



IS : 4984 : 2016  
IS : 4985 : 2000  
IS : 14151 Pt-2  
IS : 9537 Pt-3



ISO 9001:2015





## **Quality Policy**

"We Strive for Strict Quality Control, Timely and Consistent Services, Constant Improvisation and above all, Customer Satisfaction."

"We believe that quality consists of timely supply and meeting customers requirement. We believe in doing things correct, from the very first attempt. "



## **VISION**

To enable the whole society live a better life by providing our world class products, especially to farmers, while being careful to protect the environment by spreading greenery.



## **ABOUT COMPANY**

Venkatesh Indigenous Pipes Pvt. Ltd., with its VIP brand, has been incorporated with a motto to manufacture excellent quality pipes with unique skill, continual technological upgradation, professional management, testing and persistent dedication.

The moving spirits behind the whole project are its professionally qualified promoters, who have a vast experience of 30 years in the field of manufacturing and supplying PVC pipes. This venture, with annual installed capacity of 15,000 MT, has been started with the motivation to manufacture those pipes, which are not being manufactured in the region and at the same time to create opportunities of employment for others.

Our comprehensive quality program is based on continual improvement in products, process and system, designed to meet customer's need and satisfaction. We believe in innovating new features to offer excellent product to our customers and to meet this, we have dedicated team of Engineers, Operators and skilled labour.

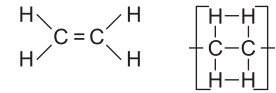
We are enjoying technological advantage with latest equipped on-site testing laboratory at our state-of-the-art manufacturing plant at Industrial area, Mandideep, Distt. Raizen (M.P.).

We offer an entire range of HDPE Pipes & Fittings, MDPE Pipes, PVC Rigid Pipes, HDPE Sprinkler Pipes, PVC Conduit Pipes, PVC HPP (Plumb) Pipes & Fittings, Flexible Corrugated Pipes, PVC Casting Pipes, PVC SWR Pipes & Fittings Conforming to respective IS and ISO specifications catering to every conceivable application, from Potable water supply to Tube well systems, Sprinkler irrigation system, sewerage and drainage system, waste and rain water management system, cable ducting, computer and air conditioner ducting, concealed electrical wiring.



# POLYETHYLENE (Technical details & applications)

Chemical Composition of PE :



Polyethylene is a thermoplastic polymer consisting of long chains produced by combining the ingredient monomer ethylene. The ethylene actually converts to ethane as it takes its place in a polymer and straight sections of the polymer are the same structure as the simple chain hydrocarbons, e.g., propane, decane and other straight single bonded carbon chains. As with any polymer, the structure of the resulting substance defies molecular description due to cross branching of the chains .

HDPE (High Density Polyethylene ) is defined by a greater or equal to Density of 0.941 g/cm<sup>3</sup>. HDPE has a low degree of branching and thus stronger Intermolecular forces and tensile strength.

## Technical Information

			HDPE	MDPE	LDPE	PEUHMW
Density (p)	ISO 1183	g/cm <sup>3</sup>	0.95	0.938	0.925	0.93
Max. permissible service temp.		°C	-50 to 90	-50 to 85	-50 to 60	-50 to 90
Tensile Strength at yield (oS)	ISO 527	MPa	27	20	11	17
Elongation at break (ER)	ISO 527	%	≥ 700	≥ 600	≥ 600	≥ 50
Impact Strength (an)	ISO 179	K1/m2	No break	No break	No break	No Break
Flexural Strength(oB 3.5%)	ISO 178	MPa	22	40	80	27
Modulous of elasticity (Et)	ISO 527	MPa	1150	760	260	680
Coef. of linear therm. expansion (o)	DIN 53752	K <sup>-2</sup> x 10 <sup>-4</sup>	1.5	1.5	1.4	2
Vicat Softening Temp.	ISO 306		80	80	94	80

## Features & Advantages

- Suitable for underground pipes through adjustments to local ground movement
- Impact resistant and tough
- Thermal resistant Application possible between -40° C & 80° C
- Smooth internal wall Low blockage risk due to low deposit / residue effects
- Application in open air unrestricted through colouring with carbon black
- Lower cost due to relative long life
- Non Conductive
- Suitable for transport of polluted waste water
- No condensation possible during short periods of cooling
- Easy installation using butt-welding and electro fusion techniques
- Environmental Friendly
- Homogeneous welding joints - pull right and leak proof
- Prefabrication - Fast & Cost Saving installation
- Light in weight - Cost Saving in Transport and handling

# VIP HDPE Pipes & Fittings (IS : 4984 : 2016)

## PRODUCT RANGE :

20 mm to 400 mm outer diameter in pressure class 2.5, 4, 6, 8 & 10 kg/cm<sup>2</sup> in PE-63, PE-80 and PE-100 grades

