SUDARSHAN®
UPVC COLUMN PIPES

uPVC Column Pipes
for Submersible pumps



Export to
16+ countries

1,400,000+
Successful Installations

Since 2003

Over 22 Years of
proven track record

Leading uPVC Column Pipe Manufacturer Since 2003

Based in Bengaluru, India, Sudarshan Extrusions Pvt. Ltd. has been a pioneer in the design and development of uPVC Column Pipes since 2003. With a proven track record of 22 years, Sudarshan has supplied pipes for over 1.4 million borewell pump installations worldwide.



Trusted across 16+ countries, Sudarshan uPVC Column Pipes have consistently demonstrated long-term reliability in borewells as deep as 450 meters (1500 feet), delivering strength, safety, and durability for farmers, contractors, and industries alike.

22 Years of Trust

1.4M+ Installations

Proven up to 450m Depth

Exports to 16+ Countries

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About Sudarshan Pipes

Founded in 2003 by CA Arvind Salampuria, who brings over four decades of experience in the pipe industry, Sudarshan Pipes has been at the forefront of introducing advanced piping solutions to the Indian and global markets. Headquartered in Bengaluru, India, the company has consistently driven innovation from replacing outdated GI pipes with uPVC Column Pipes, to becoming the first Pipe manufacturer in India to produce PE Electrofusion fittings (2021), expanding into gas pipelines (2022), launching Silicon coated Power Duct pipes (2024), and preparing to introduce O-PVC Pipes (2025).

Our Strengths

- **48,000 MTPA Production Capacity (expanding to 78,000 MTPA by 2025)**
- **Exports to 16+ Countries**
- **Network of over 200 distributors, 4000 dealers & 3500 contractors**
- **ISO 9001:2015 & ISO 14001:2015 Certified**
- **Advanced CNC Machining & Testing Facilities**
- **Over 1.4 Million Borewell Installations**

With a legacy of trust, quality, and innovation, Sudarshan Pipes is among South India's leadingpolymer pipe processors. Offering the widest portfolio of PVC & HDPE Pipes & Fittings, we serve as a one-stop partner for irrigation, borewells, plumbing, drainage, gas distribution, and power ducting.

Certifications



Certificate of Registration

ISO 14001:2015

This is to Certify that
Environmental Management System of

SUDARSHAN EXTRUSIONS PVT. LTD.

105, PHASE 4, BOMMASANDRA INDUSTRIAL AREA, HOSUR ROAD,
BENGALURU – 590099, KARNATAKA, INDIA.

has been assessed and found to conform to the requirements of

ISO 14001:2015

for the following scope :

MANUFACTURE AND SUPPLY OF UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPES AS PER INDIAN & INTERNATIONAL STANDARDS, INCLUDING:
UPVC COLUMN / RISER / DROP PIPES FOR SUBMERSIBLE PUMP/ BOREWELLS.
UPVC CASING PIPES FOR BOREWELLS AND TUBEWELLS.
UPVC PRESSURE PIPES FOR WATER CONVEYANCE AND PRESSURE USE.
PVC-U UNDERGROUND DRAINAGE PIPES FOR UNDERGROUND DRAINAGE AND SEWERAGE.

IAF CODE : 14

Certificate No	: **25EEPM58**		
Initial Registration Date	: 08/09/2025	Issuance Date	: 08/09/2025
Date of Expiry*	: 07/09/2028		
1st Surv. Due	: 08/08/2026	2nd Surv. Due	: 08/08/2027

Director

EGAC Accredited EMS Certification CAB # 012226

IAF MEMBER OF MULTILATERAL RECOGNITION AGREEMENT

(Scan to Verify)

Assurance Quality Certification LLC

Head Office: Sharjah Media City, SHAMS, Sharjah, UAE. e-mail: info@aqcertll.com.
Key Location: A-60, Sector - 2, Noida, Uttar Pradesh, 20301, India.

Validity of the Certificate is subject to successful completion of surveillance audits to be done before the due date. In case surveillance audit is not allowed to be conducted, this certificate shall be suspended/withdrawn.

Certificate Verification: Please the check the validity of certificate at http://www.aqcertll.com/certificate-login or www.aqcertll.com as below Client.

This certificate is the property of Assurance Quality Certification LLC and shall be returned immediately when demanded.



Certificate of Registration

ISO 9001:2015

This is to Certify that
Quality Management System of

SUDARSHAN EXTRUSIONS PVT. LTD.

