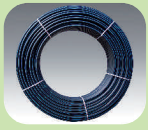
Flow of life

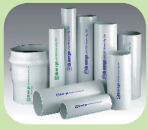
HOME ..... HOTEL

INDUSTRY ..... AGRICULTURE


PE-X PIPES


HDPE PIPES


PP-R PIPES


uPVC PRESSURE PIPES


uPVC CASING PIPES


PE-X FITTINGS

Narmada PIPES

AN ISO 9001:2008 CERTIFIED COMPANY

e : info@narmadapipes.com w : www.narmadapipes.com

the company

Mr. M. V. Tilva managing partner of company founded NARMADA PIPES in 1989. Constant technological change, excellent, uPVC, HDPE, PP-R and PE-X extrusions produced by company with unique skills, professional management, persistent dedication and testing without compromise these entire made Group a National and International award winner.

Narmada Pipes is the first industry in Gujarat to achieve ISO 9001 quality certification and it represents just one more benchmark for its products, which is one of its kind industries for reliable quality.

Narmada Pipes has been devoted to the quality of its products. Its comprehensive quality program has always been based on the continual improvement in products, processes and system designed to meet customers' need and satisfaction.

Company is enjoying technological advantages with latest equipped on-site laboratory at manufacturing plant. These innovative facilities are in the forefront of product development; which go forward the most careful, vigilant standards of product testing based on national and international standards.

Company believes in innovate product features to offer excellent product to indulge Customer requirement and to meet this we have dedicated team of Plastic & Chemical Engineers, Operators and skilled labour and there by become... "Quality line"

Mr. M. V. Tilva managing partner of company by his dedicated efforts and innovative skills has contributed for the growth of Narmada Group.

Company is manufacturing PE-X Fittings for their PE-X Pipes which is one of the advanced technologies in plumbing Cold and Hot water distribution.

Mr. Mukesh Tilva - Managing Partner

Quality Policy

"We are committed to supply quality products meeting or exceeding our customers' expectations and achieving our objectives of being a preferred supplier."

"We believe quality consists of products provided on time and in conformance with customer requirements. We believe in effective product definition with our customers, "doing it right the first time" during product realization and continuous improvements in products, processes and systems."

Narmada PIPES

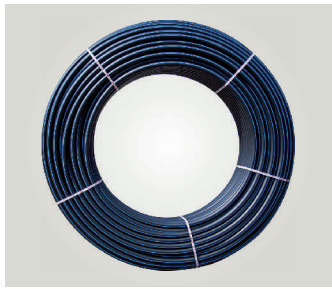
AN ISO 9001:2008 CERTIFIED COMPANY

uPVC, PP, PE & PE-X PIPES

Complete Product Range of Company

uPVC Pressure Pipes

uPVC Casing Pipes



HDPE Pipes

PE-X Pipes

PE-X Fittings

PP-R Pipes

IRRIGATION SYSTEMS

Sprinkler System

Drip Systems

Narmada PIPES
AN ISO 9001:2008 CERTIFIED COMPANY

Ganga uPVC pressure pipes as per IS:4985-2000

Narmada Pipes offers bell ended, grooved (Ring Fit) pipe ends, as well as custom dimensions and lengths. uPVC Pipes is ideal for numerous applications including potable water systems, agricultural, irrigation, chemical processing, high purity applications, water and waste water treatment, plating and many other industrial applications involving corrosive fluid transfer.

Benefits:

- Corrosion resistant pressure pipe.
- Ideal for use in applications with temperatures up to and including 60°C (140°F) for pressure rating as per IS:4985-2000.
- Resistant to most acids, bases salts, aliphatic solutions, oxidants and halogens.
- Best in chemical processing, plating, high purity applications, potable water systems, water and wastewater treatment, irrigation, agricultural and other industrial applications involving corrosive fluid transfer.
- Plumbing and drainage systems in the dwelling houses.