## APPLICATIONS :

- In petrochemical, paper, dye, paint, cement and other chemical industries for disposal of chemical effluent and waste.
- Oil and milk transportation in industries and dairies.
- Discharge of radioactive waste.
- Acid and Slurries transportation.
- Compressed gas supply at mines and construction sites.
- External & internal drainage and sewage.
- Salt water handling.
- Water supply for irrigation in fields.
- Drip irrigation scheme.
- Sprinkler irrigation.
- Insecticide spraying.
- Drawing water from pump set for distribution.
- Most suitable for submersible pumps and jet pumps.
- For potable water supply in rural and urban areas.
- Telecommunication cable ducting.
- Bio-gas, Coal gas & natural gas distribution lines for domestic and industrial use
- Air conditioner ducting
- Submarine delivery system



## MATERIAL GRADES

HDPE pipes are manufactured from PE 63, PE 80 and PE 100 grades of HDPE polymer.

## SALIENT FEATURES

- Strong and resilient : H.D.P.E. Pipes are strong, resilient and impact resistant.
- Light weight : Are easy in handling, transportation & installation, even on difficult terrain.
- Better Flow Characteristic : There is no deposit formation, so diameter of pipe remains the same and hence better flow.
- Hygienic & Odorless : There is no contamination as the pipes are resistant to • Scale formation • Chemical formation • Biological Formation
- Energy saving : Have smooth internal surface which implies low frictional loss. Hence the power consumption is on lower side.
- Leak Proof : Are leak proof due to close dimensional tolerance & precision designing and joining.
- Chemical Resistance : Are totally inert to all the chemicals.
- Economical : Are reasonably priced and long lasting. These pipes have better flow characteristic so a small diameter pipe can be used.
- Long Lasting : Are in fact 10 times long lasting than GI or Rubber pipe. These pipes are free from rusting, weathering & therefore are an investment for a life time.
- Maintenance Free : Have no breakage and are unaffected by environmental stress. Conforming to IS-4984, 14151 and made as per IS-14333, ISO-4427, ISO-4437 & DIN 8074 specifications.

## COMPARISON OF VIP RANGE OF HDPE PIPES WITH GI PIPES

	HDPE	GI
Length	VIP HDPE pipes are flexible and can be coiled. User gets single pipe as per his requirements. Hence no/ less joints. Coils are available in different lengths.	GI pipes are available in 6 m length. Threading is required to join pipes which is laborious, expensive and time consuming.
Size and Pressure	Wide range from 20mm to 630mm sizes with 2.5 to 16 kg/cm <sup>2</sup> pressure rating.	Limited range compared to HDPE pipes.
Corrosion	Possesses excellent corrosion resistance to water, acids & alkalis.	Corrodes faster specially in water submergence.
Internal Surface	Smooth surface offers very low frictional resistance. Resistance to encrustation/ abrasion.	Offers resistance to flow due to less smoother surface which gets worse due to corrosion over a period of time.
Flexibility	Can take curvature up to a radius 25 times the pipe dia. hence can be coiled.	No flexibility. Can be used in straight length.
Weight	It is approx. 4 to 5 times lighter than GI pipes for applications like suction & delivery pipes.	Heavier than HDPE pipe, so it is costly in transportation, installation & manpower.
Maintenance & Life	Virtually maintenance free. The joints are 100% leakproof. Have a long life.	Requires maintenance frequently. Life is not more than five years.
Installation	Easy, as no special equipments are required. Submersible pump can be installed in 1 hour time for depth more than 80m to 100m.	Cumbersome. Chainpulley required apart from holding clamps. Takes almost 5 to 8 hours for depth of 80m to 100m.
Cost	Unit cost of delivered water is approx. 15 to 20% lower than GI Upto 110 mm size	Unit cost of delivered water is more in GI pipes as compared to HDPE pipes.

# DIMENSIONS OF PE PIPE : 4984 : 2016 (WITH AMENDMENT)

## Venkatesh Indigenous Pipes Pvt Ltd

### Standard Dimension Ratio (SDR ) and Corresponding Wall Thickness of HDPE Pipes as per IS 4984:2016

PE-63 →	PN - 2.5	PN - 3.2	PN - 4	PN - 5	PN - 6	PN - 8
PE-80 →	PN - 3.2	PN - 4	PN - 5	PN - 6	PN - 8	PN - 10
PE-100 →	PN - 4	PN - 5	PN-6	PN-8	PN-10	PN - 12.5
SDR →	SDR - 33	SDR - 26	SDR 21	SDR 17	SDR 13.6	SDR 11