105, PHASE 4, BOMMASANDRA INDUSTRIAL AREA, HOSUR ROAD,
BENGALURU – 590099, KARNATAKA, INDIA.

has been assessed and found to conform to the requirements of

ISO 9001:2015

for the following scope :

MANUFACTURE AND SUPPLY OF UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPES AS PER INDIAN & INTERNATIONAL STANDARDS, INCLUDING:
UPVC COLUMN / RISER / DROP PIPES FOR SUBMERSIBLE PUMP/ BOREWELLS.
UPVC CASING PIPES FOR BOREWELLS AND TUBEWELLS.
UPVC PRESSURE PIPES FOR WATER CONVEYANCE AND PRESSURE USE.
PVC-U UNDERGROUND DRAINAGE PIPES FOR UNDERGROUND DRAINAGE AND SEWERAGE.

IAF CODE : 14

Certificate No	: **25EQPA53**		
Initial Registration Date	: 08/09/2025	Issuance Date	: 08/09/2025
Date of Expiry*	: 07/09/2028		
1st Surv. Due	: 08/08/2026	2nd Surv. Due	: 08/08/2027

Director

EGAC Accredited QMS Certification CAB # 012226

IAF MEMBER OF MULTILATERAL RECOGNITION AGREEMENT

(Scan to Verify)

Assurance Quality Certification LLC

Head Office: Sharjah Media City, SHAMS, Sharjah, UAE. e-mail: info@aqcertll.com.
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PLASTICS EXPORT PROMOTION COUNCIL

PLEXCONCIL CHENNAI

No. 5, Ground Floor, Vivekananda Road, Off Spur Tank Road, Chetpet, Chennai,
CHENNAI, TAMIL NADU, 600031

Email : rahul.hebbar@plexconcil.org, Telephone : +91-44-2829 2020 / 2829 2 Website : https://www.plexconcil.org

REGISTRATION - CUM - MEMBERSHIP CERTIFICATE

(Issued under the provisions of Foreign Trade Policy, Government of India)

Name of the exporter	SUDARSHAN EXTRUSIONS PRIVATE LIMITED				
IEC Number	0705014487	PAN	AACCK1590L	Date of Birth / Incorporation	20/05/2005
Address of the Registered Head Office	PLOT NO.105, PHASE IV, BOMMASANDRA INDUSTRIAL AREA, HOSUR ROAD BANGALORE, 560099, BENGALURU RURAL, KARNATAKA				
Nature of Concern	Private Limited				
Description of goods/ services for which registered	OTHER PLASTIC PRODUCTS N.E.C				
Registration Number	PLEPC/MAS/V/364/2021-2022				
Issued against File Number	BCSCB2765/PLEX/USC/00025405/AM20				
Registered as	Manufacturer Exporter				
Name of the Proprietor/ Partner(s)/Directors/Karta	Anirudh Salampuria,Sangeeta Salampuria,Arvind Kumar Salampuria				

This certificate is issued as per the details of our records and is subject to the conditions laid down in the relevant scheme of registration of this council.

Issue Date	02/05/2025	Renew upto	31/03/2026

Note: Refer DGFT Website (Services > View IEC Related Details > View Any IEC) for IEC Branch and Director details.

Signature Not Verified

Digitally Signed by Rahul Hebbar
Date: 05-May-2025 12:12:55
Reason: Membership Certificate
Location: Plastics Export Promotion Council(PLEXCONCIL)

This document is digitally signed by rajvanthi@plexconcil.org (rama krishnan rajvanthi), on 05/05/2025.

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Government of India / भारत सरकार

Ministry of Commerce and Industry / वाणिज्य और उद्योग मंत्रालय

Directorate General of Foreign Trade / विदेश व्यापार महानिदेशालय

Office of the Additional Director General of Foreign Trade, Bengaluru / अपर महानिदेशक, विदेश व्यापार का कार्यालय, बेंगलुरु

C & E Wing, Kendriya Sadan, 17th Main Road,Koramangala, BENGALURU URBAN, KARNATAKA, 560034 / सी एंड ई विंग, केंद्रीय सदन, 17 वीं मुख्य सड़क, कोरमंगला, बेंगलुरु, बेंगलुरु, शहर, कर्नाटक, 560034

Importer-Exporter Code

This is to certify that **SUDARSHAN EXTRUSIONS PRIVATE LIMITED** is issued an Importer-Exporter Code (IEC) **0705014487** with details as follows -

