Supreme®
People who know plastics best

**Total Piping Solution**

75 YEARS OF EXCELLENCE

## An Advanced Piping Solution for

# Industrial Applications

The Supreme Industries Ltd. is an acknowledged leader of India's plastic industry. It is credited with pioneering several path breaking products and has gained a valuable experience in providing innovative and cost effective piping solutions. The Company has been a trend setter and a torch bearer in the transition from conventional to advanced plastic piping products in the country. The Company's objective is to meet the growing needs of its clientele in water and waste management and in infrastructure sector through a specially designed high performance range of piping products. The innovative product portfolio offered by Supreme is extensive in nature and applications. With its range of over 7500 products, the most comprehensive in the piping industry, Supreme caters to almost every conceivable need and application in piping.


- **Aqua Gold uPVC High Pressure Piping System**
- **Lifelineplus C-PVC Industrial Piping System**
- **Indo green PP-R Piping System**
- **Nu-Drain Underground Drainage System**
- **Ultraplus Double Wall Corrugated Pipes**
- **Polyethylene Pipes**
- **Comprehensive range of Speciality Valves**

***Jeevan bhar ka saath...***

Supreme®
People who know plastics best

# Advanced Piping Solution for Industrial Applications

Piping is one of the most important system requirements in any industry. We need different piping products for various industrial applications like transportation of corrosive chemicals, hot and cold process water, abrasive materials, compressed air etc. The conventional metal piping products have many demerits like poor resistance to corrosion and abrasion, chemical reactiveness, short and uncertain life span and repeated maintenance requirements. This leads to leakages, process interruptions and can badly affect the overall performance of the plants. Hence conventional products are not ideal to handle such aggressive materials, therefore we need efficient advanced piping systems.

**Supreme offers varieties of piping systems and products which can be used for series of applications in the industrial sector. These advanced plastic piping products are ideally suitable for various industries like food processing plants, tanneries, sugar factories, oil mills, dairies, compressed air distribution, radiator heating, chemical industries, metal industries, pulp and paper industries, treatment plants, coal handling, transportation of slurry and dredging, raw water, DM water and potable water distribution, rainwater harvesting, sewage and waste disposal etc.**

MCGM APPROVED

LEAD FREE

## aqua Gold® uPVC High Pressure Piping System

*... The easy and economical solution*

Due to its versatile properties PVC now become a very popular material and widely getting used for variety of piping applications. Easy to install and functionally most suitable, Supreme uPVC aqua gold high pressure piping system emerged as an ideal solution for various industrial applications at affordable cost. It can be used for wide range of pressure and non pressure application for transportation of water and various fluids between 5 to 60°C.

### Unique features

- Strong, resilient and long lasting
- Excellent mechanical properties
- Excellent corrosion and chemical resistance
- High flow rates
- Simple and leak proof joints
- Maintenance free

### Applications

- Water supply and distribution
- Industrial process lines
- Dyeing and bleaching, chrome, zinc plating and tanning industries
- Salt water lines and distilleries
- Transportation of corrosive fluids
- Sugar and paper industries

### Product range

**Pipes:**

15 to 250mm (½" to 10") sizes in SCH 40 and SCH 80 pressure class as per ASTM D-1785

**Fittings:**

15 to 200mm (½" to 8") sizes in SCH 80 as per ASTM D-2467 and 15 to 50mm (½" to 2") sizes in SCH 40 as per ASTM D- 2466

