



SUDARSHAN COLUMN PIPES

Built Strong
Built to Last



COMPANY PROFILE

Sudarshan Extrusions Pvt. Ltd. (SEPL) was incorporated in 2003 to set up a state of the art PVC Pipe Plant at Bommasandra Industrial Area, Bangalore, India. The company has been promoted by Mr. Arvind Salampuria, F. C. A., who is having more than 25 years of experience in the PVC Industry.

SEPL has a team of highly qualified engineers to produce quality products. Sudarshan Extrusions Pvt. Ltd. is an ISO-9001-2008 Certified Company, operating under strict quality management systems.

SEPL is a pioneer in manufacturing of uPVC Column Pipes, a far more economical and sustainable replacement of Galvanised Iron Pipes. With a vision to provide complete range of sustainable piping solutions for irrigation, SEPL has set up a modern plant at Dabaspet to manufacture HDPE & Drip Pipes.

Sudarshan uPVC Column pipe has been successfully installed in more than one million boreholes in domestic and overseas market. The company has more than 300 distributors & 4000 dealers' network. SEPL is currently exporting to Middle East, Africa, Asia, and is looking to expand its market to Europe and America.

SEPL stands for its motto - "Quality You Can Trust"



Mr. Arvind Salampuria, Managing Director



Bommasandra Industrial Area, Bangalore



Dealers Conference at Bangalore



Farmer's First Choice

ABOUT SUDARSHAN uPVC COLUMN / RISER / BOREHOLE PIPE

A million bores of upto 1500 feet depth have been successfully installed using Sudarshan uPVC Column Pipes. It is available in 1" to 6" Dia in different classes, suitable for varying depths and pump-delivery pressure.

Sudarshan uPVC Column pipe has been specially designed for Submersible Borehole Pumps to deliver underground water. These pipes are manufactured using double stage bi-axial technology and threaded using CNC machines to ensure high precision. They are capable of handling internal hydrostatic pressure caused by pump, tensile load of the water column and pump, and the impact of water hammering.

Through our continuous R&D activities, SEPL has developed Heavy Series for deep submersible boreholes. Sudarshan Heavy Series Pipes come with long coupler and wider square threads to take higher working pressure and load. Stringent on-line quality checks and rigorous testing in our laboratory has made Sudarshan Column Pipe the Farmers First Choice.

ADVANTAGES:

- Life Span of 30 years and more
- Lower investment
- No Corrosion or rusting
- No maintenance required
- No bacterial growth
- 30% Lower Operational Cost
- Suitable for Food Grade
- Easy to install and uninstall

FEATURES:



Square threads - Made on **CNC Machines** for high precision. It enables tension free grip & easy fitment. These are high friction threads on load which do not open even on constant forward and reverse torque of the pump.

Rubber Gasket & Profile 'O' Ring - Permanent side is fitted with rubber gasket & temporary side with profile 'O' Ring to absorb pump vibration & to make it leak proof.

'O' Ring Locking System - Provides permanent lock between coupler and pipe as well as absorbs tension from torque generated by pump, providing incredible grip.

Thick & Thin - Ends of the pipe are thicker than the barrel of the pipe so that even after threading there is maximum strength in the pipe.

Biaxial Orientation Technology - Provides higher tensile strength and impact resistance



Sudarshan uPVC Column Pipe



Pull-Out Test



Online Quality Check

TECHNICAL CHART OF SUDARSHAN COLUMN / RISER PIPE



SIZE & CLASS OD - Outside Dia ND - Nominal Dia	Ultimate Breaking Load (Kgf)	Safe Pulling Load with Chain Pulley (Kgf)	Safe allowable hydrostatic pressure (kg/cm ²)	Safe Total Pump Delivery Head (m)
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OD: 33 mm (1") ND: 25 mm

Eco	1000	600	15	150
Deluxe	1200	800	21	210
Super Deluxe	1800	1200	30	300
Gold	2250	1500	35	350



OD: 42 mm (1¼") ND: 32 mm

Eco	1600	1000	15	150
Deluxe	1800	1100	21	210
Super Deluxe	2500	1500	27	270
Gold	3000	1800	35	350
Heavy	3100	1875	35	350
Super Heavy	3600	2200	40	400
Ultra Heavy	4100	2500	45	450



OD: 48 mm (1½") ND: 40 mm

Eco	2000	1200	15	150
Deluxe	2500	1500	21	210
Super Deluxe	3000	1800	27	270
Gold	4000	2400	35	350
Heavy	4100	2450	35	350
Super Heavy	4500	2700	40	400
Ultra Heavy	5000	3000	45	450



