

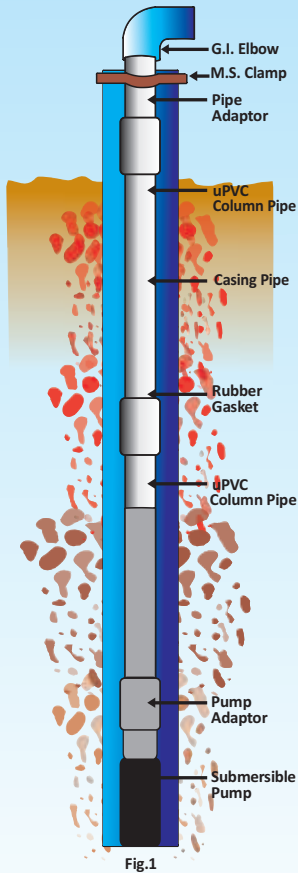


## uPVC Column Pipe



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# uPVC Column Pipe For Submersible Pump



## Specification

- Maximum ambient temperature 70°C
- Maximum Installation depth 370m
- Installation: Vertical, Horizontal or Inclined

## Application

- Water rising for submersible and jet pump for irrigation, domestic, industrial mining, chemical distribution
- A wise replacement for MS, ERW, HDPE and Stainless Steel column pipes  
uPVC is nearly inert towards corrosion, chemical reaction and erosion; due to which, it is ideally used in salty, sandy and chemically aggressive water without any effect over the years.

## Features

- Surface finish of this pipe is extremely smooth which reduces the hydraulic friction
- Internal and external square threaded spigot ends and the rubber gasket for easy and reliable jointing and pressure sealing.
- STAINLESS STEEL pump adaptor and pipe adaptor give true corrosion-proof system in addition to uPVC columns.
- Smooth internal surface allows friction loss (free) flow of water with energy saving.

## Installation

- Since uPVC pipes are lighter, provide ease of handling, transportation and installation.
- For proper installation refer our installation manual.
- Special square thread gives quick and easy installation facility.

## Salient Features for SABAR uPVC Colum Pipes

- Square thread pipes along with coupler gives high tensile load holding capacity.
- Very smooth internal surface allows the liquid to flow at very low friction which increases the water discharge.
- Special rubber seal is provided along with thread to prevent leakage at high pressure and also helps in motor shock absorption.
- Special thick and thin design is formed to increase the strength of pipe which results in longer durability.
- uPVC Column Pipe has very good resistance against acidic or alkaline water which gives very long life inside the bore well.
- uPVC Colum Pipes are manufactured in standard length and are lighter in weight compared to GI Pipes, and they are easy to handle during installation and removal process.
- Less power consumption, more water discharge and cost effective.

## Application SABAR uPVC column pipes

- Water rising main for Submersible and Jet Pump for Irrigation, Domestic, Industrial, Mining and Chemical Distribution.
- It is a wise replacement over MS, GI, HDPE and SS column pipe
- uPVC Column Pipe is non reactive towards chemicals, erosion and corrosion, and due to this inert quality it is ideally used in salty, sandy and chemically aggressive water without any effect over years of use.

## Comparative Chart

Material property requirement for Column Pipes	uPVC Column Pipe	Mild Steel or Galvanized Steel Pipes	HDPE Pipes
<b>Rigidity requirement for Column Pipes and Pump for good NRV function</b>	Pipes are rigid	Pipes are rigid	Not suitable for column application due to its flexibility
<b>Strong thread joints for holding the column &amp; submersible pumps load, along with its leak proof joints required to avoid water wastage</b>	Specially designed square threads which have high holding capacity and are rust proof and do not corrode, special rubber seals are provided with thread to ensure leakage does not take place even at high pressure	Threads are likely to get affected by rust and corrosion	As the pipes are flexible the joint with the pump is shrink fitted & dowelled which gives low reliability when compared to square thread joint rubber packed uPVC
<b>Head loss due to internal friction</b>	The internal surface is very smooth therefore head loss due to friction is very low and water discharge is more	It has rough internal surface and head loss is high	Internal surface is not as smooth as uPVC Pipes
<b>Weight of Pipe &amp; ease of handling</b>	Light in Weight and easy to handle	Pipes are heavy thus required more effort during transport, installation and removal	It is continuous pipe so the space required when installing is greater
<b>Product Life</b>	uPVC Column Pipes does not react to acidic or alkaline water, thus they do not get damaged easily and have a long life inside the bore well.	Mild Steel or Galvanized Steel Pipe has poor resistance to rusting, corrosion & ultimately they get damaged and have to be replaced very quickly	As the material is not very strong it requires thick pipes for high pressure application

