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Complete piping solution for Bore well application

Casing Pipes	Screen / Slotted Pipes	SDR Casing Pipes	Ribbed Screen Pipes	Column Pipes for Submersible Pumps
				

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uPVC CASING PIPES

Tube wells generally fail due to problems associated with conventional materials like corrosion and encrustation. Due to corrosion the strainer screens get damaged and the sand particles come out along with the water. Due to encrustation, pipe diameter as well as effective area of the screen reduces and hence tube well becomes unserviceable within few years. These problems associated with conventional materials are totally eliminated in Supreme casing pipes made from specially developed PVC compound. Supreme casing pipes offer superior performance at a lower cost and become the prime choice of the customers.

Supreme offers varieties of pipes for bore well applications to cater every need of bore well sector which includes casing pipes as per IS 12818, Ribbed screen casing pipes for tube wells, SDR casing pipe series for shallow depth applications as per company standard, Plain pipes as well as screen (slotted) pipes are available in every category of casing pipes. Slotted pipes can also be used for rainwater harvesting. Column pipes for submersible pumps are also offered to lift the water from bore wells.

USERS: Very encouraging results have made the Supreme uPVC casing pipes well accepted by civil engineers, drilling contractors and government/semi-government departments. They are ideal for domestic wells, irrigation wells, industrial wells, public wells, mining wells, etc.

FEATURES AND BENEFITS :

The advantages of Supreme uPVC water well casing and Ribbed screen casing pipes are as given below.

Excellent corrosion resistance : Unlike steel pipes, uPVC is totally immune to corrosion and offer good resistance to aggressive elements in the soil and normal chemical reaction, which could cause encrustation of well screens.

Light in weight : These pipes are light in weight and hence transportation and installation becomes much easier. This is a major advantage particularly in remote rural areas where road commutation are not satisfactory and well construction is a one-time exercise.

Quick and convenient installation : These pipes are equipped with good quality threaded joint, thus Supreme casing pipes and screen pipes are easily assembled and installed where drilling is done by hand with light weight drilling rig or even with large capacity drilling machines.

Excellent Stiffness : These pipes have excellent stiffness and meet all the mechanical properties as per the IS 12818 specifications. These pipes have excellent hydrostatic collapse pressure i.e. capable of withstanding the hydraulic pressure they would be subjected to during well construction.

Non-toxic : The material of the pipe is non-toxic and hence does not impart any taste, odour or colour. It does not release any harmful substances to water from well, which could pose health problem. It is free from bacteria and hence absolutely safe for carrying drinking water.

Non-conductive : uPVC is non-conductor of electricity, which eliminates any electro chemical reaction with ground water, which could cause encrustation of screens.

Longer Lasting : Being free from rusting, weathering and chemical reaction and due to excellent mechanical properties, Supreme casing pipes lasts for lifetime.

Economical : When all the advantages listed above are taken into consideration, it would be seen that in most cases, Supreme uPVC casing pipes and screens provide the best cost benefit ratio when compared to other materials or even alternative uPVC casing pipes available in the market.

Physical Properties

Properties	Units	Value	Method of testing
Specific gravity	g/cm^3	1.4 - 1.45	IS 13360/Part3/Sec.1
Modulus of elasticity	kg/cm^2	2800 + 200	IS 8543 part 4/sec. 1 1984
Tensile strength	N/mm^2	50 + 5	ASTM-D 1708/DIN 534555
Vicat softening temp.	0 °C	76	IS 6307 - 1985

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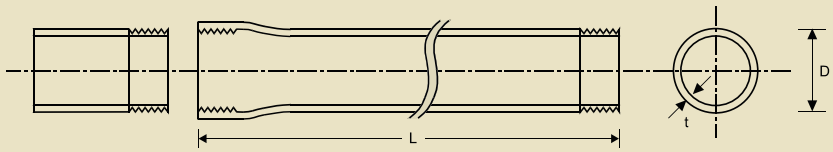
CASING PIPES conforming to IS 12818:1992

These pipes are manufactured as per BIS standard and are available in deep blue colour. One end of the pipe is male threaded where as other end is female threaded socket. Threads are V or trapezoid type and protection caps are provided on the threads to protect the threads in transit. Two types of pipes i.e. Shallow Well (C.S.) and Medium Well (C.M.) are available. Shallow Well pipes can be used for depths upto 80 meters and Medium Well pipes can be used upto 250 meters.