IEC	0705014487
स्थाई खाता सं./(PAN) /PAN	AACCK1590L
फर्म का नाम/Firm Name	SUDARSHAN EXTRUSIONS PRIVATE LIMITED
निगम की प्रकृति /Nature of Concern	Private Limited
जारी करने की तारीख/Date of Issue	20/10/2005
पता/Registered Address	PLOT NO.105, PHASE IV, BOMMASANDRA INDUSTRIAL AREA, HOSUR ROAD, BANGALORE, BENGALURU RURAL, KARNATAKA, 560099
प्रदाता का नाम / Name of the Signatory	Aayush Salampuria
Director / Partner Details	Refer online at https://dgft.gov.in or scan the QR Code
शाखा/मुख्यालय /Branch Details	Refer online at https://dgft.gov.in or scan the QR

Last Modified : 10/09/2025
File Number : BNGIECPAMEND00021020AM26

Note : This is a system-generated certificate. Authenticity / Updated details of the IEC can be checked at official DGFT website https://dgft.gov.in by entering the IEC and Firm Name under Services > View Any

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Exporting to 16 + countries



- Egypt
- Algeria
- Morocco
- Saudi Arabia
- UAE
- Oman
- Iraq
- Kuwait
- Kenya
- Libya
- Mexico
- South Africa
- Italy
- Philippines
- Yemen..... and counting



Sudarshan Product Portfolio



Borewell Solutions

uPVC Column Pipes — High tensile pipes for submersiblepumps, used in borewell water lifting and irrigation.

uPVC Casing Pipes — Strong, corrosion-free casing for boreholes, ensuring safe water extraction in domestic, agricultural, and industrial wells.



Agriculture & Water Distribution Pressure Pipes

uPVC Pressure Pipes & Fittings — Lightweight, durable pipes for agricultural irrigation, water distribution, and rural water supply.

O-PVC Pipes — Next-generation high-pressure pipes, replacing DI pipes in municipal water supply and infrastructure projects.



HDPE Pipes — Flexible, high-strength pipes for water supply, sewage, and industrial applications.

MDPE Pipes — Safe and reliable solution for drinking water distribution from main-lines.

Electrofusion Fittings — Precision fittings for leak proof joints in HDPE and MDPE piping systems.



Drainage Systems

PVC-U Underground Drainage (UGD) Pipes Robust pipes for underground sewage, drainage, and storm water management.

Double Wall Corrugated (DWC) Pipes — High strength, long-life solution for underground drainage, sewerage, and cable protection.

Plumbing Systems





uPVC Plumbing Pipes & Fittings — Hygienic, non-corrosive system for residential and commercial cold-water plumbing.

cPVC Plumbing Pipes & Fittings — Heat-resistant pipes for hot and cold-water supply in buildings and industries.

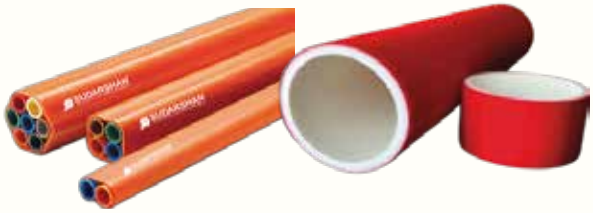
Power & Cable Ducting Solutions





uPVC Conduit Pipes & Fittings — Non-conductive, flame retardant conduits for electrical wiring and cable protection.

PLB Duct — Permanently lubricated ducts for optical fiber cable (OFC) laying in telecom and data networks.



HDPE Multiple Duct Pipes — Multi-channel ducts for telecom, internet, and power cable installations.

Power Duct Pipes — Strong ducting system for HT cable and electrical power transmission projects.

Gas Distribution



PE Gas Pipeline — Specialized polyethylene pipes for natural gas distribution and fuel applications.

Construction Solutions



Single Wall Corrugated (SWC) Pipes — Flexible and lightweight, used in pre-stressed concrete structures.

Tenets Of Trust



Pure Inputs, Pure Water

High-quality virgin raw materials for safe, long-lasting performance.



Precision Engineered

Advanced machinery with high automation ensures consistent and superior quality.



Quality at Every Step

ISO 9001:2015 certified systems with multi-level inspection from design to dispatch.



Team of Experts

Experienced professionals ensure quality systems and processes at every stage.



100% Raw Material Checks

Every batch of incoming raw material is inspected before use.



Stringent Dimensional Accuracy

Production checks followed by QC verification ensure flawless fit and finish.



Tested Beyond Limits

Hydrostatic, tensile & impact tests conducted above practical requirements.



Innovation at Work

Cutting-edge R&D drives continuous quality enhancement and new product development.



Proven Worldwide

Serving customers since 2003, trusted in millions of borewells across 16+ countries.