OD: 60 mm (2") ND: 50 mm

Eco	2400	1600	9	90
Deluxe	3000	2100	13	130
Deluxe Plus	3400	2400	17	170
Super Deluxe	3850	2700	21	210
Gold	5000	3500	27	270
Heavy	5200	3600	27	270
Super Heavy	5700	4000	35	350
Ultra Heavy	6600	4600	40	400



OD: 75 mm (2½") ND: 65 mm

Deluxe	3400	2000	9	90
Deluxe Plus	4000	2400	13	130
Super Deluxe	4700	2800	17	170
Ultra Deluxe	5900	3500	21	210
Gold	7000	4200	26	260
Medium Heavy	6000	3600	21	210
Heavy	7200	4320	27	270
Super Heavy	9000	5400	35	350
Ultra Heavy	10400	6240	40	400

TECHNICAL CHART OF SUDARSHAN COLUMN / RISER PIPE

SIZE & CLASS OD - Outside Dia ND - Nominal Dia	Ultimate Breaking Load (Kgf)	Safe Pulling Load with Chain Pulley (Kgf)	Safe allowable hydrostatic pressure (kg/cm ²)	Safe Total Pump Delivery Head (m)
OD: 88 mm (3") ND: 80 mm				
Deluxe	4800	2800	9	90
Super Deluxe	7000	4200	17	170
Ultra Deluxe	8200	4900	21	210
Gold	9600	5650	26	260
Medium Heavy	8400	5020	21	210
Heavy	9600	5760	27	270
Super Heavy	12400	7440	35	350
OD: 113 mm (4") ND: 100 mm				
Deluxe	6650	4000	9	90
Super Deluxe	10000	6000	17	170
Medium Heavy	13000	7700	21	210
Heavy	16000	9600	27	270
Super Heavy	20600	12360	35	350
OD: 140 mm (5") ND: 125 mm				
Super Deluxe	16400	9800	17	170
Medium Heavy	20800	12400	21	210
Heavy	24000	14600	27	270
Super Heavy	30500	18600	35	350
OD: 165 mm (6") ND: 150 mm				
Heavy	40000	24000	27	270



PIPE SELECTION

The pipe should be selected such that the pump delivery pressure does not exceed the hydrostatic allowable pressure of the pipe.

Example:

Pump Delivery pressure:	24 Kg / cm ²
Pipe outlet Size & Pipe Size:	2" (50 mm) Nominal Diameter
2" Super Deluxe recommended permissible pressure	21 Kg / cm ²
2" Gold/Heavy recommended permissible pressure	27 Kg / cm ²

In such case, 2" Gold/Heavy pipe should be selected.

ACCESSORIES



Pump Guard with Top and Bottom Adaptor

Top and Bottom Adaptor: For connection of submersible pump to uPVC column pipes, one bottom and one top adaptor is required since submersible pumps have 'V' Threads and Sudarshan column pipes are manufactured with square threads. Bottom Adaptor's 'V' thread is connected with that of pump, and its square thread is connected with that of pipe.

Adaptors are available in stainless steel and mild steel. We advise bottom adaptor material should be stainless steel as it is to be inside water and top adaptor may be stainless steel or mild steel

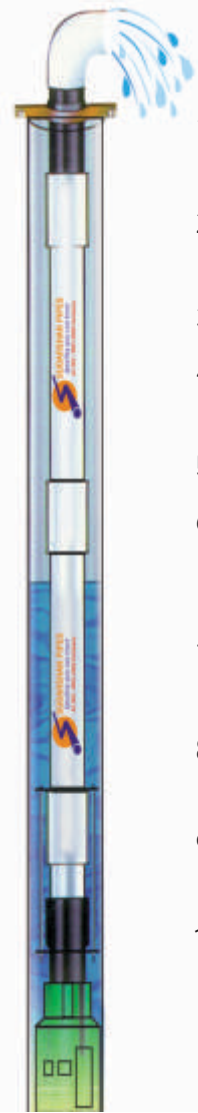
NOTE: Adaptor's specification for Heavy Series Pipes is different from that for other class of pipes.



Pump Guard Set

A Pump Guard set consists of one safety PVC Pipe, two stainless steel rods, two S.S plates/ flanges, and four nut bolts. Pump Guard is required in case of deep bore well for safety as it does not allow pump to fall into the bore. It is highly recommended for areas with excessive pump vibration due to sand pumping, sub standard pumps and other local soil conditions.