**Dimensions and water pressure rating at 23°C as per ASTM D-1785**

| Nominal Size | | Outside Diameter (D) in mm | Schedule 40 | | | Schedule 80 | | |
|---|---|---|---|---|---|---|---|---|
| | | | Wall Thickness (t) in mm | Working Pressure | | Wall Thickness (t) in mm | Working Pressure | |
| mm | inch | | | kgf/cm² | psi | | kgf/cm² | psi |
| 15 | ½ | 21.34 ± 0.10 | 2.77 + 0.51 | 41.4 | 600 | 3.73 + 0.51 | 58.6 | 850 |
| 20 | ¾ | 26.67 ± 0.10 | 2.87 + 0.51 | 33.1 | 480 | 3.91 + 0.51 | 47.6 | 690 |
| 25 | 1 | 33.40 ± 0.13 | 3.38 + 0.51 | 31.0 | 450 | 4.55 + 0.53 | 43.4 | 630 |
| 32 | 1¼ | 42.16 ± 0.13 | 3.56 + 0.51 | 25.5 | 370 | 4.85 + 0.58 | 35.9 | 520 |
| 40 | 1½ | 48.26 ± 0.15 | 3.68 + 0.51 | 22.8 | 330 | 5.08 + 0.61 | 32.4 | 470 |
| 50 | 2 | 60.32 ± 0.15 | 3.91 + 0.51 | 19.3 | 280 | 5.54 + 0.66 | 27.6 | 400 |
| 65 | 2½ | 73.02 ± 0.18 | 5.61 + 0.61 | 20.7 | 300 | 7.01 + 0.84 | 29.0 | 420 |
| 80 | 3 | 88.90 ± 0.20 | 5.49 + 0.66 | 17.9 | 260 | 7.62 + 0.91 | 25.5 | 370 |
| 100 | 4 | 114.30 ± 0.23 | 6.02 + 0.71 | 15.2 | 220 | 8.56 + 1.02 | 22.1 | 320 |
| 125 | 5 | 141.30 ± 0.25 | 6.55 + 0.79 | 13.1 | 190 | 9.52 + 1.14 | 20.0 | 290 |
| 150 | 6 | 168.28 ± 0.28 | 7.11 + 0.86 | 12.4 | 180 | 10.97 + 1.32 | 19.3 | 280 |
| 200 | 8 | 219.08 ± 0.38 | 8.18 + 0.99 | 11.0 | 160 | 12.70 + 1.52 | 17.2 | 250 |
| *250 | 10 | 273.05 ± 0.38 | 9.27+1.12 | 9.8 | 140 | 15.06+1.80 | 16.1 | 230 |

# Lifelineplus® C-PVC

## Industrial Piping System


C-PVC (Chlorinated Polyvinyl Chloride) has become a popular choice because of its superior material properties like high glass transition temperature, higher heat distortion temperature, extraordinary mechanical properties and chemical inertness together with its cost effectiveness. Supreme Lifelineplus C-PVC, manufactured using world's best Japanese material and technology, is an ideal solution for hot and cold water, effluent usages and various applications in industrial sector. This system is one of the best substitutes for GI and other metal piping systems being used for industrial applications. Choice of the raw material and strict quality control in production, gives these products a high degree of reliability which makes Lifelineplus C-PVC a preferred choice of quality conscious customers.

### Unique features

- Excellent resistance to corrosion and chemical attacks
- Superior insulation properties- Low coefficient of thermal conductivity hence less insulation cost.
- Excellent temperature resistance up to 93°C
- Resistant to fire
- Use of NSF approved international quality raw material and availability of own manufactured NSF approved solvents cements
- Simple and leak proof joints
- Maintenance free
- Long service life

### Applications

Supreme Lifelineplus C-PVC piping system is an ideal choice for following applications-

- **Metal industries and treatment plants–** Various treatments and processes like etching, anodizing, electroplating etc. need to handle aggressive acids and alkaline substances at very high temperatures. Owing to superior material properties Supreme Lifelineplus can be an ideal choice for such industries.
- **Paper and pulp industries**: Unlike stainless steel, various corrosive chemicals like chlorine dioxide, sodium hypochlorite, sulfuric acids and various other liquors used in such industries do not attack C-PVC thus offer long and trouble free performance.
- **Chemical, Fertilizer and Pharmaceutical industries** – Being chemically inert and corrosion free, Lifelineplus C-PVC meets various requirements of handling different aggressive chemicals, acids and alkaline substances.
- **Food and beverage industries:** Food processing plants need to maintain clean and hygienic environment to meet highest health standards. For cleaning of process equipments normally hot water, aggressive chemicals and cleaning agents are used. Corrosion free Lifelineplus C-PVC piping system is a superior choice for handling such harsh chemicals at elevated temperatures and hence an ideal piping system for such industries.
- **Water and waste water treatment plants –** Various corrosive chemicals are used in different concentrations and temperatures for water and waste water treatment plants, where metal piping products are not suitable due to their susceptibility to corrosion and chemicals. In such application C-PVC or even uPVC can meet these application requirements.
- **Sugar and cement industries -** Used for transport of brine, costic soda, phosphoric acid and spent waste.
- **RO plant**

### Limitations

- C-PVC is not suitable or recommended for polar organic solvents and compressed air applications.
- Recommended de-rating factors should be applied before selecting any component for particular temperature and pressure.
- Max. allowable pressure for flanged connections is 10kg/cm$^2$.