Strong Network, Strong Support

200+ distributors, 4000 dealers, and 3500 contractors ensure reliable supply and service.

Why Sudarshan uPVC Column Pipes?

For over 22 years, Sudarshan has been trusted for reliable borewell installations worldwide. With 1.4 million+ installations across India and 16+ countries, Sudarshan Column Pipes are proven up to 450 meters depth, delivering strength, durability, and leak-proof performance.

Trusted Performance Since 2003

1.4M+ installations | 16+ countries
Safe up to 450 m

Complete Range

Sizes from 1" (33 mm) to 6" (165 mm) to suit every borewell

Unmatched Strength

Bi-Axial orientation, square threads, and Thick & Thin technology ensure high tensile and impact strength

Heavy-Series for Deep Borewells

Longer couplers and wider square threads designed for higher loads and working pressures

Leak-Proof Reliability

O-Ring Locking System™ with triple EPDM seals
100% leak-proof and vibration-absorbing

Precision Manufacturing

Advanced extrusion, CNC threading, and calibrated in-house testing under an ISO 9001 quality system

Durable & Cost-Effective

Non-corrosive uPVC resists rust, scaling, and chemical attack — ensuring long life, zero maintenance, and lower pumping costs

Lightweight & Easy to Install

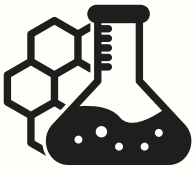
Much lighter than GI pipes, enabling safer handling, faster installation, and easy pump removal during maintenance



Features of Sudarshan uPVC Column Pipes

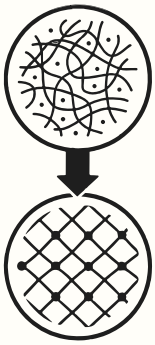
Sudarshan uPVC Column Pipes are engineered with advanced designs that ensure unmatched strength, leak-proof reliability, and long-term durability. Every feature from special formulation and bi-axial orientation to our O-Ring Locking System™ is purpose-built to withstand the heavy loads, vibrations, and pressures of deep borewell applications. These unique features make Sudarshan the trusted choice for farmers, industries, and households worldwide.

Special Formulation

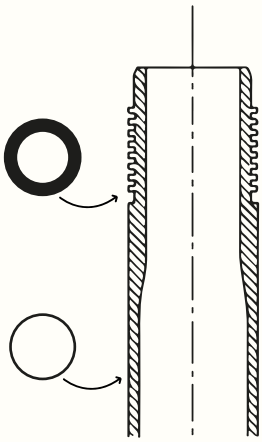


Developed with a unique uPVC compound and carefully selected special additives that impart higher drop impact strength, superior tensile strength, and enhanced flexural strength, making Sudarshan Pipes truly tough and sturdy. Only the best virgin raw materials are used, ensuring maximum strength, safety, and longevity proven to last for decades.

Bi-Axial Orientation Technology



Through its dedicated R&D team, Sudarshan has incorporated an advanced extrusion process that was under global theoretical research for several decades for next-generation O-PVC (Oriented PVC) Pipes. This breakthrough aligns uPVC molecules both axially and radially, dramatically enhancing hydrostatic pressure rating, drop-impact strength, and notch-impact strength, placing Sudarshan at the forefront of innovation.

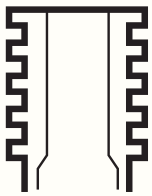


Thick and Thin Technology

A unique manufacturing method that builds extra wall thickness at the threaded ends to compensate for material removed during threading. This ensures that the residual thickness equals the barrel wall, eliminating weak points and retaining full pipe strength. The technique results in far higher strength per unit of raw material consumed, delivering robust and efficient performance.

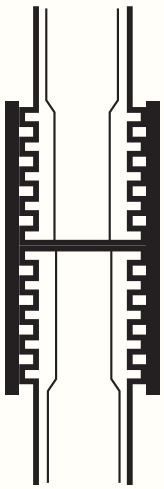
Features of Sudarshan uPVC Column Pipes

Square Threads



Precision-engineered CNC-cut square threads provide maximum grip and load-bearing capacity. These high-friction threads under load resist opening even under continuous forward and reverse torque during pump operations. Being non-corrosive and non-rusting, they deliver reliable, maintenance-free performance over repeated installations.