Ganga®
uPVC, PP, PE & PE-X PIPES

Physical Properties of PVC Pipe

GENERAL	VALUES	TEST METHOD
Density (g/cm^3 @ 23°C)	1.40 to 1.46	IS : 13360 (P-3, Sec. 1)
Water Absorption (in % for 24 hrs @ 25°C)	0.05	ASTM D570
Hardness, Rockwell	110 - 120	ASTM D785
Poisson's Ration @ 23°C	0.410	-
Hazen - Williams Factor	C=150	-
MECHANICAL	**VALUES**	**TEST METHOD**
Tensile Strength, Mpa @ 23°C	50±5	IS : 12818
Tensile Modulus of Elasticity, Mpa @ 23°C	2800±200	IS : 12818
Flexural Strength, Mpa @ 23°C	99.63	ASTM D790
Flexural Modulus, Mpa @ 23°C	2482	ASTM D790
Compressive Strength, Mpa @ 23°C	67.4	ASTM D695
Izod Impact, notched, ft-lb/in @ 23°C	0.75	ASTM D256
THERMAL	**VALUES**	**TEST METHOD**
Coefficient of Liner Expansion (in/in/°C)	2.9 x 10^{-5}	ASTM D696
Coefficient of Thermal Conductivity		ASTM C177
Calories•cm/second•cm^2•°C	3.5 x 10^{-4}	
BTU•inches/house•Ft^2•°F	1.02	
Watt/m/K	0.147	
Heat Deflection Temp. Under Load (1.815 Mpa annealed)	170	ASTM D648
Specific Heat, Cal./°C/gm	0.25	ASTM D 2766
ELECTRICAL	**VALUES**	**TEST METHOD**
Dielectric Strength, Volts/mil	1413	ASTM D149
Dielectric Constant, 60Hz, -1.11°C	3.70	ASTM D150
Volume Resistivity, ohm/cm@95°C	1.2 x 10^{12}	ASTM D257
FIRE PERFORMANCE	**VALUES**	**TEST METHOD**
Average Time of Burning (sec.)	<5	ASTM D635
Average Extent of Burning (mm)	<10	-
Burning Rate (in/min)	Self Extinguishing	
Softening Stats (approx.)	121°C	-
Limiting Oxygen Idex (LOI)	43	ASTM D2863

Dimensions of Elastomeric Sealing Ring type Unplasticized P.V.C. Pipes as per IS : 4985 : 2000
For use in Water supply (All Dimensions are in Milimeters)

Nominal Outside Diameter	Socket Inner Diameter		Minimum Depth of Engage-ment	Wall thickness of pipes											
				Class I (0.25 Mpa)		Class II (0.4 Mpa)		Class III (0.6 Mpa)		Class IV (0.8 Mpa)		Class V (1.0 Mpa)		Class VI (1.25 Mpa)	
Size	Diameter	Max./Min.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
90	90.7	$^{+0.8}_{-0.0}$	70	1.7	1.3	2.6	2.1	3.7	3.1	4.6	4.0	5.7	5.0	7.1	6.1
110	110.8	$^{+0.9}_{-0.0}$	75	2.0	1.6	3.0	2.5	4.3	3.7	5.6	4.9	7.1	6.1	8.7	7.5
125	125.9	$^{+1.0}_{-0.0}$	78	2.2	1.8	3.4	2.9	5.0	4.3	6.4	5.6	8.0	6.9	9.8	8.5
140	140.9	$^{+1.0}_{-0.0}$	81	2.4	2.0	3.8	3.2	5.5	4.8	7.3	6.3	8.9	7.7	11.0	9.5
160	161.0	$^{+1.1}_{-0.0}$	86	2.8	2.3	4.3	3.7	6.2	5.4	8.3	7.2	10.2	8.8	12.6	10.9
180	181.1	$^{+1.1}_{-0.0}$	90	3.1	2.6	4.9	4.2	7.1	6.1	9.2	8.0	11.4	9.9	14.1	12.2
200	201.2	$^{+1.1}_{-0.0}$	94	3.4	2.9	5.3	4.6	7.9	6.8	10.3	8.9	12.7	11.0	15.7	13.6
225	226.4	$^{+1.1}_{-0.0}$	100	3.9	3.3	6.0	5.2	8.8	7.6	11.5	10.0	14.3	12.4	17.6	15.3
250	251.5	$^{+1.1}_{-0.0}$	105	4.2	3.6	6.5	5.7	9.8	8.5	12.9	11.2	15.9	13.8	19.6	17.0

Dimensions of Unplasticized P.V.C. Pipes as per Is : 4985 : 2000 For in Water supply
(All Dimensions are in Milimeters)