## Product range

**Pipes:**

65 to 250mm (2½" to 10") in SCH 40 and SCH 80 pressure class as per ASTM F-441 in IPS series.

**Fittings:**

65 to 200mm (2½" to 8") in SCH 40 and SCH 80 as per ASTM F-438 and F-439 resp in IPS series. Very soon 10" size fittings will be introduced.

**Pipe dimensions and pressure rating chart as per ASTM F-441 (IPS series)**

| Nominal size | | OD (mm) | | Schedule 40 | | | | Schedule 80 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Wall thickness (mm) | | Working pressure | | Wall thickness (mm) | | Working pressure | |
| | | | | | | 27°C | 82°C | | | 27°C | 82°C |
| mm | inch | Min | Max | Min | Max | Kgf / cm² | | Min | Max | Kgf / cm² | |
| 65 | 2½ | 72.84 | 73.20 | 5.16 | 5.77 | 20.70 | 5.20 | 7.01 | 7.85 | 29.00 | 7.20 |
| 80 | 3 | 88.70 | 89.10 | 5.49 | 6.15 | 17.90 | 4.50 | 7.62 | 8.53 | 25.50 | 6.20 |
| 100 | 4 | 114.07 | 114.53 | 6.02 | 6.73 | 15.20 | 3.80 | 8.56 | 9.58 | 22.10 | 5.50 |
| 150 | 6 | 168.02 | 168.58 | 7.11 | 7.97 | 12.40 | 3.10 | 10.9 | 12.29 | 19.30 | 4.80 |
| 200 | 8 | 218.72 | 219.48 | 8.18 | 9.17 | 11.00 | 2.80 | 12.7 | 14.22 | 17.20 | 4.10 |
| 250 | 10 | 272.72 | 273.48 | 9.27 | 10.39 | 9.70 | 2.40 | 15.06 | 16.86 | 15.19 | 3.80 |

Supreme Lifelineplus system can be used for conveyance of liquids between 5 to 93°C at rated working pressure. The recommended working pressures of C-PVC correspond to 27°C. An increase in temperatures tends to reduce the stiffness and strength. The working pressure should therefore be modified as per de-rating factors as given in the following chart.

**Pressure rating vs. temperature for Lifelineplus C-PVC system**

| Operating temp. °C | 27 | 32 | 38 | 49 | 60 | 71 | 82 | 93 |
|---|---|---|---|---|---|---|---|---|
| De-rating factor | 1.00 | 0.91 | 0.82 | 0.65 | 0.50 | 0.40 | 0.25 | 0.20 |

## Jointing instructions

**Cutting the pipe:** Cut the pipe at 90° with a handsaw with suitable guide or by pipe cutter in order to make a proper and neat joint.

**Joint preparation:** Chamfer or deburr pipe or both, approximately at 10-15° angle. Remove burrs from inner and outer surfaces with help of a knife, file or abrasive paper.

**Cleaning:** Remove any dirt, moisture or grease from pipe and fitting sockets with a clean dry rag.

**Test dry fit the joint:** Insert the pipe into the fitting and check that the interference occurs about ⅓rd to ⅔rd of the socket depth. Too tight or too loose fitment may lead to leak.

**Application of solvent cement:** While making a joint, apply Supreme make SILBOND solvent cement lightly but uniformly to the inner surface of the socket and outer surface of the pipe end with a natural bristle nylon brush or a suitable applicator. Apply a second coat of cement to the pipe end. Apply cement quickly to prevent it from drying and make sure to completely cover all jointing surfaces of the pipe and fitting. Do not apply excessive cement in bell socket.

**Assembly of joint:** Immediately after applying the last coat of cement to the pipe and while cement is still not dry, say within 10 - 20 second, forcefully bottom the male end of the pipe in the socket, giving pipe or fitting ¼th turn (but not after pipe is bottomed) to distribute cement evenly. Remove excess cement from the pipe at the end of fitting socket. The joint must not be disturbed immediately after cementing to let the cement cure properly. Allow cement to cure before pressurizing the system for about 12 hours for proper curing. This time may however vary slightly depending upon temperature and humidity in the environment.