OD (mm)↓		Wall Thickness (mm)												
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
20	20.3												1.9	2.2
25	25.3												1.9	2.2
32	32.3							1.9	2.2				2.4	2.7
40	40.4					1.9	2.2	2.4	2.7				3.0	3.4
50	50.4			2.0	2.3	2.4	2.7	3.0	3.4				3.7	4.2
63	63.4			2.5	2.9	3.0	3.4	3.7	4.2				4.7	5.3
75	75.5	2.3	2.6	2.9	3.3	3.6	4.1	4.5	5.1				5.6	6.3
90	90.6	2.8	3.2	3.5	4.0	4.3	4.8	5.3	5.9				6.7	7.5
110	110.7	3.4	3.8	4.3	4.8	5.3	6.0	6.5	7.3				8.1	9.0
125	125.8	3.8	4.3	4.8	5.4	6.0	6.7	7.4	8.2				9.2	10.2
140	140.9	4.3	4.8	5.4	6.0	6.7	7.5	8.3	9.2				10.3	11.4
160	161.0	4.9	5.5	6.2	6.9	7.7	8.6	9.5	10.6				11.8	13.1
180	181.1	5.5	6.2	7.0	7.8	8.6	9.6	10.6	11.8				13.3	14.7
200	201.2	6.1	6.8	7.7	8.6	8.6	10.7	11.8	13.1				14.7	16.3
225	226.4	6.9	7.7	8.7	9.7	10.8	12.0	13.3	14.7				16.6	18.4
250	251.5	7.6	8.5	9.7	10.8	12.0	13.3	14.7	16.3				18.4	20.3
280	281.7	8.5	9.5	10.8	12.0	13.4	14.8	16.5	18.3				20.6	22.8
315	316.9	9.6	10.7	12.2	13.5	15.0	16.6	18.6	20.6				23.2	25.6
355	357.2	10.8	12.0	13.7	15.2	16.9	18.7	20.9	23.1				26.1	28.8
400	402.4	12.2	13.5	15.4	17.0	19.1	21.1	23.6	26.1				29.5	32.6

**NOTES :**

- 1 Tolerances Calculated from (0.1 + 0.1) mm rounded up to the next 0.1 mm.
- 2 All pressure ratings are calculated at 27° C and rounded up to nearest pressure class .
- 3 Considering operational problems, maximum wall thickness of pipes are considered around 130 mm.



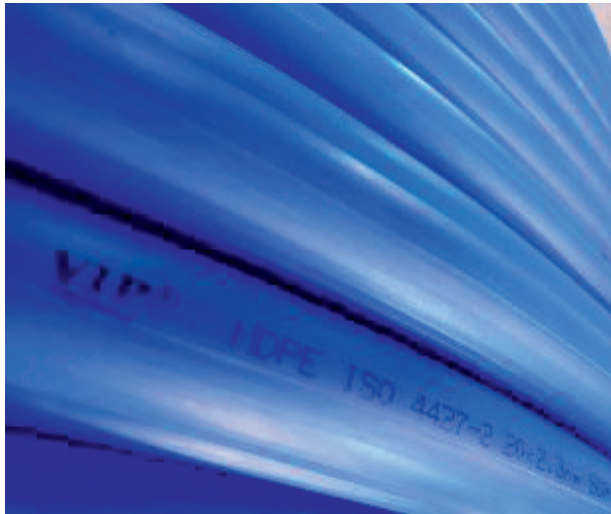


# MDPE PIPES

## Medium Density Polyethylene Pipes

MDPE (Medium Density Polyethylene Pipes) Pipes are used for Transportation of Gas as well as for Water all over the world due to its best technical and operational characteristics. This kind of polyethylene has a density of between 0.926-0.940. MDPE is manufactured by using catalysts like Ziegler-Natta, chromium/silica catalysts, and metallocene catalysts. MDPE has excellent chemical resistance and is very stable at room temperature and does not dissolve at room temperature. It is weather proof and has long service life due to its higher Stress Cracking Resistance and is less notch sensitive as compared to HDPE. MDPE also has very good drop resistance and shock resistance

We manufacture MDPE Pipes for Gas as well for Drinking Water Supply using virgin Raw material and state of the art machines. Our MDPE Pipes are in accordance with International standards. To maintain the international standards we follow strict quality control methods and are very selective about our suppliers. The pipe is supplied in coil form and comes with Digital Meter Marking.



### Raw Material Grade:

Available in Pe80/ Pe100 grade

### Colors:

Blue, Yellow, Orange, Black with Blue Strips



## FEATURES

- Absorbs thermal and mechanical stress.
- High Slow Crack Growth Resistance
- High Chemical Reaction Resistance
- High Tensile strength
- Excellent pressure resistance.
- Less Notch Sensitive