Nominal Outside Diameter	Mean Outside Diameter		Outside Diameter At Any Point		Wall thickness of pipes											
					Class I (0.25 Mpa)		Class II (0.4 Mpa)		Class III (0.6 Mpa)		Class IV (0.8 Mpa)		Class V (1.0 Mpa)		Class VI (1.25 Mpa)	
Size	Min.	Max.	Min.	Max.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
20	20.0	20.3	19.5	20.5	-	-	-	-	-	-	-	-	1.5	1.1	1.8	1.4
25	25.0	25.3	24.5	25.5	-	-	-	-	-	-	1.6	1.2	1.8	1.4	2.1	1.7
32	32.0	32.3	31.5	32.5	-	-	-	-	-	-	1.9	1.5	2.2	1.8	2.7	2.2
40	40.0	40.3	39.5	40.5	-	-	-	-	1.8	1.4	2.2	1.8	2.7	2.2	3.3	2.8
50	50.0	50.3	49.4	50.6	-	-	-	-	2.1	1.7	2.8	2.3	3.3	2.8	4.0	3.4
63	63.0	63.3	62.2	63.8	-	-	1.9	1.5	2.7	2.2	3.3	2.8	4.1	3.5	5.0	4.3
75	75.0	75.3	74.1	75.9	-	-	2.2	1.8	3.1	2.6	4.0	3.4	4.9	4.2	5.9	5.1
90	90.0	90.3	88.9	91.1	1.7	1.3	2.6	2.1	3.7	3.1	4.6	4.0	5.7	5.0	7.1	6.1
110	110.0	110.4	108.6	111.4	2.0	1.6	3.0	2.5	4.3	3.7	5.6	4.9	7.1	6.1	8.7	7.5
125	125.0	125.4	123.5	126.5	2.2	1.8	3.4	2.9	5.0	4.3	6.4	5.6	8.0	6.9	9.8	8.5
140	140.0	140.5	138.3	141.7	2.4	2.0	3.8	3.2	5.5	4.8	7.3	6.3	8.9	7.7	11.0	9.5
160	160.0	160.5	158.0	162.0	2.8	2.3	4.3	3.7	6.2	5.4	8.3	7.2	10.2	8.8	12.6	10.9
180	180.0	180.6	177.8	182.2	3.1	2.6	4.9	4.2	7.1	6.1	9.2	8.0	11.4	9.9	14.1	12.2
200	200.0	200.6	197.6	202.4	3.4	2.9	5.3	4.6	7.9	6.8	10.3	8.9	12.7	11.0	15.7	13.6
225	225.0	225.7	222.3	227.7	3.9	3.3	6.0	5.2	8.8	7.6	11.5	10.0	14.3	12.4	17.6	15.3
250	250.0	250.8	247.0	253.0	4.2	3.6	6.5	5.7	9.8	8.5	12.9	11.2	15.9	13.8	19.6	17.0

Approximate use of Solvent Cement per joint of uPVC Pipe

O. D. of Pipe (In Milimeters)	20	25	32	40	50	63	75	90	110	140	160	180	200	225	250
Approx. no of joints which can be made per liter of solvent cement	324	270	225	180	130	125	103	79	54	36	27	25	15	12	9

