	825	590	410
2006	DOOR HORN BEND	100 X 50 MM	....	1050	1035	...
C	C.I. JUNCTION/TEE					
3001	PLAIN TEE		3980	1940	885	665
3002	DOOR TEE		4725	2090	985	695
3003	PLAIN "Y" TEE		5765	2535	1140	820
3004	DOOR "Y" TEE		6660	2615	1205	860
3005	PLAIN TEE (CROSS)		....	2710	1185	875
3006	DOOR TEE(CROSS)		....	2920	1240	940
3007	DOUBLE PLAIN "Y" TEE		....	3085	1340	965
3008	DOUBLE DOOR "Y" TEE			3120	1470	985
3009	ANTI SYPHON/INVERTED TEE (4X2)				1090	



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CODE	DESCRIPTION	200 X 150	200 X 100	150 X 100	150 X 75	100 X 75	100 X 50	75 X 50
D	UNEQUAL TEE							
7001	PLAIN TEE	3200	2950	1910	1940	1275	1285	1120
7002	DOOR TEE	....	....	2360	2090	1430		1390
7003	PLAIN "Y" TEE	4260	3475	2375	2070	1465	1325	1185
7004	DOOR "Y" TEE	4480	....	2445	2285	1515		1400
7005	PLAIN DOUBLE "Y" TEE	....	....	2875	2680	2050		1190
7006	DOOR DOUBLE "Y" TEE	....	....	3235	....	2120		1290
7007	DOUBLE PLAIN TEE (CROSS)	....	....	2875	2135	1995		1135
7008	DOUBLE DOOR TEE (CROSS)	....	....	3250	2325	2045		980
	OTHER FITTING:							
6006	REDUCER	2085	1775	1050	770	815	770	625
E	C.I. SOIL TRAP	150 MM	100 MM	75 MM	450 MM(LONG)	600 MM(LONG)	900 MM(LONG)	
4001	"P" TRAP	2365	1100	800	1375	1620	3035	
4002	"P" TRAP 100 X 75 MM	....	1135	....	....	....	....	
4003	"P" TRAP WITH VENT 100 X 50 MM	....	1225	....	....	....	....	
4004	S TRAP	....	1620	....	....	....	....	
4005	GALLY TRAP 150 X 100 MM	1690	....	....	....	....	....	
4006	PLAIN BEND LONG 100MM				1060	1270	2005	
F	C.I. SOIL NAHANI/FLOOR TRAP	100X100 MM	100X75 MM	450MM(LONG)	600MM(LONG)	900MM(LONG)		
5001	TDS TYPE / NAHANI TRAP	865	790	1410	1645	2525		
5002	CPWD TYPE / FLOOR TRAP	1185	955	1685	2075	3220		
5003	CHANDIGARH TYPE	1510	1485	1885	2285	....		
5004	MULTI NAHANI TRAP 100X75X50		2175					
G	C.I. SOIL OTHER FITTINGS	200 MM(8")	150 MM(6")	100 MM(4")	75 MM(3")			
6001	COLLER	1940	1010	515	355			
6003	COWEL	1765	1050	500	400			
6004	OFFSET PROJECTION 152 MM	....	1575	770	590			
6005	INSPECTION/DOOR PCS	3265	2025	1000	605			
6008	END CAP	2575	1995	1305	990			



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