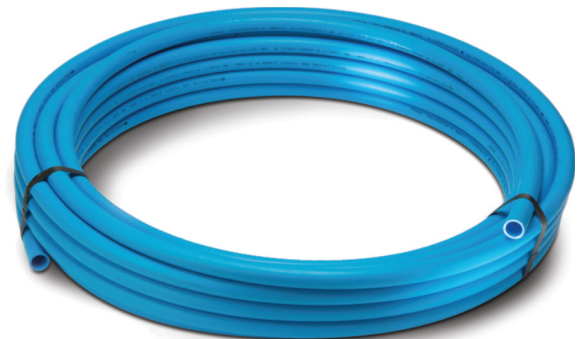
SDR	SDR7.4		SDR9		SDR11		SDR13.6		SDR17	
PE100	PN25		PN20		PN16		PN12.5		PN10	
PE80	PN20		PN16		PN12.5		PN10		PN8	
	Wall Thickness									
Size	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
16	2.3	2.7	2	2.3	—	—	—	—	—	—
20	3	3.4	2.3	2.7	2	2.3	—	—	—	—
25	3.5	4	3	3.4	2.3	2.7	2	2.3	—	—
32	4.4	5	3.6	4.1	3	3.4	2.4	2.8	2	2.3
40	5.5	6.2	4.5	5.1	3.7	4.2	3	3.5	2.4	2.8
50	6.9	7.7	5.6	6.3	4.6	5.2	3.7	4.2	3	3.4
63	8.6	9.6	7.1	8	5.8	6.5	4.7	5.3	3.6	4.3
75	10.3	11.5	8.4	9.4	6.8	7.6	5.6	6.3	4.5	5.1
90	12.3	13.7	10.1	11.3	8.2	9.2	6.7	7.5	5.4	6.1
110	15.1	16.8	12.3	13.7	10	11.1	8.1	9.1	6.6	7.4
125	17.1	19	14	15.6	11.4	12.7	9.2	10.3	7.4	8.3
140	19.2	21.3	15.7	17.4	12.7	14.1	10.3	11.5	8.3	9.3
160	21.9	24.2	17.9	19.8	14.6	16.2	11.8	13.1	9.5	10.6
180	24.6	27.2	20.1	22.3	16.4	18.2	13.3	14.8	10.7	11.9
200	27.4	30.3	22.4	24.8	18.2	20.2	14.7	16.3	11.9	13.2
225	30.8	34	25.2	27.9	20.5	22.7	16.6	18.4	13.4	14.9
250	34.2	37.8	27.9	30.8	22.7	25.1	18.4	20.4	14.8	16.4
280	38.3	42.3	31.3	34.6	25.4	28.1	20.6	22.8	16.6	18.1
315	43.1	47.6	35.2	38.9	28.6	31.6	23.2	25.7	18.7	20.7
355	48.5	53.5	39.7	43.8	32.2	35.6	26.1	28.9	21.1	23.4
400	54.7	60.3	44.7	49.3	36.3	40.1	29.4	32.5	23.7	26.2

## APPLICATIONS

- Suitable for Drinking Water
- Gas Application in Industries
- Residential Colonies
- Housing Societies
- Jal Boards
- Corporations

### Size :

16MM OD TO 315MM OD



# VIP SPRINKLER PIPES (IS: 14151)

HDPE Sprinkler Pipes & Fittings conforms to **IS-14151 (Part I & II)**, manufactured in state-of-the-art plant with latest manufacturing technology under strict quality control. VIP HDPE Sprinkler Pipes & Fittings are best preferred for efficient use of water, fertilizers and electricity in irrigation of a variety of crops like cotton, soyabean, wheat, gram, groundnut, pulses etc. Also used for checking of dust pollution in cement industries and mining pits. Sprinkler pipes are also used for playground, golf course, huge gardens maintenance.

VIP HDPE Sprinkler Pipes & Fittings have been preferred over other available resources due to varied salient features

- Tough and resilient
- Easy to use
- Light in weight, hence easy to handle
- Since flexible, perfect for laying on undulated lands
- Leak proof
- Resistant to chemicals
- Rust proof and UV stable
- Smooth internal surface hence low friction loss
- Got a quick coupling system, which facilitates easy joining.



## PRODUCT RANGE :

**Pipes :** 63 mm to 110 mm OD (In 2.5, 3.2 kg/cm<sup>2</sup> pressure)

**VIP Sprinkler Fittings and Accessories For (63, 75, 90, 110 mm) :** Coupled bend, Coupled tee, Pump connecting nipple (P.C.N.), Sprinkler attachment with foot batton, End caps, Riser pipe, Sprinkler nozzle

## APPLICATIONS :

**Agricultural :** • Efficient use of water, fertilizers and electricity in irrigation of a variety of crops like cotton, soyabean, wheat, gram, groundnut, pulses etc. • Safety of crops and reduction of soil erosion.

**Industrial :** • Checking of dust pollution in cement industries and mining pits.

**Other :** • Playground and golf course maintenance • Land decor and beautification • Fish rearing

## SALIENT FEATURES OF HDPE SPRINKLER PIPES :

**Strong and Durable :** VIP H.D.P.E. Sprinkler Pipes & Fittings are strong, extremely adaptable and impervious to aggressive soils and climatic conditions.

**Light Weight and Flexible :** Are easy to handle and install, due to light weight & flexibility, thus suitable for undulated hilly as well as plain land.

**Energy Saving :** Have smooth internal surface which implies low frictional losses, hence the power consumption is on lower side.

**Leak Proof :** Are free from leaks.

**Inert to :** • Chemicals • Corrosion • Environmental stress

**Safe :** Base HDPE material is compounded with antioxidant and UV stabilizer for protection from sunlight & to avoid degradation of materials.