Ganga®

uPVC, PP, PE & PE-X PIPES

Ganga HDPE Pipes as per IS:4984-1995

Physical Properties of HDPE Pipe

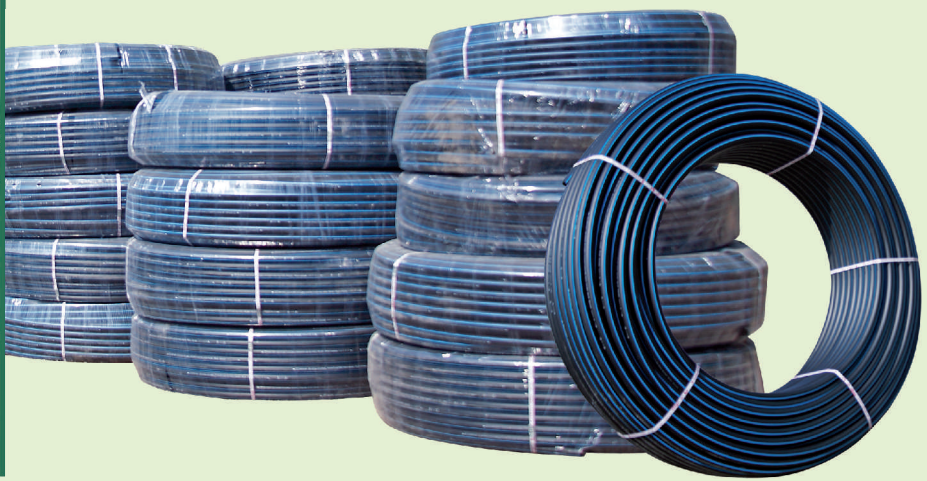
GENERAL	VALUES	TEST METHOD
Density (g/cm³ @ 27°C)	940 - 958	IS: 7328 / ISO 1183
Melt Flow Index (Gm/10Min.)@190°C	0.2 - 1.10	ISO 2530 / ISO 1133
Carbon Black Content (%)	2.5 ± 0.5	IS: 2530 / ISO 6964
Water Absorption Rate (%)	0.01	ASTM D 570
Tensile Strength (Mpa)	31.28	ISO 527 / ASTM D 638
Compression Strength (Mpa)	19.94	ASTM D 695
Oxidation Induction (Min.)	65	ASTM D 2863
Vicat Softening Point (°C)	122 - 125	ASTM D 1525
Flexural Strength (Mpa)	39.88	ASTM D 790
Flexural Modulus (Mpa)	825	ASTM D 790
Defection Temperature (°C) @ 0.46 Mpa	80	ASTM D 648
Defection Temperature (°C) @ 1.8 Mpa	83	ASTM D 648
Dielectric Strength (kV/mm)	22	ASTM D 149

Specifications:

- IS:4984-1995 for portable water supply.
- ISO 4427 for portable water supply.

Product Range:

- 20mm to 110mm outer diameter.



Advantages:

- No joints means no leaks.
- HDPE pipe actually gains strength in lower temperatures and will expand at higher temperatures to avoid breaking.
- HDPE pipe is designed to bend to a radius of 25 times its diameter. This means fewer 90 degree bends overall, less chance for water hammer, a reduction in leaks and easier installation, ideal for new construction.
- HDPE pipes strength and flexibility allows the pipe to absorb vibrations and stress caused by soil movements. With its ability to be compressed without permanent damage, pipe has even withstood the destructive forces of earthquakes.
- Performs well in rocky conditions.
- HDPE pipe can be buried at a shallow depth.
- There are no joints to pull apart - a distinct advantage. Where ledge rock prohibits excavation and very little cover is available.
- Weatherability.
- HDPE pipe can withstand long exposure to inclement weather conditions, excessive sunlight and ultraviolet rays, making it an excellent pipe for bridge crossings.
- Withstands full vacuum. HDPE pipe will not collapse, even under a full vacuum, when the correct size is used for a required application. This allows for perfect utilization as intake piping at pumps stations.

Dimensions of HDPE Pipe - Material Grade PE-63 as per IS:4984-1995 (All Dimensions are in Milimeters)

Outside Diameter	Tolerance On Outside Diameter	Wall thickness of pipes							
		2.5 kg. / cm² PN 2.5		4.0 kg. / cm² PN 4		6.0 kg. / cm² PN 6		10.0 kg. / cm² PN 10	
Size		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
20	+0.3	-	-	-	-	-	-	2.3	2.8
25	+0.3	-	-	-	-	-	-	2.8	3.3
32	+0.3	-	-	-	-	2.3	2.8	3.6	4.2
40	+0.4	-	-	2.0	2.4	2.8	3.3	4.5	5.2
50	+0.5	-	-	2.4	2.9	3.5	4.1	5.6	6.4
63	+0.6	2.0	2.4	3.0	3.5	4.4	5.1	7.0	7.9
75	+0.7	2.3	2.8	3.6	4.2	5.3	6.1	8.4	9.5
90	+0.9	2.8	3.3	4.3	5.0	6.3	7.2	10.0	11.2
110	+1.0	3.4	4.0	5.3	6.1	7.7	8.7	12.3	13.8

Dimensions of HDPE Pipe - Material Grade PE-80 as per IS:4984-1995 (All Dimensions are in Milimeters)