## LOAD AND PRESSURE TECHNICAL CHART

TYPE & SIZE OD – Outside Dia NB – Nominal Bore	Ultimate Breaking Load	Safe Pulling Load with chain pulley	Safe allowable hydrostatic pressure (kg/cm <sup>2</sup> )	Safe Total Pump Delivery Head (m)
<b>OD: 33.40mm (1") ND: 25mm</b>				
Medium	1 200	700	18	180
Standard	1 500	900	22	220
Heavy	1 500	1 000	22	220
Super Heavy	1 900	1 100	25	250
<b>OD: 42.15mm (1.25") ND: 32mm</b>				
Medium	2 000	1 200	20	200
Standard	2 800	1 500	20	200
Heavy	3 200	1 800	25	250
Super Heavy	3 500	2 000	25	250
<b>OD: 48.25mm (1.5") ND: 40mm</b>				
Medium	2 800	1 700	20	200
Standard	3 000	2 300	30	300
Heavy	4 500	2 600	35	350
Super Heavy	4 500	2 600	40	400
<b>OD: 60.10mm (2") ND: 50mm</b>				
Medium	3 200	1 800	20	200
Standard	4 000	2 200	30	300
Heavy	5 000	2 800	35	350
Super Heavy	6 500	3 500	40	400
<b>OD: 65.50mm (2.25") ND: 60mm</b>				
Heavy	5 000	3 500	40	400
Super Heavy	6 500	3 500	40	400
<b>OD: 75.30mm (2.5") ND: 65mm</b>				
Medium	5 000	2 700	30	300
Standard	8 000	4 200	35	350
Heavy	10 000	5 500	45	450
Super Heavy	13 000	6 200	45	450
<b>OD: 88.90mm (3") ND: 80mm</b>				
Medium	5 000	2 700	30	300
Standard	8 000	4 200	35	350
Heavy	10 000	5 700	45	450
Super Heavy	14 000	7 500	45	450
<b>OD: 114.35mm (4") ND: 100mm</b>				
Medium	7 000	4 200	40	400
Standard	12 000	6 000	40	400
Heavy	18 000	10 000	45	450
Super Heavy	22 000	15 000	45	450
<b>OD: 140.00mm (5") ND: 125mm</b>				
Standard	20 000	10 000	45	450
Heavy	25 000	15 000	50	500
Super Heavy	32 000	20 000	50	500