Dimensions of casing pipes conforming to IS 12818:1992



Sizes	Outer Diameter (D) (mm)		Wall Thickness (t) (mm)		Length L (meter)
	Minimum	Maximum	Minimum	Maximum	
A) Shallow Well - C.S. (Suitable upto 80 meters depth)					
150mm (6")	165	165.4	5.7	6.5	3
175mm (7")	200	200.5	7.0	7.8	3
200mm (8")	225	225.5	7.6	8.8	3
250mm (10")	280	280.5	9.6	11.0	3
B) Medium Well - C.M. (Suitable upto 250 meters depth)					
40mm(1½")	48	48.2	3.5	4.0	3
50mm (2")	60	60.2	4.0	4.6	3
80mm (3")	88	88.3	4.0	4.6	3
100mm (4")	113	113.3	5.0	5.7	3
125mm (5")	140	140.4	6.5	7.3	3
150mm (6")	165	165.4	7.5	8.5	3
175mm (7")	200	200.5	8.8	9.8	3
200mm (8")	225	225.5	10.0	11.2	3
250mm (10")	280	280.5	12.5	14.0	3

SCREEN / SLOTTED PIPES

Screen or Slotted pipes are used for casing in ground water section to allow water to come inside the well. These pipes can also be used to provide soak-ways for the storm water/rain water to infiltrate back into surrounding ground. Thus we can harvest surface water, which is 80% of rain water, and recharge the ground water resource and avoid the wastage of rain water in the form of run off. These percolation pipes can also used in roof top water harvesting in the form of percolation pit, to recharge ground water, percolation pit with borewell, and to percolate rainwater on the road side through isolated or connected percolation pits.

Dimensions details of screen / slots of casing pipes conforming to IS 12818:1992

Size	No. of Rows	Slot Width	Distance between slots	Slot Width	Distance between slots	Slot Length
35	3	0.5	6	1.5	9.5	25
40	3	0.5	6	1.5	9.5	28
50	3	0.5	6	1.5	9.5	36
80	3	0.5	6	1.5	9.5	56
100	5	0.5	6	1.5	9.5	43
115	5	0.5	5.5	1.5	8.5	48
125	5	0.5	5.5	1.5	8.5	48
150	5	0.5	5.5	1.5	8.5	57
175	5	0.5	5.5	1.5	8.5	56
200	6	0.5	5.5	1.5	8.5	65

Dimensions details of screen / slots of SDR pipes / Pipes conforming to IS 4985 used as casing

Size	No. of Rows	Slot Width	Distance between slots	Slot Length
110	3	1.5	10	70
140	5	1.5	10	50
160	5	1.5	10	55
180	5	1.5	10	80
200	5	1.5	10	90
225	5	1.5	10	90
250	6	1.5	10	95
315	8	1.5	10	90
400	8	1.5	10	90

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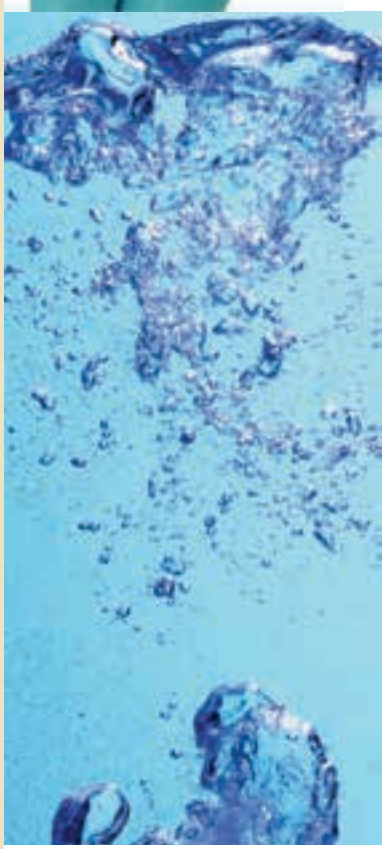
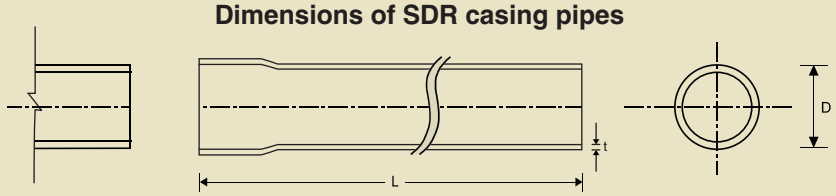
SDR CASING PIPES

These economical pipes manufactured as per company standards are available in blue colour. These pipes are suitable for shallow depths where soil formation is favorable. Use of these pipes for particular application should be examined on case to case basis. One end of the pipes is plain end where as other end is socketed for solvent weld joint.