Outside Diameter	Tolerance On Outside Diameter	Wall thickness of pipes							
		6 kg. / cm² PN 6		8 kg. / cm² PN 8		10 kg. / cm² PN 10		12.5 kg. / cm² PN 12.5	
Size		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
20	+0.3	-	-	-	-	-	-	2.3	2.8
25	+0.3	-	-	-	-	2.3	2.8	2.8	3.3
32	+0.3	-	-	2.4	2.9	3.0	3.5	3.6	4.2
40	+0.4	2.3	2.8	3.0	3.5	3.7	4.3	4.5	5.2
50	+0.5	2.9	3.4	3.8	4.4	4.6	5.3	5.6	6.4
63	+0.6	3.6	4.2	4.7	5.4	5.8	6.6	7.0	7.9
75	+0.7	4.3	5.0	5.6	6.4	6.9	7.8	8.4	9.5
90	+0.9	5.1	5.9	6.7	7.6	8.2	9.3	10.0	11.2
110	+1.0	6.3	7.2	8.2	9.3	10.0	11.2	12.3	13.8

Dimensions of HDPE Pipe - Material Grade PE-100 as per IS:4984-1995 (All Dimensions are in Milimeters)

Outside Diameter	Tolerance On Outside Diameter	Wall thickness of pipes									
		6 kg. / cm² PN 6		8 kg. / cm² PN 8		10 kg. / cm² PN 10		12.5 kg. / cm² PN 12.5		16 kg. / cm² PN 16	
Size		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
20	+0.3	-	-	-	-	-	-	-	-	2.3	2.8
25	+0.3	-	-	-	-	-	-	2.3	2.8	2.9	3.4
32	+0.3	-	-	-	-	2.4	2.9	2.9	3.4	3.7	4.3
40	+0.4	-	-	2.4	2.9	3.0	3.5	3.7	4.3	4.6	5.3
50	+0.5	2.3	2.8	3.0	3.5	3.7	4.3	4.6	5.3	5.7	6.5
63	+0.6	2.9	3.4	3.8	4.4	4.7	5.4	5.7	6.5	7.1	8.1
75	+0.7	3.5	4.1	4.5	5.2	5.6	6.4	6.8	7.7	8.5	9.6
90	+0.9	4.1	4.8	5.4	6.2	6.7	7.6	8.2	9.3	10.2	11.5
110	+1.0	5.0	5.7	6.6	7.5	8.1	9.2	10.0	11.2	12.4	13.9

Ganga®

D&B RATED NSIC-ONICRA SE 1B

Narmada PIPES

AN ISO 9001:2008 CERTIFIED COMPANY

DRIP & SPRINKLER
IRRIGATION SYSTEMS

Ganga®

Narmada PIPES
AN ISO : 9001 - 2008 CERTIFIED COMPANY

DRIP & SPRINKLER
IRRIGATION SYSTEMS

PVC PIPE
IS 4985 : 2000

20mm to 250mm

PVC PIPE

HDPE SPRINKLER PIPE
IS 14151 : 2008 PART-2
Class-1
75mm, 90mm, 110mm
Class-2
63mm, 75mm
90mm, 110mm

HDPE SPRINKLER PIPE

LATERAL PIPE
IS 12786 : 1989
Class-1 to 3
12mm, 16mm, 20mm
25mm, 32mm

EMITTING PIPE
IS 13488 : 2008
Class-2 : 12mm & 16mm

LATERAL / EMITTING PIPE

SPRINKLER FITTINGS
IS 12232 : 1996

SPRINKLER FITTINGS

SCREEN FILTER
IS 12785 : 1994

DISC FILTER
IS 12785 : 1994

SCREEN & DISC FILTER

HYDRO CYCLONE FILTER
IS 14743 : 1999

SEND / GRAVEL FILTER
IS 14606 : 1998

HYDRO CYCLONE / GRAVEL FILTER

MINI SPRINKLER SYSTEM
IS 12786 : 1989
IS 12232 : 1996
Class-2 : 25mm, 32mm

MINI SPRINKLER SYSTEM

DRIP IRRIGATION FITTINGS
IS 13487 : 1992
DRIPPER, JOINTER, GROMMET, TAKEOFF, ENDCAP, ELBOW, TEE

DRIP IRRIGATION FITTINGS

Narmada PIPES

AN ISO 9001:2008 CERTIFIED COMPANY

First Time in INDIA

Ganga® PE-X

COLD AND HOT

WATER PIPES & FITTINGS

Three layer with extra
U.V. Protection


Elbow


Tee


Socket


Reducer

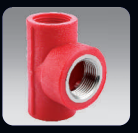

Union


Red. Tee


Brass Elbow


Red. Elbow


Red. Brass Tee


Brass Tee

Plumbing More Easier Than Before • More Affordable

ganga® PE-X

Pipes & Fittings for Cold and Hot Water Application

High Rise Building

Unique Features:

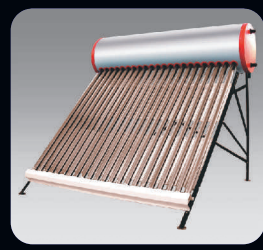
- Suitable for all weather condition.
- Lower thermal conductivity, hence lower heat loss.
- Common pipes & fittings for both cold and hot water.
- Light weight, flexible and food grade pipes.
- U.V. Stabilized.
- Long life.
- Easy to install, repair and replace.
- Leak free joint with Teflon tape.
- Suitable to use up to 90°C (194°F).

Water Heater

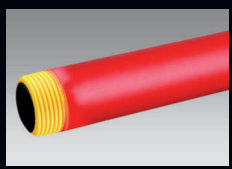
Dimensions and sustained pressure for pipes

Nominal Pipe Size (Inch)	Outside Diameter (mm)	Wall thickness (mm)		Sustained pressure (kg/cm^2) at 23°C (73.4°F)	Sustained pressure (kg/cm^2) at 90°C (194°F)
		Min.	Max.		
½	21.34 ± 0.10	3.73	4.24	27.42	6.03
¾	26.67 ± 0.10	3.91	4.42	22.50	4.95
1	33.40 ± 0.13	4.55	5.08	21.09	4.64
1¼	42.16 ± 0.13	4.85	5.43	16.87	3.71
1½	48.26 ± 0.15	5.08	5.69	15.47	3.40
2	60.32 ± 0.15	5.54	6.20	12.67	2.79

(Note : Pressure indicated above applies to plain end pipes)



Solar Water Heater



▲ Ensure pipes have proper thread.

▲ Wrap sufficient Teflon tape on thread of pipe. Use Teflon tape of 20mm width for pipe size up to 1" and 25 mm width for pipe size from 1¼" to 2"

▲ Initially, tight a joint with Hand.

▲ Use wrench to tight only last thread.

Narmada PIPES

AN ISO 9001:2008 CERTIFIED COMPANY

Ganga® PP-R PIPES

HOT AND COLD

WATER PIPE

Once, Forever. Its 100% leakage free & long lasting.

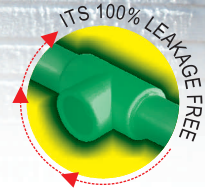
Advantages:

- Operational life more than 50 years.
- Suitable to use up to 95°C (203°F).
- 100% leakage free joints.
- Corrosion free & low noise system.
- UV Stabilized.
- Lower thermal conductive.
- Food Grade.
- Homogeneous joint best resistant against earthquake.
- Light in weight and easy in Installation.
- Best in chemical processing, water treatment plant and other industrial application.

Install PP-R plumbing system,
forget leakage for a lifetime.
It preserves value to your valuable assets.

ganga® PP-R PIPES

HOT AND COLD
W A T E R P I P E



Suitable operating pressure

Tempe-rature °C	Service life in years	Nominal pressure (kg/cm²)		
		PN 10	PN 16	PN 20
10°C	1	17.6	28.2	35.2
	5	16.5	26.5	33.1
	10	16.1	25.8	32.3
	25	15.6	25.0	31.2
	50	15.2	24.3	30.4
	100	14.8	23.7	29.6
20°C	1	14.9	23.9	29.9
	5	14.1	22.6	28.3
	10	13.7	22.0	27.5
	25	13.3	21.3	26.7
	50	12.9	20.7	25.9
	100	12.5	19.5	25.1
30°C	1	12.8	20.5	25.6
	5	12.0	19.2	24.0
	10	11.6	18.6	23.2
	25	11.2	17.9	22.4
	50	10.9	17.5	21.9
40°C	1	10.8	17.3	21.6
	5	10.1	16.2	20.3
	10	9.9	15.8	19.7
	25	9.5	15.2	18.9
	50	9.2	14.7	18.4
50°C	1	9.1	14.6	18.3
	5	8.5	13.7	17.1
	10	8.3	13.2	16.5
	25	8.0	12.8	16.0
	50	7.7	12.4	15.5
60°C	1	7.7	12.4	15.5
	5	7.2	11.5	14.4
	10	6.9	11.1	13.9
	25	6.7	10.7	13.3
	50	6.5	10.4	12.9
70°C	1	6.5	10.5	13.1
	5	6.0	9.6	12.0
	10	5.8	9.3	11.6
	25	4.9	7.9	9.9
	50	4.3	6.8	8.5
80°C	1	5.5	8.8	10.9
	5	4.8	7.7	9.6
	10	4.0	6.4	8.0
	25	3.2	5.1	6.4
90°C	1	3.9	6.2	7.7
	5	2.6	4.1	5.2
	10	2.2	3.5	4.3