**SPECIFICATION OF SUBMERSIBLE uPVC COLUMN PIPE**

Type	Nominal Bore		Outer Diameter		Wall Thickness (mm)				Nominal Effective Length (mm)	Thick portion of both side (mm)
	mm	Inch	Min	Max	End		Barrel			
					Min	Max	Min	Max		
Medium	25	1"	33.20	33.50	3.60	4.00	2.70	3.00	3 000 ± 10	200 ± 10
Standard	25	1'	33.20	33.50	4.90	5.10	3.70	4.00	3 000 ± 10	200 ± 10
Heavy	25	1"	33.20	33.50	5.20	5.50	4.00	4.20	3 000 ± 10	200 ± 10
Super Heavy	25	1'	33.20	33.50	5.80	6.00	4.50	4.80	3 000 ± 10	200 ± 10
Medium	32	1.25"	42.00	42.30	4.10	4.30	2.90	3.20	3 000 ± 10	200 ± 10
Standard	32	1.25"	42.00	42.30	4.90	5.30	4.10	4.30	3 000 ± 10	200 ± 10
Heavy	32	1.25"	42.00	42.30	5.50	5.70	4.30	4.50	3 000 ± 10	200 ± 10
Super Heavy	32	1.25"	42.00	42.30	6.00	6.20	4.60	4.80	3 000 ± 10	200 ± 10
Medium	40	1.5"	48.10	48.40	4.30	4.50	3.30	3.60	3 000 ± 10	200 ± 10
Standard	40	1.5"	48.10	48.40	4.30	5.40	4.15	4.30	3 000 ± 10	200 ± 10
Heavy	40	1.5"	48.10	48.40	6.00	6.30	4.80	5.10	3 000 ± 10	200 ± 10
Super Heavy	40	1.5"	48.10	42.30	8.40	8.60	5.90	6.10	3 000 ± 10	200 ± 10
Medium	50	2"	60.00	60.20	4.80	5.10	2.80	2.90	3 000 ± 10	300 ± 10
Standard	50	2"	60.00	60.20	6.40	6.70	4.20	4.30	3 000 ± 10	300 ± 10
Heavy	50	2"	60.00	60.20	7.60	7.70	5.50	5.60	3 000 ± 10	300 ± 10
Super Heavy	50	2"	60.00	60.20	9.10	9.30	6.45	6.55	3 000 ± 10	300 ± 10
Heavy	60	2.25"	65.30	65.60	7.50	8.00	4.80	5.10	3 000 ± 10	300 ± 10
Super Heavy	60	2.25"	65.30	65.60	8.	8.40	5.20	5.50	3 000 ± 10	300 ± 10
Medium	65	2.5"	75.00	75.60	5.80	6.20	3.30	3.50	3 000 ± 10	300 ± 10
Standard	65	2.5"	75.00	75.60	7.30	7.60	4.20	4.40	3 000 ± 10	300 ± 10
Heavy	65	2.5"	75.00	75.60	8.60	8.80	6.20	6.40	3 000 ± 10	300 ± 10
Super Heavy	65	2.5"	75.00	75.60	9.70	9.90	6.80	7.00	3 000 ± 10	300 ± 10
Medium	80	3"	88.60	89.00	6.20	6.50	3.50	3.70	3 000 ± 10	300 ± 10
Standard	80	3"	88.60	89.00	7.60	8.00	4.30	4.50	3 000 ± 10	300 ± 10
Heavy	80	3"	88.60	89.00	10.00	10.30	6.90	7.10	3 000 ± 10	300 ± 10
Super Heavy	80	3"	88.60	89.00	11.80	12.20	8.00	8.40	3 000 ± 10	300 ± 10
Medium	100	4"	114.00	114.70	6.45	6.90	3.90	4.20	3 000 ± 10	300 ± 10
Standard	100	4"	114.00	114.70	8.30	8.50	5.20	5.50	3 000 ± 10	300 ± 10
Heavy	100	4"	114.00	114.70	12.00	12.30	8.90	9.20	3 000 ± 10	300 ± 10
Super Heavy	100	4"	114.00	114.70	14.80	15.20	10.00	10.40	3 000 ± 10	300 ± 10
Standard	125	5"	139.80	140.30	10.60	11.20	7.60	8.20	3 000 ± 10	300 ± 10
Heavy	125	5"	139.80	140.30	15.00	15.50	10.00	10.30	3 000 ± 10	300 ± 10
Super Heavy	125	5"	139.80	140.30	18.40	18.60	11.50	11.70	3 000 ± 10	300 ± 10

## Comparative Values

When doing pricing comparisons, it is essential; to compare pressure ratings and not category name (Medium, Standard, Heavy etc.), as SABAR generally exceeds the competition, therefore a lower Category can be used

PRESSURE RATING (BAR)											
Manufacturer	SABAR			CRI		ASHIVIRAD					
Category	Med	Std	Heavy	Std	Heavy	Med	Med+ /Crystal	Std	Heavy	Extra Heavy	Super Heavy
Nominal Bore											
1"	18	22	22	30		15		16	30		
1.25"	20	20	25	25	35	15		25	35		
1.5"	20	30	35	26	35	15		26	35		
2"	20	30	35	20	27	13		20	27	35	
2.5"	30	35	45	16	26	10		16	26	35	45
3"	30	35	45	17	26	11		17	26		35
4"	40	40	45	15	26	10		15	26		35
5"		45	50			10		16			

PULLING LOAD (kg)											
Manufacturer	SABAR			CRI		ASHIVIRAD					
Category	Med	Std	Heavy	Std	Heavy	Med	Med+ /Crystal	Std	Heavy	Extra Heavy	Super Heavy
Nominal Bore											
1"	700	900	1000	1325	1565	700	770	1300			
1.25"	1200	1500	1800	1550	1900	1000	1200	1500	1550		
1.5"	1700	2300	2600	1750	2139	1200	1300	1700	2000		
2"	1800	2200	2800	2150	2880	1500	1700	2100	2850		3500
2.5"	2700	4200	5500	2750	4250	1900		2700	4200		4800
3"	2700	4200	5700	4100	5720	2750		4000	5700		6600
4"	4200	5000	10000	5800	9520	4100		5700	9500		11000
5"		10000	15000			5900		9000	13800		

WALL THICKNESS (mm)											
Manufacturer	SABAR			CRI		ASHIVIRAD					
Category	Med	Std	Heavy	Std	Heavy	Med	Med+ /Crystal	Std	Heavy	Extra Heavy	Super Heavy
Nominal Bore											
1"	3.7	5.1		3.6	4.6						
1.25"	4.4	5.3		3.7	4.8	2.4	2.8	4.1			
1.5"	4.8	5.4		3.7	5.0	2.7	3.5	4.1	5.9		
2"	4.9	6.3	7.5	3.8	5.2	2.6		3.9	5.3	6.5	
2.5"	5.5	6.8	9.1	4.0	6.2	2.6		4.0	6.3	9.7	
3"	6.0	7.6	10.1	4.8	6.2	3.2		5.0	7.3	9.7	
4"	6.5	8.6	12.2	5.5	6.7	3.8		5.7	9.4	12.6	
5"		10.21				5.0		7.6			