## Mechanical and thermal properties of C-PVC

| Property | Test method | Unit | Value |
|---|---|---|---|
| Specific gravity | ASTM D-792 | g/cc | 1.52 - 1.54 |
| Water absorption (24 hrs at 23°C) | ASTM D-570 | % | 0.03 |
| Ultimate tensile strength | ASTM D-638 | $Kgf/cm^2$ | 540 - 560 |
| Elongation at break | ------ | % | 40 |
| Modulus of elasticity | ASTM D-638 | $Kgf/cm^2$ | $2.53 \times 10^4$ |
| Compressive strength | ASTM D-695 | $Kgf/cm^2$ | 690 - 710 |
| Flexural strength | ASTM D-790 | $Kgf/cm^2$ | 1060 |
| Impact strength at 23°C of notch | ASTM D-256 | Ft.lbs/in | 1.5 |
| Rockwell hardness | ASTM D-785 | ----- | 119 |
| Softening point | ------ | °C | 110 |
| Coefficient of linear expansion | ASTM D-696 | mm/mm/°C | $6.3 \times 10^{-5}$ |
| Coefficient of thermal conductivity | ASTM C-177 | cal/cm-sec°C | $3.3 \times 10^{-4}$ |
| Specific heat | ASTM D-2766 | Cal/°C | — |
| Heat deflection temperature at 18.5 $kg/cm^2$ | ASTM D-648 | °C | 105 |
| Limiting oxygen index | ASTM D-2863 | % | 60 |
| Dielectric strength | ASTM D-149 | V/mil | 1250 |
| Dielectric constant | ASTM D-150 | 60 Hz | 3.70 |

## Mechanical and thermal properties of PP-R

| Property | Method | Unit | Value |
|---|---|---|---|
| Density | ISO 1183 | $g/cm^3$ | 0.909 |
| Tensile strength at yield | ISO 527/1A, 50 mm/min | Mpa | 26.1 |
| Tensile strength at break | ISO 527/1A, 50 mm/min | Mpa | 21.5 |
| Elongation at break | ISO 527/1A, 50 mm/min | % | > 400% |
| Youngs modulus (E-modulus) | ISO 527/1A, 50 mm/min | Mpa | 808 |
| Flexural modulus | ISO 178 2mm/min | Mpa | 874 |
| Flexural strength | ISO 178 2 mm/min | Mpa | 30.5 |
| Shore D hardness (15 sec value) | ISO 868 | - | 60 |
| Rockwell hardness | ISO 2039-2 | - | 50 |
| Hydraulic roughness | - | mm | 0.007 |
| Vicat softening temperature | ISO 306, method A, 50 K/n | °C | 131.3 |
| Melting temperature | ISO 3146 - 19 | °C | 142.4 |
| Specific heat 20°C | Adibatic calorimeter | J/g. K | 2.0 |
| Coef. of linear thermal exp. (for ∆T of 30-90°C) | Dilatometer | mm/m°C | 0.12 |
| Thermal conductivity (for ∆T of 10-60°C) | DIN 52612 | W/m°C | 0.12 |

| Property | Method | Unit | Value |
|---|---|---|---|
| Charpy, notched | ISO 179/1A | - | - |
| at 23°C | 1.0 J | $kJ/m^2$ | 22.9 |
| at 0°C | 0.5 J | $kJ/m^2$ | 4.5 |
| at -20°C | 0.5 J | $kJ/m^2$ | 1.9 |
| Charpy, unnotched | ISO 179/1D | - | - |
| at 23°C | 4.0 J | $kJ/m^2$ | No break |
| at 0°C | 4.0 J | $kJ/m^2$ | No break |
| at -20°C | 4.0 J | $kJ/m^2$ | 53.7 |
| Izod, notched | ISO 180/1A | - | - |
| at 23°C | 2.75 J | $kJ/m^2$ | 22.5 |
| at 0°C | 1.0 J | $kJ/m^2$ | 5.6 |
| at -20°C | 1.0 J | $kJ/m^2$ | 3.4 |
| Izod, unnotched | ISO 180/1C | - | - |
| at 23°C | 5.5 J | $kJ/m^2$ | No break |
| at 0°C | 5.5 J | $kJ/m^2$ | No break |
| at -20°C | 2.75 J | $kJ/m^2$ | 38.4 |

Note:- Above data is based upon information provided by the raw material manufactures and should be used only as a guideline and we do not guarantee its performance.