* Nominal pressures are given at safety factor 1.5

☐ Recommended application - Cold water installation
☐ Recommended application - Hot water installation
☐ Recommended application - Central heating installation

Suitable operating pressure

Step - 1
Cut the pipe upright to the axis of the pipe

Step - 2
Clean the dies surface properly and ensure machine temperature has reached 260°C

Step - 3
Insert pipe and fittings into respective dies and allow it to heat. (As per table given below.)

Step - 4
Remove the pipe and fitting from the dies and immediately push the pipe in to the socket and allow it to cool. (As per table given below.)

Pipe specification (As per DIN 8077/8078)

Outside Diameter & Tolerance (In mm)	SDR 11 (PN 10) Wall Thickness (In mm)		SDR 7.4 (PN 16) Wall Thickness (In mm)		SDR 6 (PN 20) Wall Thickness (In mm)	
	Min.	Max.	Min.	Max.	Min.	Max.
20 + 0.3	1.9	2.3	2.8	3.3	3.4	4.0
25 + 0.3	2.3	2.8	3.5	4.1	4.2	4.9
32 + 0.3	3.0	3.5	4.5	5.2	5.4	6.2
40 + 0.4	3.7	4.3	5.6	6.4	6.7	7.6
50 + 0.5	4.6	5.3	6.9	7.8	8.4	9.5
63 + 0.6	5.8	6.6	8.7	9.8	10.5	11.8

Guidelines for welding PP-R pipes fittings with manual welding machine

Outside Diameter for Pipes (mm)	Heating up (Second)	Processing (Second)	Cooling period (Minutes)	Depth of Welding (mm)
20	5	4	2	14
25	7	4	2	15
32	8	6	4	16
40	12	6	4	18
50	18	6	4	20
63	24	8	6	24

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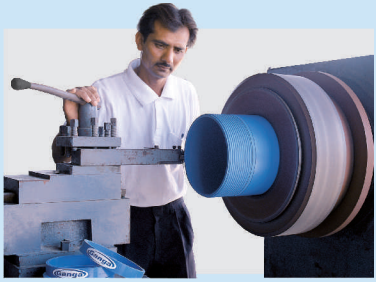
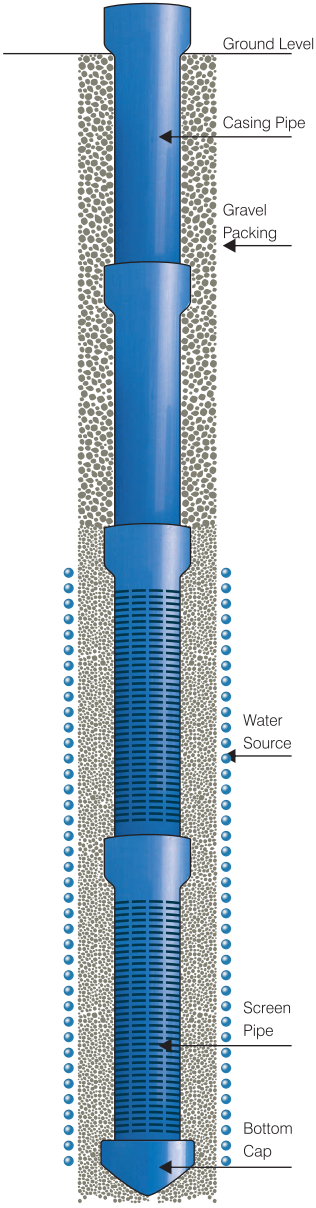


Ganga®
uPVC, PP, PE & PE-X PIPES

Ganga uPVC Casing Pipes as per IS:12818-1992

Advantages:

- Smooth bore for better flow properties.
- Do not support bacterial growth.
- Chemical & Corrosion resistance.
- High impact strength.
- Easy installation.
- Long lasting.
- Elegance.
- Overall economy.