'O' Ring Locking System™ with Tri-Rubber Seal



Sudarshan's proprietary O-Ring Locking System™ is designed with three specially engineered EPDM rubber seals (two on the permanent side, one on the temporary side). This triple-seal system ensures 100% leak-proof performance while simultaneously acting as a shock absorber against torque, vibration, and jerks generated during pump start-stop cycles. Unlike metal-based locking mechanisms, the non-corrosive EPDM seals maintain strength without rust or wear, thereby protecting the pump and pipe assembly. This innovation guarantees a permanent lock, superior joint integrity, and an extended system life even in demanding deep borewell applications.

In essence: Sudarshan uPVC Column Pipes combine strength, innovation, leak-proof reliability, and long-term durability, making them the preferred choice for deep borewell water lifting solutions across agriculture, domestic, and industrial applications.

Sudarshan “O” Ring Locking System™

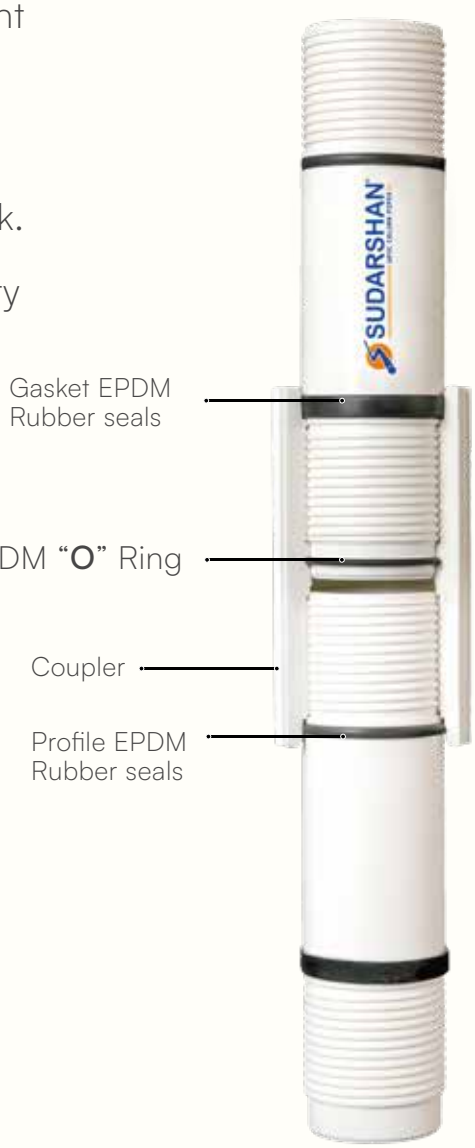
22 Years of Proven Track Record

Sudarshan pioneered a unique “O” Ring Locking System™ to guarantee permanent, leak-proof, and vibration-resistant joints in uPVC Column Pipes. This advanced design is a hallmark of Sudarshan’s reliability in deep borewell applications.

Purpose & Design

- Every Sudarshan Column Pipe has a Permanent End (factory-fitted with coupler) and a Temporary End (for installation/uninstallation).
- The O-Ring Lock System™ ensures a secure, permanent joint between the pipe and coupler.

  It uses three specially engineered EPDM seals:
- Two on the permanent side → create a permanent lock.
- One on the temporary side → provides sealing flexibility during installation.



Key Features

Leak-Proof Performance

Triple-seal protection prevents leakage even under high hydrostatic pressure.

Shock & Vibration Absorption

Seals absorb torque, jerks, and vibrations during pump start/stop, reducing stress on the pipe system.

Non-Corrosive Reliability

Unlike metal-based locks, EPDM seals do not rust or corrode, ensuring long service life.

No Weakening of Pipe

No drilling or deep grooves are required in the coupler or pipe, maintaining the full strength of the pipe.

Extended System Life

Minimizes wear and tear, protecting both the pipe and submersible pump for long-term performance.

Benefits at a Glance

- 100% Leak-Proof Joints
- Permanent Locking Between Pipe & Coupler
- Absorbs Torque & Vibration
- Rust-Free, Corrosion-Free
- Longer Life for Pump & Pipe Assembly