Dimensions of SDR casing pipes

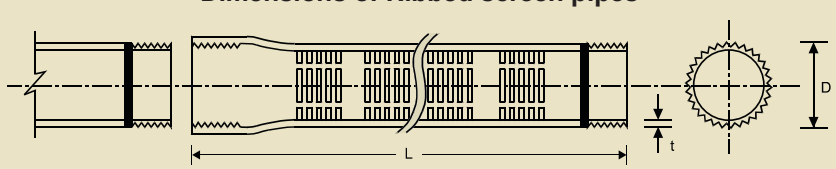


Diameters of Pipe (D) (mm)	Tolerance in OD (mm)	Wall Thickness (t) (mm)		Length L (meter)
		Minimum	Maximum	
SDR-35				
110	± 0.4	3.10	3.50	6
140	± 0.5	4.00	4.60	6
160	± 0.5	4.50	4.90	6
180	± 0.6	5.10	5.60	6
200	± 0.6	5.70	6.30	6
SDR-52				
110	± 0.4	2.10	2.40	6
140	± 0.5	2.70	3.20	6
160	± 0.5	3.10	3.50	6
180	± 0.6	3.50	3.90	6
200	± 0.6	3.80	4.30	6

RIBBED SCREEN PIPES

These pipes are provided with V shape ribs on its exterior surface. Special design of this structure with fine slots provided on pipe prevent entry of even small particles and hence permeability of the screen gets properly maintained. These pipes are generally used in combined wells or used for specific formation where normal screen pipes do not work. These pipes are provided with threaded joints with one end of the pipe male threaded and another end with female threaded socket.

Dimensions of Ribbed screen pipes



Sizes	Outer Diameter (D) (mm)		Wall Thickness (t) (mm)		Length
	Minimum	Maximum	Minimum	Maximum	L (meter)
40mm (1½")	52	52.2	3.5	4.0	3
50mm (2")	64	64.2	4.0	4.6	3
80mm (3")	92	92.3	4.0	4.6	3
100mm (4")	117	117.3	5.0	5.7	3
125mm (5")	144	144.4	6.5	7.3	3
150mm (6")	169	169.4	7.5	8.5	3

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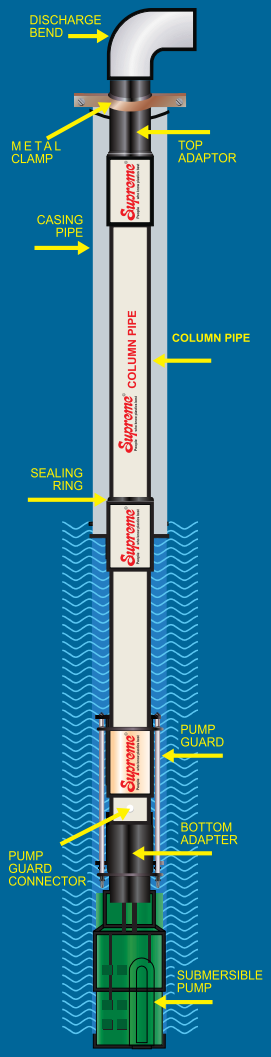
COLUMN PIPES FOR SUBMERSIBLE PUMPS

These pipes have been specially designed and manufactured under stringent quality standards. They are tested to withstand system load comprising of pump, water and pipe weight with adequate factor of safety. Due to unique design of square threads, they can withstand considerable shock and jerk load during operation.

Supreme column pipes for submersible pump offer many advantages like-light weight, high tensile load capacity, leak proof joints and long life with economy and hence emerges as the best option for conventional metal pipes. These pipes are available in 1", 1¼", 1½", 2", 2½", 3" and 4" in different class. Pipes have female belled threads at one end and male threads on the other end and / or with separate coupler as per the details given in the table. Pipes are available in 3 meter length with square threads fitted with rubber sealing ring at male threaded end. These pipes are available in rajat, medium duty, standard duty, heavy duty and premium class.



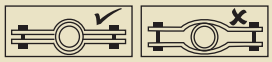
Dimention details of column pipes :