**High Quality Pipe Fittings :** Sprinkler fittings are made of the same grade of HDPE materials as the pipes & are of exquisite quality.

**Water Saving :** Have high irrigation efficiency (80% to 90%), save water upto 60%.

**Long Lasting & Maintenance Free :** Are rust-proof & unaffected by weather conditions.

## Dimensions of HDPE Sprinkler Pipes IS:14151-2008

Nominal Dia	Outside Dia	Nominal Tolerance on Outside Dia.	Ovality mm	Class 1 (0.25 MPa)		Class 2 (0.32 MPa)	
				Min	Max	Min	Max
63	63.0	+0.6	1.5	-	-	2.0	2.4
75	75.0	+0.7	1.6	2.0	2.4	2.5	2.9
90	90.0	+0.8	1.8	2.2	2.6	2.9	3.4
110	110.0	+1.0	2.2	2.7	3.2	3.4	3.9

## VIP Rigid PVC Pipes (IS 4985 : 2000)

Venkatesh Indigenous Pipes Pvt. Ltd. manufactures "VIP" brand with a wide range of products for agriculture. VIP pipes have carved a niche and earned the trust of farmers across the nation for their durability, dependability and excellent flow characteristics.

### FEATURES :

- Lightweight, easy to transport and install
- Strong, Flexible and Durable
- High Electrical Resistance, Low Thermal Conductivity, Hygienic
- Energy saving due to smooth inner surface for better discharge
- Chemical Resistant
- Fire Resistant as it is self extinguishing
- Termite proof and UV resistant
- Leak proof
- Negligible algae formation due to low opacity
- Resistant to Moisture abrasion and wearing

### PRODUCT RANGE :

- 20mm to 200mm in 2.5, 4, 6, 8 & 10 kg/cm<sup>2</sup>

### APPLICATIONS :

**Domestics** : Potable water supply schemes in urban areas

**Industrial** : • Disposal of chemical effluent and waste.  
• Acid & Slurries transportation Salt water handling

**Agriculture** : Irrigation schemes for agriculture purpose

**Others** : Telecommunication cable ducting



## Elastomeric Rigid PVC Pipes (IS 4985)

### FEATURES

- Convenient push-fit joints. Saves manpower.
- Jointing can be done during any time of the day under any weather conditions.
- Faster installation, immediate pressure testing and commissioning possible.
- Joints accommodate expansion and contraction.
- Joints are resistant to soil movement due to earthquake effects.
- The elastomeric rings have properties matching to Pipe with long shelf life.
- Available as per IS-4985, ISO-4422-2 and DIN-8062.

### PRODUCT RANGE :

63 mm to 315mm in 4,6,8,10 kg/cm<sup>2</sup> pressure rating

### APPLICATIONS :

- Supply of potable water in house and residential buildings
- Supply of water for irrigation crops
- Supply of water for irrigation and construction in hilly areas where temperature is very low (i.e. 0 deg.C) even in desert areas where temperature is at it's maximum ( i.e. 50 deg .C )

## TESTING AND QUALITY CONTROL :

There are various stages of severe quality controls that the VIP PVC pipes and fittings go through, both during and after production. The tests carried out are as per IS 12235 - 1986 :

- Part 1 : Measurement of outside diameter
- Part 2 : Measurement of wall thickness
- Part 3 : Test for opacity
- Part 4 : Determining the detrimental effect on the composition of water
- Part 5 : Reversion test
- Part 6 : Stress relief test
- Part 7 : Resistance to sulphuric acid
- Part 8 : Internal hydrostatic pressure test
- Part 9 : Impact strength at 0°C

Sulfated Ash Content Test as per IS 4985 : 2000. Density Test as per IS 13360 / Part 3 / Sec 1

## REQUIREMENT OF uPVC ADHESIVE FOR JOINTING

The following chart should be used as a guideline to determine your requirement :

Outside dia of pipe (mm)	20	25	32	40	50	63	75	90	110	125	140	160	180	315
Approx. No. of Joints/kg. of Solvent Cement	350	300	250	200	150	125	103	79	54	45	36	27	20	15

## MECHANICAL PROPERTIES OF uPVC AT 20°C

Density	1430 - 1500 kg/m <sup>3</sup>
Minimum ultimate tensile strength	45 MPa
Compressive strength	66 MPa
Shear strength	39 MPa
Tensile (Youngs) modulus	2750 MPa (at high loads)
Hardness (Shore)	85 (ASTM D2240)
Hardness (Brinnell) at 23°C	12 - 15
Impact (Charpy) - 20°C	20 kJ/m <sup>2</sup> (250 µm notch radius)
Impact (Charpy) - 0°C	8 kJ/m <sup>2</sup>
Elongation at break	50 - 80%
Poissons ratio	0.35 - 0.4