MAINS ON/OFF

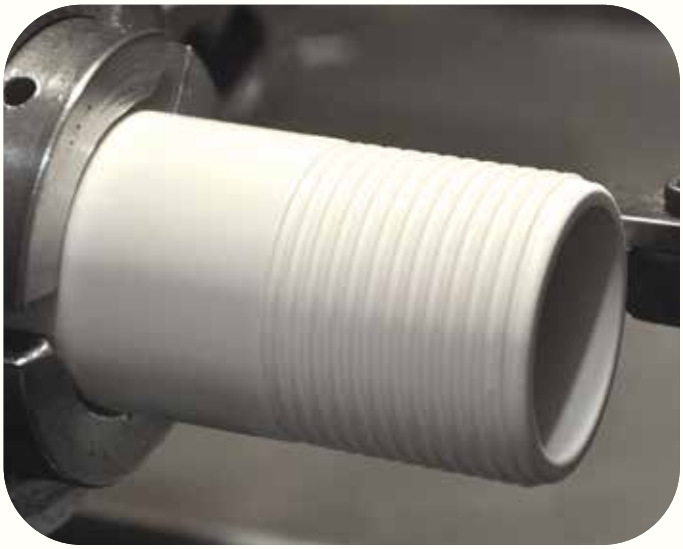
Quality Standards & Quality Control

Test	Method / Clause
Impact Strength	As per IS 18166:2025 Testing done at 4 to 20 times greater than specifications
Flattening Test	As per ASTM D1785/ IS 18166:2025
Tensile Strength	As per ASTM D1784/ IS 18166:2025
Ultimate Breaking Load	As per SUDARSHAN Specifications
Specific Gravity	As per ASTM D1784/ IS 18166:2025; Between 1.40—1.43 g/cm^3
Short Term Hydrostatic Pressure Test	As per ASTM D1785/ IS 12235 Tested at two times of working pressure
Joint Pressure Test	As per IS 12235 Should be one or two times of working pressure (Depending on size)
Burst Pressure Test	As per ASTM D1785; Tested for 3 times the rated pressure






SEPL/PRD/CNC/03









Comparison with Other Materials

Sudarshan uPVC Column Pipes serve as an ideal alternative to traditional Galvanized Iron (GI) pipes used in borewells. They offer multiple key advantages over conventional Mild Steel (MS), Galvanized Iron, and even HDPE pipes, making them a superior choice for long-term, efficient performance which are

Property Requirement for Column Pipes	Sudarshan uPVC Column Pipes	Mild Steel or Galvanized Iron Pipes	HDPE Pipes
Long life	Sudarshan uPVC Column pipes do not react with acidicor alkaline water and have a long life in the bore wells.	MS/GI pipes are prone to rust, corrosion & ultimately get damaged and need to be replaced quickly	The strength of material is very less, so thick pipes are required for high-pressure applications, reducing the internal area for water flow considerably
Light weight	Pipes are lightweight and are easy to handle, install, and remove.	Pipes are heavy, and a great effort is required for installation or maintenance. Difficult to handle.	Becomes hard and cannot be rolled back during removal. Pulling with a tractor disturbs the crop
Smooth Internal Surface	Internal surface is smooth, so low head loss due to friction & resulting in higher discharge of water.	Rough internal surface and high head loss result in less discharge of water discharge.	The internal surface is not as smooth as uPVC Borewell column pipes.
Power Saver	As the friction losses are less, the pump requires less power to lift the water. Resulting in power saving.	Friction losses are high. So pump requires more power to discharge the water for the same head. Results in more power consumption.	Comparatively less power saver than uPVC Borewell column pipes.
Leak-proof joints	Rubber seals are provided with the thread at every joint, ensuring 100% leak-proof.	Not pressure tight, no rubber seal & hence NOT leak proof.	No joint is there, but temperature withstanding capacity is less compared to other materials.
Strong threaded joints	Specially designed square Threads, which DO NOT corrode, rust, or deteriorate.	Threads are prone to rust and corrosion easily.	The threads cannot be formed, and therefore, the jointing of the pipe with the pump or at the top with any fixture is a simple push-type joint.

Technical Chart

Size & Class OD - Outside Dia ND - Nominal Dia	Ultimate Breaking Load (kgf)	Safe Pulling Load With Chain Pulley (kgf)	Safe Allowable Hydrostatic Pressure (kg/cm2)	Safe Total Pump Delivery Head (m)
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 (1 1/4") ND: 32 mm				
Eco	1600	1000	15	150
Deluxe	1800	1100	21	210
Super Deluxe	2500	1500	27	270
Heavy	3100	1875	35	350
Super Heavy	3600	2200	40	400
OD: 48 mm (1 1/2") ND: 40 mm				
Eco	2000	1200	15	150
Deluxe	2500	1500	21	210
Super Deluxe	3000	1800	27	270
Heavy	4100	2450	35	350
Super Heavy	4500	2700	40	400
Ultra Heavy	5000	3000	45	450