Sizes	Outer Diameter (D) (mm)		Wall Thickness (t) (mm)		Length L (meter)	End Type	Recommended Installation depth in meter
	Mini.	Maxi.	Mini.	Maxi.			
Rajat (Blue coloured marking)							
1"	33.0	33.3	2.0	2.3	3	Male / Female or with Coupler	100
1¼	42.0	42.3	2.4	2.9	3	Male / Female or with Coupler	100
1½"	48.0	48.3	2.5	3.2	3	Male / Female or with Coupler	150
2"	60.0	60.3	3.0	3.7	3	Coupler	150
Medium Duty (Orange coloured marking)							
1¼"	42.0	42.3	2.7	3.2	3	Male / Female or with Coupler	200
1½"	48.0	48.3	2.7	3.2	3	Male / Female or with Coupler	200
2"	60.0	60.3	2.7	3.2	3	Coupler	175
2½"	75.0	75.3	2.9	3.4	3	Coupler	120
3"	88.0	88.3	3.3	3.7	3	Coupler	120
4"	113.0	113.3	3.7	4.2	3	Coupler	100
Standard Duty (Red coloured marking)							
1"	33.0	33.3	4.2	4.7	3	Male / Female or with Coupler	300
1¼"	42.0	42.3	3.9	4.4	3	Male / Female or with Coupler	250
1½"	48.0	48.3	4.0	4.7	3	Male / Female or with Coupler	250
2"	60.0	60.3	4.0	4.4	3	Coupler	200
2½"	75.0	75.3	4.2	4.8	3	Coupler	200
3"	88.0	88.3	5.0	5.7	3	Coupler	170
4"	113.0	113.3	5.7	6.2	3	Coupler	150
Heavy Duty (Green coloured marking)							
2"	60.0	60.3	5.4	6.0	3	Coupler	300
2½"	75.0	75.3	6.4	7.0	3	Coupler	250
3"	88.0	88.3	7.3	7.9	3	Coupler	250
4"	113.0	113.3	8.4	9.4	3	Coupler	250
Premium Class (Violet coloured marking)							
2"	60.0	60.3	6.5	7.0	3	Coupler	350
3"	88.0	88.3	9.8	10.6	3	Coupler	350

- Any specifications can change without prior notice.
- All information contained in this literature is given in good faith and believed to be accurate and reliable. But because of many factors which may be outside our knowledge and control and affect the use of the product, no warranty is given or is to be implied with respect to such information, nor do we offer any warranty of immunity against patent infringement. No responsibility can be accepted for any error, omissions or incorrect assumptions.

INSTALLATION PROCEDURE

- After completion of bore well installation, errect tripoid above the bore to lower column pipes.
- Take 3 meter long pipe, remove the protection cap from male end. Wipe both male and female threads, clean using piece of cloth.
- Ensure that rubber gaskets supplied with the pipe is properly placed in the groove on the male threads of pipe.
- In case seal is found damaged, replace it with extra sealing rings supplied in each bag.
- Tighten the C.I. bottom adapter on the pump with the help of strap wrench or pipe wrench. Lower the pump in the well using loop bail and M.S. Clamps.
- While lowering or extracting the pump set, pipes should be clamped only at "CLAMP HERE" location marked on the pipes. Rubber sheet / cushioning between pipe surface and clamp may be used to avoid scratches/damages to the pipe.
- Clamps and loop bail to be used with pipe for installation should be of correct size (as shown) to avoid damage to the threads.



- Use of Supreme column pipes for submersible pump in combination with G.I. pipes in the same Bore well / Tube well is not recommended.
- We recommend use of Supreme pump guard system to make your installation full proof against falling of pump due to excessive vibration/Jerks or during pump withdrawal.
- Assemble pipe one after the other. Tighten pipes by strap wrench or jerk of a pipe wrench so that 50% of rubber-sealing ring on male thread end gets into the seat of belled/coupler female square threads. Use plain water or soapy water as a thread lubricant. Do not use any oil or grease on threads.
- When the pump is lowered to desired depth, fit top adapter to the last pipe. Connect required fitting like nipple/bend to the delivery side of top adapter.
- Use Supreme installation tool i.e. loop bail for lowering the pipes in the borewell while using tripod and chain pulley block instead of M.S. clamps.

PRECAUTIONS : • Do not over tighten the pipes as it will result in crushing of rubber sealing thereby leading to leakage/pipe failure. • Use new rubber seals for every reinstallation of submersible pump. • If lubrication is needed to ease the joint assembly, plain water or soapy water can be applied to the threads prior to assembly. • Do not apply grease, oil or any other oily substance on the threads. • It is advisable to use safety device such as pump protection relay to prevent dry running of pump or pump shut-off head condition. • A safety cable or rope should be used to prevent dropping of pump in the well either during operation or withdrawal. The rope can be of steel or nylon or polypropylene. • In bore wells with loose boulders, casing pipes are recommended for entire depth. • In bore wells, without full casing pipes, it is advised that at the time of removal of pumps from bore wells, if the pump gets stuck up due to silt/sticky mud or entrapped stone, proper flushing of the bore well should be done and only then pulling load should be applied to the pipes for pump removal. • Use of good quality reflux valves on the delivery side is recommended for preventing water hammer, upthrust and back spin in the pumping system.

Reducer

End Cap

Adapter

Loop bail

Clamp

Accessories : Required accessories for casing as well as column pipes for submersible pumps viz. end caps, reducers, various adapters, loop bail, clamps, C.I. adapters are offered which makes the product complete with all respect.

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