## THERMAL PROPERTIES

Max continuous service temperature	60°C
Specific heat	1047 J / kg / °C
Coefficient of linear expansion	7 x 10 <sup>-5</sup> / °C
Thermal conductivity	0.13 - 0.15 W / m / °C
Flame resistance	Self-extinguishing uPVC does not support combustion when the source of ignition is removed. At the fabrication temperature, it can be shaped by deformation.
Primary softening point	Not less than 80°C (AS 1426)
Vicat. softening temperature	80°C (BS2782)
Electrical properties	12 - 38kV / mm
Dielectric strength	3.0 - 3.2 @ 106 Hz
Power factor	1013 - 1014 Ohm
Surface resistivity	2000 Volts / mm

**DIMENSION OF UPVC PIPES (AS PER IS 4985 - 2000) (Clauses 7.1.1 and 7.1.2)**

Nominal Outside Diameter (Nominal Size)	Mean Outside Diameter		WALL THICKNESS												
			Class 1 0.25MPa		Class 2 0.4MPa		Class 3 0.6MPa		Class 4 0.8MPa		Class 5 1.0MPa		Class 5 1.25MPa		
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
20	20.0	20.3	-	-	-	-	-	-	-	-	-	1.1	1.5	1.4	1.8
25	25.0	25.3	-	-	-	-	-	-	1.2	1.6	1.4	1.8	1.7	2.1	
32	32.0	32.3	-	-	-	-	-	-	1.5	1.9	1.8	2.2	2.2	2.7	
40	40.0	40.3	-	-	-	-	1.4	1.8	1.8	2.2	2.2	2.7	2.8	3.3	
50	50.0	50.3	-	-	-	-	1.7	2.1	2.3	2.8	2.8	3.3	3.4	4.0	
63	63.0	63.3	-	-	1.5	1.9	2.2	2.7	2.8	3.3	3.5	4.1	4.3	5.0	
75	75.0	75.3	-	-	1.8	2.2	2.6	3.1	3.4	4.0	4.2	4.9	5.1	5.9	
90	90.0	90.3	1.3	1.7	2.1	2.6	3.1	3.7	4.0	4.6	5.0	5.7	6.1	7.1	
110	110.0	110.4	1.6	2.0	2.5	3.0	3.7	4.3	4.9	5.6	6.1	7.1	7.5	8.7	
125	125.0	125.4	1.8	2.2	2.9	3.4	4.3	5.0	5.6	6.4	6.9	8.0	8.5	9.8	
140	140.0	140.5	2.0	3.8	3.2	3.8	4.8	5.5	6.3	7.3	7.7	8.9	9.5	11.0	
160	160.0	160.5	2.3	2.8	5.4	4.3	5.4	6.2	7.2	8.3	8.8	10.2	10.9	12.6	
180	180.0	180.6	2.6	4.9	2.6	4.9	6.1	7.1	8.0	9.2	9.9	11.4	12.2	14.1	
200	200.0	200.6	2.9	3.4	4.6	5.3	6.8	7.9	8.9	10.3	11.0	12.7	13.3	15.7	
225	225.0	225.7	3.3	3.9	5.2	6.0	7.6	8.8	10.0	11.5	12.4	14.3	15.3	17.6	

**COMPARISON & ADVANTAGES OF VIP PVC OVER GALVANIZED, AC & CAST IRON PIPES**

Properties	VIP PVC Pipe	Galvanized Pipe	AC Pipe	Cast Iron Pipe	Advantages of VIP Rigid PVC Pipe
Weight	Light	Heavy	Heavy	Very Heavy	Very light weight therefore easy in shifting & convention in jointing
Surface	Very Smooth	Rough	Light Rough	Rough	Smooth surface gives 25 % more flow therefore smaller diameter pipe can be used. Thus economical
Length	6 meter	5 to 6 meter	3 to 4 meter	3 to 4 meter	Available in full length so less joints and couplers. Thus they are economical
Flow	Initially 50 % more flow in comparison to other & retain flow till end	Initial flow gets reduced slowly because of rust	Initial flow is 40 % more	Initial flow reduced by 40 to 50 % after 5 to 10 years	Full and constant flow from initial stage which is 25 % more than GI Pipe
Effect of rust	Question of rust does not arise	Get rusted	Do not get rusted	Rapid rust formation	It is rust proof there fore long-lasting
Accumulation of particles forming rust	Very less change therefore dia of Pipe remains same	Particles accumulate heavily thus dia reduces	Particles does not accumulate	Heavy accumulation of particles thus dia gets reduced after some time	Since diameter remains same it gives full flow



# VIP PVC CONDUIT PIPES (IS : 9537 Part-3)

VIP uPVC Conduit pipes have been preferred over other available resources due to varied salient features

- Strong and durable
- Light weight and flexible
- Convenient joining
- Safe
- Resistant to rusting, wear, abrasion and water
- Excellent surface
- Cost saving
- Temperature Stable
- Smoke Suppressing
- Maintenance free
- Available in FRLS Quality.