<b>BREAKING LOAD (kg)</b>											
<b>Manufacturer</b>	<b>SABAR</b>			<b>CRI</b>		<b>ASHIVIRAD</b>					
<b>Category</b>	<b>Med</b>	<b>Std</b>	<b>Heavy</b>	<b>Std</b>	<b>Heavy</b>	<b>Med</b>	<b>Med+ /Crystal</b>	<b>Std</b>	<b>Heavy</b>	<b>Extra Heavy</b>	<b>Super Heavy</b>
<b>Nominal Bore</b>											
1"	1200	1500	1500	1800		1000	1400	1800			
1.25"	2000	2800	3200	2600	3100	1500	2100	2600	3100		
1.5"	2800	3000	4500	3000	4000	2000	2500	3000	4000		
2"	3200	4000	5000	3600	4700	2800		3800	4700		5600
2.5"	5000	8000	10000	5000	7000	3500		5000	7000		8600
3"	5000	8000	10000	7000	9500	5000		7000	9500		11900
4"	7000	12000	18000	10300	16000	7500		10300	16000		19800
5"		20000	25000			10600		16000			

### MASS PER LENGTH FULL

The following chart identifies the mass of a length of Sabar Piping full of water.

Size	Type	Weight of water (kg)	Weight of Pipe (kg)	Total mass per 3m length (kg)	Weight of Adapters (kg)			
					Mild Steel		Stainless Steel	
					Bottom	Top	Bottom	Top
25mm / 1"	Medium	1.47	1.38	2.85	0.70	0.70	0.50	0.55
	Standard	1.47	1.73	3.20				
	Heavy	1.47	2.18	3.65				
32mm / 1.25"	Medium	2.41	1.91	4.32	0.90	0.90	0.70	0.75
	Standard	2.41	2.41	4.82				
	Heavy	2.41	3.01	5.42				
40mm / 1.5"	Medium	3.77	2.44	6.21	1.15	1.15	0.85	0.90
	Standard	3.77	3.18	6.95				
	Heavy	3.77	3.24	7.01				
50mm / 2"	Medium	5.89	3.03	8.92	2.00	2.00	1.25	1.35
	Standard	5.89	3.98	9.87				
	Heavy	5.89	4.88	10.77				
65mm / 2.5"	Medium	9.96	4.33	14.29	2.60	2.60	1.70	1.80
	Standard	9.96	5.30	15.26				
	Heavy	9.96	6.68	16.64				
80mm / 3"	Medium	15.08	6.10	21.18	3.70	3.70	2.00	2.30
	Standard	15.08	6.80	21.88				
	Heavy	15.08	9.25	24.33				
100mm / 4"	Medium	23.50	8.40	31.90	5.50	5.50	3.00	3.00
	Standard	23.50	10.10	33.60				
	Heavy	23.50	15.40	38.90				
125mm / 5"	Standard	36.82	17.20	54.02				
	Heavy	36.82	21.20	58.02				

### New Energy and Maintenance saving Borehole Column.

Corde Africa, a company founded by Errol and Debby Cornelius, has launched a range of uPVC borehole column piping to the Southern African market.

“After 23 years in this Industry, 11 as M.D of a major international pump company’s South African subsidiary, I believe that we have a winning product on our hands. The smooth walls of this product ensure water flow at low friction losses, contributing to a high “water to wire” ratio, and reduced energy costs. In these days of rapidly rising energy prices, and limited margins in farming and mining every cent saved on production costs helps.

The product is also rust proof, and resistant to corrosion and build up of solids in the pipe. Being light in weight, it is easy to handle on site, thus reducing time and cost, and, due to the square thread design, has excellent high tensile load handling characteristics.

Because the pipes do not react to acid or alkaline water, they have an extremely long life in the well,” Cornelius says.

With a safe allowable hydrostatic pressure (dependant on class) of between 18 and 50 kg/cm<sup>2</sup>, a maximum of 500m pump delivery head is catered for, allowing the product to be used in extremely high pressure applications.

Available in 3 meter lengths, the piping can be varied in class as the pressure declines, allowing for an extremely cost effective installation.

Having been successfully used in more than a million installations worldwide, this technology is well proven to offer the benefits of improved performance and electrical cost savings over the lifetime of the installation.

Due to the robust and proven nature of the product, a two year warranty is offered.