Technical Chart

Size & Class OD - Outside dia ND - Nominal dia	Ultimate Breaking Load (kgf)	Safe Pulling Load With Chain Pulley (kgf)	Safe Allowable Hydrostatic Pressure (kg/cm2)	Safe Total Pump Delivery Head (m)
OD: 60 mm (2") ND: 50 mm				
Eco	2400	1600	10	100
Deluxe	3000	2100	13	130
Deluxe Plus	3400	2400	17	170
Super Deluxe	3850	2700	21	210
Heavy	5200	3600	27	270
Super Heavy	5700	4000	35	350
Ultra Heavy	6600	4600	40	400
OD: 75 mm (2 1/2") ND: 65 mm				
Deluxe	3400	2000	10	100
Deluxe Plus	4000	2400	13	130
Super Deluxe	4700	2800	17	170
Medium Heavy	6000	3600	21	210
Heavy	7200	4320	27	270
Super Heavy	9000	5400	35	350
Ultra Heavy	10400	6240	40	400
OD: 88 mm (3") ND: 80 mm				
Deluxe	4800	2800	10	100
Super Deluxe	7000	4200	17	170
Medium Heavy	8400	5020	21	210
Heavy	9600	5760	27	270

Technical Chart

Size & Class OD - Outside Dia ND - Nominal Dia	Ultimate Breaking Load (kgf)	Safe Pulling Load With Chain Pulley (kgf)	Safe Allowable Hydrostatic Pressure (kg/cm2)	Safe Total Pump Delivery Head (m)
Super Heavy	12400	7440	35	350
OD: 113 mm (4") ND: 100 mm				
Deluxe	6650	4000	10	100
Super Deluxe	10000	6000	17	170
Medium Deluxe	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				
Super Deluxe	22000	13200	17	170
Heavy	40000	24000	27	270

Classification of Sudarshan uPVC Column Pipes

Deluxe Series	Eco	Deluxe	Deluxe Plus	Super Deluxe
Heavy Series	Medium Heavy	Heavy	Super Heavy	Ultra Heavy

Note: Heavy Series pipes are designed with longer couplers and wider square threads to withstand higher loads and working pressures. Sudarshan proudly has installations running at 400—450 meters depth across the world

Pipe Selection — Matching Pump Pressure with Pipe Strength

The correct selection of column pipes depends on the delivery pressure generated at the pump outlet (i.e., at the bottom of the bore where the pump is installed). This pressure is directly related to the Total Dynamic Head (TDH) of the pump.

For every 10 metres of water head, the pump develops approximately 1 kg/cm² of pressure at the pump outlet.

Therefore, a pump rated for 230 m Head (TDH) will generate 23 kg/cm² pressure at the pump outlet, i.e., at the bottom-most pipe directly connected to the pump.

Example — Selecting a 3″ (80 mm) Pipe for a Pump Rated 230 m Head

- Pump Rated Head (TDH): 230 m
- Pump Delivery Pressure: 23 kg/cm²
- Available Pipe Options (3″ / 80 mm Nominal Bore):
  - Medium Heavy Pipe: 21 kg/cm² allowable pressure
  - Heavy Pipe: 27 kg/cm² allowable pressure

Since the pump generates 23 kg/cm², the Medium Heavy pipe (21 kg/cm²) is insufficient. The correct choice is the Heavy pipe (27 kg/cm²), which ensures safe and reliable operation.

Important: Pipe selection is based on pump outlet pressure, not on the depth of installation. Whether the pump is lowered at 150 m or 220 m, the pump outlet pressure remains 23 kg/cm², and the pipe must be chosen accordingly.

For pipe selection, please refer to our detailed Pressure & Load Technical Chart in this catalog, which shows the allowable pressure ratings of each Sudarshan pipe type and size.

Accessories

Sudarshan Column Pipes are supported by a complete range of accessories that ensure safe, reliable, and long-lasting borewell installations. Since Sudarshan offers both Deluxe Series (standard square threads and couplers) and Heavy Series (with longer couplers and wider threads for deep borewells and heavy loads), the adaptors, guards, and connectors are designed separately for each series to guarantee precise fit and performance.

Top Adaptor



- **Function:** Connects the top column pipe to the borewell head/discharge assembly.
- Material of Construction: SS 304, Mild Steel (MS), Cast Iron (CI)
- Diameter Range: 1" to 6"
- Series Compatibility: Available in Deluxe & Heavy Series designs.

Bottom Adaptor



- **Function:** Connects the submersible pump with the first column pipe.
- Material of Construction: SS 304, Cast Iron (CI)
- Diameter Range: 1" to 6"
- Series Compatibility: Separate designs for Deluxe & Heavy Series.
- Note: SS 304 recommended for submerged use to prevent corrosion.