## PRODUCT RANGE :

LMS 20 mm to 63 mm

MMS 20 mm to 50 mm

HMS 20 mm to 50 mm

## COLOUR OPTIONS :

VIP Electrical Conduits are available in specific colours like cream & grey. Any other colour as per demand.

## APPLICATIONS :

**Domestic** : Open and concealed wiring in houses, residential and commercial buildings.

**Industrial** : Open and concealed wiring in plants.

**Other** : Traffic signal connections, street light & wiring at public places.

## SALIENT FEATURES :

**Strong and Durable** : VIP electrical conduits are strong and unaffected by weather conditions.

**Light weight and Flexible** : Are easy to join.

**Convenient Joining** : Have high precision trapezoidal threads which ensure easy joining.

**Resistant to** : Wear and abrasion, Water Rusting

**Safe** : Are fire resistant with very less electrical conductivity.

**Excellent Surface** : Have smooth internal and external surface.

**Cost Saving** : Are economical

**Temperature Stable** : Can cope with widely fluctuating temperatures (-20° C to + 60° C) thus are resistant to extreme weather conditions and UV stabilized.

**Smoke Suppressing** : Are manufactured from special PVC alloy, which ensure little or no release of smoke/toxic fumes in the event of fire.

**Maintenance Free** : Are free from corrosion and resistant to chemical reaction & biological formation, so do not require maintenance.

## COMPARISON OF ELECTRICAL CONDUITS WITH METALLIC CONDUITS

Particulars	RPVC Conduits	Metallic Conduits	Remarks
Weight	Much lower than the metallic ones	Much higher than the PVC ones	Easy handling
Flexibility	High	Not flexible	Easy installation
Corrosion resistance	Do not corrode	Get corroded	Longer life
Electrical conductivity	Very less	High	Safety
Visual appearance	Good	Not so good	

# VIP uPVC PLUMBING PIPE

- Non-corrosive
- Cost effective
- Hygienic Water Supply
- Non-Conductor to Heat
- Easy to Install
- Continuous Flow
- Less Electricity Cost
- Resistance to Chemical
- Prevent Bacterial Growth
- Useful for water distribution



## WHY VIP HEAVY PRESSURE PIPES ?

- Galvanised Iron Pipes had been in use for the past few decades for the distribution of potable water. The quality of these pipes had deteriorated so drastically over the past decade, that environmentalists and public health engineers had to search for a proper replacement to overcome the problems of :
  - Contamination of water due to corrosion, algae formation, root penetration etc.
  - Reduced flow with passage of time resulting in choked lines.
  - Leakage due to galvanic action and corrosion etc.
- The most affluent nations have reverted to copper (Germany) and stainless steel (Japan). While countries in Middle East, Far east, Europe, America have opted for uPVC Pipes, to overcome these problems. The uPVC system is far superior and ensures uninterrupted flow of clean potable water for a lifetime.
- VIP has introduced uPVC Pipes and Fittings. A complete replacement for the galvanised iron pipe system for drinking water distribution plumbing & sanitary applications based on ASTM D 1785 specifications.

## INSTALLATION METHODS

- Above ground/on the walls. Mark layout line on the wall and fix the pipeline accordingly. Support the pipeline at proper intervals using VIP PVC Pipe clips.
- Under the ground, provide a trench of 600 mm to 1000 mm depth & 400 mm width. Lay the pipeline and avoid stones in direct contact with pipeline. Refill the trench after checking leakages. For crossing through open drain encase the pipeline in bigger sized pipe.

## JOINTING PROCEDURE

- Use standard tools like Pipe Wrench, Pipe threading Dies. Pipe vice etc.
- Join the threaded pipes and fittings as per the piping lay-out, using standard methods of metal pipe line fixing.
- Use of Teflon Tape is also suggested for perfect leakproof joints.
- Avoid over-tightening of the joints.

## SPECIFICATIONS

Colour	:	White
Size	:	Available in 1/2 inches to 4 inches.
Pipes	:	As per ASTM-D 1785 Sch - 40 & 80
Threads	:	Pipe threads for pressure tight joints as per IS:554
Temperature	:	Up to 60°C continuous and up to 90°C for short time.
Test	:	Tested for potable water supplies as per IS : 4985

## DIMENSIONAL SPECIFICATIONS

NOMINAL BORE	MEAN OUTSIDE DIAMETER (mm)		PVC SCHEDULE 40				PVC SCHEDULE 80			
			Wall Thickness		Working Pressure	Wall Thickness		Working Pressure		
(inch)	(mm)	(min.)	(max.)	(min.)	(max.)	(kg/cm <sup>2</sup> )	(min.)	(max.)	(kg/cm <sup>2</sup> )	
1/2	15	21.2	21.5	2.8	3.3	21	3.7	4.2	29	
3/4	20	26.6	26.8	2.9	3.4	17	3.9	4.4	24	
1	25	33.3	33.6	3.4	3.9	16	4.6	5.0	22	
1 1/4	32	42.0	42.3	3.6	4.1	13	4.9	5.4	18	
1 1/2	40	48.1	48.4	3.7	4.2	12	5.1	5.7	17	
2	50	60.2	60.6	3.9	4.4	10.5	5.5	6.2	15	
2 1/2	63	72.8	73.2	5.2	5.8	10	7.0	7.8	14	
3	75	88.7	89.1	5.5	6.1	9	7.6	8.5	13	
4	100	114.1	114.5	6.0	6.7	7.5	8.6	9.6	11	

Tolerance  $\pm 1$  cm. in length and  $\pm 0.1$  mm in wall thickness.  
 Note : All the specifications are subject to change without prior notice due to constant research & development.