# indo green® PP-R

## Piping System for Hot and Cold Applications

*... The most reliable industrial piping system*

IS 15801:2008

CM/L 7989319

Supreme indo green PP-R is the latest and most reliable system for different industrial applications. It is especially used in tanneries and textile industries. The specific chemical structure of indo green PP-R provides the well balanced mechanical properties and superior long term heat resistance making it an ideal choice for different industrial applications. Properties like superior chemical resistance at elevated temperatures, high impact strength and scale free nature makes it suitable for various chemical and industrial applications.

### Unique features

- Chemically inert at elevated temperature
- Wide operating temperature range i.e. -5 to 95°C
- 100 % Water tight joints
- High impact strength
- Low thermal conductivity
- Free from scaling
- Long operational durability
- Cost effective

### Applications

- Compressed air lines
- Process industries like dairies, sugar factories, oil mills, tanneries etc.
- Mining applications
- Fertilizer, chemicals, medicines and pharmaceutical industries
- RO Plants
- Solar water heating system
- Chilled water and air conditioning applications
- Regenerated water lines for boilers
- Radiator heating

### Limitations

- While using PP-R for higher temperatures, proper measures are required to be taken against expansion.
- Recommended heating times must be strictly followed to achieve trouble free joint performance.
- Need power and skilled workers for welding process.

### Product range

**Pipes:**

20 to 160mm in SDR-11(PN 10), SDR-7.4 (PN 16) and SDR-6 (PN 20) pressure class as per IS:15801.

**Fittings:**

20 to 160mm sizes in PN 20 or PN 25 as per ISO:15874. 160mm fittings are also available in PN 10 and PN 16.

**Pipe dimensions as per IS:15801 specifications**

| Nominal size (mm) | Outer diameter (mm) | | SDR-11 (PN 10) | | SDR-7.4 (PN 16) | | SDR-6 (PN 20) | |
|---|---|---|---|---|---|---|---|---|
| | | | Wall thickness (mm) | | Wall thickness (mm) | | Wall thickness (mm) | |
| | Min | Max | Min | Max | Min | Max | Min | Max |
| 20 | 20.0 | 20.3 | 1.90 | 2.30 | 2.80 | 3.30 | 3.40 | 4.00 |
| 25 | 25.0 | 25.3 | 2.30 | 2.80 | 3.50 | 4.10 | 4.20 | 4.90 |
| 32 | 32.0 | 32.3 | 2.90 | 3.40 | 4.40 | 5.10 | 5.40 | 6.20 |
| 40 | 40.0 | 40.4 | 3.70 | 4.30 | 5.50 | 6.30 | 6.70 | 7.60 |
| 50 | 50.0 | 50.5 | 4.60 | 5.30 | 6.90 | 7.80 | 8.30 | 9.40 |
| 63 | 63.0 | 63.6 | 5.80 | 6.60 | 8.60 | 9.70 | 10.50 | 11.80 |
| 75 | 75.0 | 75.7 | 6.80 | 7.70 | 10.30 | 11.60 | 12.50 | 14.00 |
| 90 | 90.0 | 90.9 | 8.20 | 9.30 | 12.30 | 13.80 | 15.00 | 16.70 |
| 110 | 110.0 | 110.9 | 10.00 | 11.20 | 15.10 | 16.90 | 18.30 | 20.40 |
| 160 | 160.0 | 161.5 | 14.60 | 16.30 | 21.90 | 24.30 | 26.60 | 29.50 |

## Jointing instructions

### Polyfusion welding






**Cutting -** Cut the pipe square to the required length by cutter. Deburr the cut end if necessary.

**Cleaning -** Pipe and fittings should be dried and properly cleaned.

**Marking -** Mark the required insertion depth on the pipe with the help of marker.

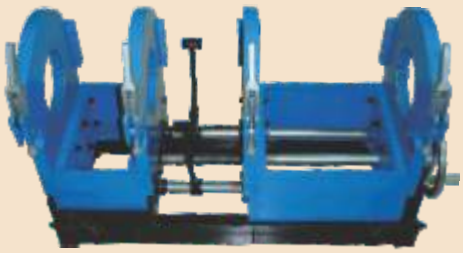
**Heating -** Ensure that the welding device is hot enough (260-280°C). First weld can be made after 5 minutes after heating light goes off. While heating the pipe and fitting in the matrices, apply slight pressure from both sides.

**Welding -** After specified heating time, remove the pipe and fitting out of the matrices. The heated end of the pipe should be pushed into the fitting to the previously marked depth. Do not turn or twist the pipe or fitting while pushing into the matrices or pulling out of them.