INSTALLATION



INSTALLATION PROCEDURE

1. First connect the male end of M.S/ S.S bottom adaptor to submersible borehole pump using chain wrench.
2. Join the Sudarshan Pump Guard to the bottom Adaptor along with M.S/ S.S flange rod.
3. Now connect the first pipe to the female end of the pump guard.
4. Before connecting the pipes and pump guard, clean the threads with clean water and check for proper fitment of rubber sealing.
5. While fitting of pipe hold the coupler by hand / wrench.
6. Tighten the pipes by hand, until the rubber sealing in the pipe end completely enters into the coupling. However for better grip strap wrench can be used to hold/ tighten the pipes.
7. At the time of lowering the pump into borehole, the clamp must be fastened only to the portion marked just below the coupler.
8. Then all the other Sudarshan Column pipes can be connected the same way. Pipe wrench should not be used for support.
9. Once the top column pipe reaches the ground level, connect the top adaptor with male end connection.
10. Finally from the ground level regular plumbing accessories can be used to transfer water to required delivery point.

*Do not use oil on square threads of Sudarshan Column Pipes. Clean the threads with normal water and check the proper fitment of rubber sealing element

INSTALLATION CONDITIONS

Full casing of bore well is recommended for long life of bore and pump. It prevents the pump from getting stuck due to loose boulders, stones, soil and silt. It also reduces chances of accident due to protruding stones and boulders at the time of removing the pump and pipe.

PRECAUTIONS

Avoid Dry Run of Pump

Dry run of submersible pump generates hot air which can damage/ deform the first Column Pipe connected with the pump. To avoid this:

- Use timer switch to turn on or off the pump automatically as per the pre-set time, determined after assessing the bore yield.
- Use of 3 metres S.S. Pipe between pump and SEPL uPVC Column Pipe will help dissipate the heat, preventing any damage or deformation.








Prevention of Water Hammer

At the time of pump stoppage, water recedes/falls at tremendous speed from a height. Especially in deep bore wells of about 500 ft & above, this creates enormous pressure and load on the pump and bottom most pipe called as water hammering. For such deep bore wells, it is recommended to make a 3mm hole in the pump NRV to protect the pump and pipe from water hammering.

HANDLING & STORAGE OF PIPES

- Check for any visible damage to pipes during transit and inform immediately.
- Avoid contact of pipe with any sharp objects.
- Do not throw or drop the pipes from truck to the ground.
- Store it in covered areas to avoid exposure to sunlight & UV rays
- Stack pipes on even grounds with stack height not more than 7feet
- Place alternate layers of pipes/bundles perpendicularly, with each layer forming a square.
- Stack lighter pipes above the heavier ones, if pipes are of same diameter
- Keep the stacking surface dry.

COLOUR CODE

Eco	Blue		Gold	Green	
Deluxe	Voilet		Medium Heavy	Voilet	
Deluxe Plus	Black		Heavy	Blue	
Super Deluxe	Red		Super Heavy	Black	
Ultra Deluxe	Voilet		Ultra Heavy	Voilet	

CONTAINER DETAILS

Length of each bundle is 3.3m. A maximum of 1 stack can be laid out in a 20 feet container and a maximum of 3 stacks can be laid out in a 40 feet container. Rest of the floor space is used for pump guards, adaptors and samples.

NO. OF PIPES PACKED PER BUNDLE

Pipe Size /Type	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
Eco	25	25	25	15	-	-	-	-	-
Deluxe	25	25	25	15	10	5	5	-	-
Deluxe Plus	-	-	-	15	10	5	-	-	-
Super Deluxe	25	20	15	15	10	5	5	3	-
Ultra Deluxe	-	-	-	-	10	5	-	-	-
Gold	25	20	15	15	10	5	-	-	-
Medium Heavy	-	-	-	-	10	5	5	1	-
Heavy	-	20	15	10	7	5	3	1	1
Super Heavy	-	15	15	10	5	5	3	1	-
Ultra Heavy	-	15	10	7	5	-	-	-	-

Effective Length of Pipe (mm) = 3000 ± 50 mm



Factory view - Bommasandra Industrial Area, Hosur Road, Bangalore.



SUDARSHAN EXTRUSIONS PVT. LTD

UG - 1, Agora Block, SNN Raj Lake View,
29th Main, BTM Layout, 2nd Stage,
Bangalore - 560 076, INDIA

Tel: +91-80-42120552
Mobile: +91 9742350063 / 93413 27546
E-mail: exports@sudarshanpipes.com
Website: www.sudarshanpipes.com