# VIP Corrugated Flexible Plastic Pipes

Flexible Corrugated Pipes are manufactured in grey colour.

These pipes are light weight, flexible and possess more strength. They can be bended on turnings and are thus fast replacing rigid bends.

These pipes are primarily used for computer ducting, air conditioner ducting, wash basins, washing machines and automobiles.

## SIZES :

• 16 mm • 20 mm • 25 mm • 32 mm • 40 mm • 50 mm

## APPLICATIONS :

- Open Electric and Telephone Wiring
- Computer Ducting
- Air-conditioner Ducting
- Wash Basin
- Washing Machines



# VIP Tubewell Casing Pipes

VIP Tubewell Casing Pipes have been preferred over other available resources due to varied salient features:

- Strong and durable
- Convenient joining
- Low frictional loss
- Resistant to chemical reaction, bacterial growth, rusting & corrosion
- Maintenance free
- Light weight s
- Better flow characteristic
- Economical

## PRODUCT RANGE :

63 mm to 225mm in 4 & 6 Kgf/cm<sup>2</sup> pressure class.

## APPLICATIONS :

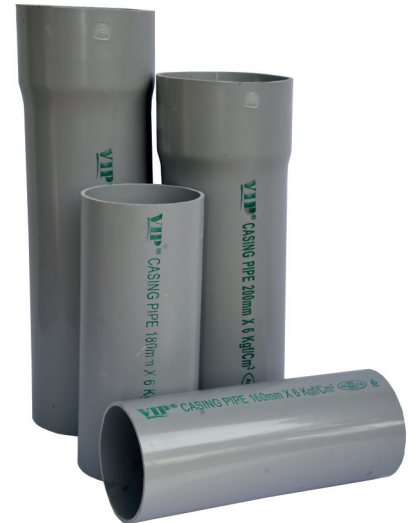
Domestic: • Tube well and pump casings • Domestic wells

Industrial: • Industrial wells & mines

Agricultural: • Irrigation wells

## SALIENT FEATURES :

- Strong and Durable:
- VIP Tubewell Casing Pipes are strong, durable and inert to corroding factors.
- Light weight: Are light in weight, therefore easy to handle and install.
- Convenient Joining: Have high precision trapezoidal threads which ensure easy joining.
- Low Frictional Loss: Have smooth internal surface which implies low frictional loss. Hence the power consumption is on lower side.
- Resistant to: Chemical reaction • Bacterial growth • Corrosion • Rusting
- Better Flow Characteristic: Have smooth bore for better flow properties.
- Economical: Are economical than conventional casings..
- Maintenance Free: Are free from corrosion and resistant to chemical reaction & biological formation, so do not require maintenance.





## Approvals :

- MP Public Health Engineering Department
- MP Jal Nigam
- MP Urban Administration & Development Department.
- Narmada Valley Development Authority.
- Water Resources Department Madhya Pradesh .
- Madhya Pradesh Urban Development Company Ltd.
- MP Public Works Department.
- Maharashtra Public Works Department.
- MP Police Housing and Infrastructure Development Corporation Ltd.
- MP State Co-operative Housing Federation Ltd.
- MP Housing Infrastructure Development Development Board.
- MP Laghu Udhog Nigam Ltd.
- M.P. State Agro Industries Development Corporation Ltd.
- M.P. State Consumer Marketing Fedration Limited.
- Odisha Public Works Development .
- Central Public Works Development (MP).
- Central Public Works Development (Odisha).
- City and Industrial Development Corp.
- Maharashtra Jeewan Pradhikaran.
- Rail Tel Corporation of India.



## **Clients :**

**We have more than 100 Clients Handling Projects across India, some of them are listed here:**

- **Larsen and Tubro, Chennai**
- **Shapoorji Pallonji And Company, Mumbai**
- **Tata Projects Limited, Hyderabad**
- **Indian Hume Pipe, Mumbai**
- **Multiurban Infra Services, Nagpur**
- **Jainco Buildcon, Delhi**
- **Rean Watertech, Kolkata**
- **Dilip Buildcon, Bhopal**
- **EPC and South Gujrat Construction, Surat**
- **Bansal Construction Works, Bhopal**
- **Shyam and Uniroyal Construction, Surat**
- **Ruchi Realty, Indore**
- **Laxmi Civil Construction, Mumbai**



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