Pump Guard Set



- **Function:** Prevents the pump from slipping or falling into the borewell, especially in deep or high-vibration conditions.
- Components:
    - PVC Guard Pipe — Different for Deluxe and Heavy Series.
    - Two Rods — Available in MS or SS 304.
    - Two Flanges — Available in MS or SS 304.
    - Two Nut-Bolts with Cotter Pins — Ensures secure locking.
- Diameter Range: 1" to 6"
- Series Compatibility: Separate designs for Deluxe & Heavy Series.

Reducers & Expanders

- **Function:** Allow connection between different pipe or pump outlet sizes, ensuring smooth flow and leak-proof operation.
- Material of Construction: SS 304, Cast Iron (CI)
- Diameter Range: 1″ to 6″
- Series Compatibility: Separate designs for Deluxe & Heavy Series (with wider threads and longer couplers for Heavy).



Reducer & Expander Bush

- **Function:** Alternative to reducers/expanders, used for adjusting the pump outlet size.
- Material of Construction: SS 304, Cast Iron (CI)
- Diameter Range: 1″ to 6″
- Series Compatibility: Available for Deluxe & Heavy Series.



Note: All adaptors and bushes are normally supplied with 11 TPI V-threads, but on request can be provided with 8 TPI.

Accessories for Installation

In addition to adaptors, guards, and reducers, Sudarshan provides robust installation tools designed for safe handling of column pipe assemblies.

Lowering Fixtures (Jig / Clamp / Sigri)

- **Function:** Used during pump installation and dismantling to hold, guide, and safely lower column pipe into the borewell.
- Material of Construction: Heavy-duty MS or SS for durability.
- Range: Suitable for 1″ to 6″ column pipe assemblies.



Belt Wrench

- **Function:** Provides strong grip on pipes during tightening or loosening of threaded joints.
- **Design:** Heavy-duty Nylon belt with a robust MS handle.



Installation Guide

STEP 1

First, connect the bottom adopter (CI / SS) to the submersible Bore well pump using a chain wrench tightly.





STEP 2

Fix the pump gaurd assembly (uPVC pipe Connector, MS/SS Flanges & Rods) to the bottom adopter.





STEP 3

Before connecting the pipes and pump guard, ensure to clean the threads with clean water.

STEP 4

Tighten the pipes by hand until the rubber sealing ring of the pipe completely enters into the coupler.





STEP 5

Finally, if required give last jerk with belt wrench for tighten the pipe.

STEP 6

At the time of lowering the Sudarshan Pipes into borehole, the lowering clamp must be used. Then all the other pipes can be connected in similar way



STEP 7

Fix the Top adopter (CI/MS/SS) to the last pipe of the coupler and connect the plumbing accessories to the other end of Top adopter to transfer the water to the required delivery point.

Borewell Installation Tips & Precautions

- Do not apply grease, oil, or other lubricants on pipe threads.
- Borewells with full casing or free of loose boulders is recommended.
- Prevent water hammering in deep borewells (above 500 ft) by using 3 mm NRV hole.
- Avoid dry running of the pump as it may overheat and deform the pipes closest to the pump. It is recommended to use timer switch with pre-set time, or control panel equipped with load drop disconnector.
- In case of dry run or water hammering concerns, use of 3 metre Steel pipe at pump outlet is recommended that will dissipate the excess heat generated due to dry run or pressure surge due to water hammering.



Handling & Storage

- Do not drop or throw pipes off the truck to the ground.
- Avoid contact with sharp objects.
- Inspect the end of pipes for any transport or improper handling damages.
- Store on a flat, even, dry surface with maximum stack height of 7 feet.
- Stack lighter pipes above heavier ones, if pipes are of same diameter.
- Stack alternate layers of pipes/ bundles perpendicular to each other, with each layer forming a square.
- Prefer indoor storage for longer shelf life. If stored outdoors, cover bundles to avoid direct sunlight (UV protection).

Container Details

- Pipe length with coupler: approx. 3.1 m
- Bundle Length: 3.3 m
- 20 ft container: 1 stack of bundles + accessories (adopters, guards, samples)
- 40 ft container: up to 3 stacks of bundles + accessories




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Sudarshan Product Portfolio

Mfg.: PVC/ OPVC/ Column Pipes/ Casing Pipes/ Electro Fusion Fitting/ Butt, Spigot Fittings/ MDPE Compression Fittings / HDPE MDPE/ GAS / PLB / Single / Double Wall Corrugated Pipes/ DRIP Sprinkler Pipes

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