Installation Guide

- Drill a bore of the required size and depth in the ground using suitable boring technique.
- Ensure that sufficient screen and plain casing pipes have been made available based on water source.
- Select appropriate type of pipes (CM or CS) to avoid collapse in a bore.
- Ensure that every casing pipes to be installed is provided with rubber seal (Ring) at threads.
- Always use bottom cap with sand traps.
- Fit "C" clamp below the bell end of the pipe and lower assembly down in the bore with the help of chain pulley block.
- After lowering the pipe up to the clamp level, tight the second pipe gently with the lowered pipe.
- Use chain wrench for proper jointing, but do not over tight.
- Fix next clamp below bell end of the second pipe and connect the chain pulley with clamp.
- Remove the clamp of lower pipe and start lowering further.
- Repeat the jointing method till the required depth of bore well is reached.
- Fill the gravel between pipe and bore hole.

Dimensions of uPVC Casing Pipes - CS As Per IS:12818-1992 (Suitable for wells depth up to 80 meter)

Size (In Inch)	Nominal Diameter (DN)	Outer Diameter of Pipe (mm)		Outer Dia. Over Connection	Wall Thickness (mm)	
	mm	Min.	Max.	Min.	Min.	Max.
*4	100	113.0	113.3	117.0	4.0	4.4
*5	125	114.0	140.4	148.0	4.9	5.4
*6	150	165.0	165.4	173.0	5.7	6.5
*6½	165	180.0	180.5	189.0	5.7	6.5
7	175	200.0	200.5	212.0	7.0	7.8
8	200	225.0	225.5	238.0	7.6	8.8
10	250	280.0	280.5	292.0	9.6	11.0

Dimensions of uPVC Casing Pipes - CM As Per IS:12818-1992 (Suitable for wells depth up to 250 meter)

Size (In Inch)	Nominal Diameter (DN)	Outer Diameter of Pipe (mm)		Outer Dia. Over Connection	Wall Thickness (mm)	
	mm	Min.	Max.	Min.	Min.	Max.
1½	40	48.0	48.2	52.0	3.5	4.0
2	50	60.0	60.2	64.0	4.0	4.6
3	80	88.0	88.3	94.0	4.0	4.6
4	100	113.0	113.3	120.0	5.0	5.7
*4½	115	125.0	125.4	132.0	5.0	5.7
5	125	140.0	140.4	150.0	6.5	7.3
6	150	165.0	165.4	177.0	7.5	8.5
*6½	165	180.0	180.5	193.0	7.5	8.5
7	175	200.0	200.5	215.0	8.8	9.8
8	200	225.0	225.5	243.0	10.0	11.2
10	250	280.0	280.5	298.0	12.5	14.0

* Not under the scope of IS:12818-1992

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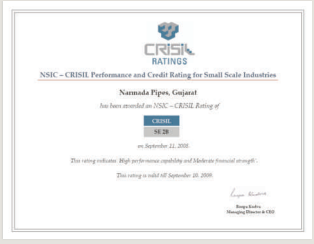
the quality assured quality

why?



- We believe; Quality could be maintained only by keeping Eagle eye watch on each and every little things. Not a single niceness is allowed. Quality control starts from the very beginning stage i.e. from the period when raw material is procured.
- Raw material is purchased from only the well known and quality oriented producers like Reliance, GAIL, Haldia and Finolex which are India based huge producers and are also quality conscious.
- Also the other additives required like Calcium Carbonate, PVC Stabilizer, Polyethylene concentrates etc. are of high quality.
- Raw-material mixture in specified proportion is prepared as per quality norms established. Not a single item is mixed more or less than actually required. It is then after production process is carried on.
- During production process adequate care is taken about quality. For better quality product best available machineries are installed.
- Onwards consistent production is started only after a sample piece is drawn and is checked by the skilled Quality Control personnel. Due care is taken about the thickness, weight, O.D., I.D., Fitment, Smoothness etc. of products.
- Once the physical and chemical tests are satisfaction then and then only the mass production is carried on. Also during production of pipes & fittings, inspection is carried out at regular intervals.
- Proper length and smoothness at both the ends of pipe is checked for better performance.
- During in-process and final inspection, quality requirements related to internal, national and international standards are followed.
- Laboratory tests results are reviewed and compared with the requirements given by customer or in national standards / International standard as applicable.
- Proper storage is provided to finished products awaiting for dispatch.
- Due care is taken in loading finished goods to avoid unwanted damages to pipes & fittings during transit.

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