**Cooling -** After the specified cooling time, the joint is ready.

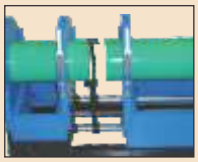
### Butt welding

In butt welding process, fusion areas of the pipes are heated to fusion temperature and joined by means of mechanical pressure. Butt-welding must only be carried out with butt-welding machines, which allows the uniform jointing pressure. PP-R and PE pipes are joined by using butt welding process.



**Butt welding machine**

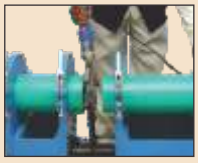
## Jointing procedure



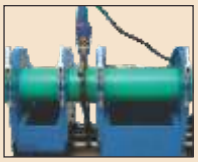
**Cleaning:** Clean the pipe surfaces and heating plate or heating element. The welding surfaces should be cleaned with a cleaning fluid.

**Alignment:** The two ends of pipes to be joined should be checked for alignment and matching. The gap between two ends must not exceed 0.5 mm at any point.

**Machining:** If the gap between the two ends of pipe exceeds 0.5 mm at any point then machining is recommended.



**Heating:** Set heating plate temperature at 200 to 220°C. Once the fusion temperature is attained, position the heating element in the butt welding machine.



**Apply Pressure:** Press the pipe ends to be joined against the heating element with the required force until the entire circumference of both the joining faces rests completely against it and a bead is formed. Reduce the equalization pressure to zero.

**Joining:** After the recommended heating time, remove the heating element from machine and push the pipe ends together immediately at rated pressure.

**Cooling:** Allow the recommended cooling time as per the pipe size to get the required strength.

Butt welding joints are homogeneous, integral and long lasting joints used for pressure application. Similar material and similar wall thickness components should only be used for butt welding.


# Nu-Drain™

## Underground Drainage and Sewer System

*... an underground revolution*

In our endeavor to new product developments, we are continually adding various new products for vast spectrum of application segments. Underground drainage and sewerage is one such segment where company is very active. Supreme Nu-drain is intended to carry soil and waste and offers multiple advantages over traditional drainage products for all sorts of drainage and sewerage applications and installations. This can also be used for rainwater collection and disposal, including rainwater harvesting. Being 100% watertight, this complete system is free from ingress and seepage of water and hence considered to be most hygienic. Industries need piping systems for drainage and sewage containing various effluents and harsh chemicals. Being chemically inert (except few chemicals) and corrosion free, Nu-drain underground drainage and sewer system with readymade inspection chambers and manholes is the most ideal solution for industrial effluents.

### Unique features

- Great flexibility
- Perfect hydraulic properties
- Excellent corrosion and chemical resistance
- Great strength
- 100% watertight system
- Hygienic and safe
- Minimum excavation cost
- Minimal maintenance
- Long service life with overall economy

**Product range**

Supreme Nu-drain underground drainage and sewer system comprises the following components.

**Solid wall pipes:**
1. uPVC pipes
2. PE pipes

**Structured wall pipes:**
1. Eco-drain pipes
2. Foam core pipes
3. DWC pipes

**Inspection chambers :** Different sizes of Ultra inspection chambers viz. 250, 315, 355, 450 and 600mm.
**Manholes :** Ultra manholes in 1000 & 1200 mm.
**Covers :** Composite covers in all sizes
**Accessories :** Traps, gullies and back-flow prevention valves.

# ECO-drain®

## Hi-tech structured wall pipes for drainage and sewerage application


Supreme now becomes the first to offer almost all varieties of structured wall pipes. Eco-drain pipes are not solid wall pipes but have a unique wall structure i.e. with a number of "holes" in the wall thickness in longitudinal direction. It is a "Profile" wall pipe using I-beam construction, as a result, the Eco-drain pipes are noticeably lighter and less expensive than any existing PVC pipe for drainage application of similar stiffness and many times lighter than a concrete pipe with equivalent load carrying capacity. We have extended the size range and now these pipes are available up to 400mm sizes.

### Unique features

- **Lighter yet strong and durable**
- **Excellent structural strength -** Designed using I-beam construction which provides high moment of inertia, these pipes are stronger and hence sufficiently durable to meet soil over load requirements.
- **Perfect hydraulic properties -** High flow carrying capacity , least possibility of blockages.
- **100% Watertight joints-** Hygienic and safe
- **Excellent resistance to corrosion and chemical attacks**
- **Great flexibility in installation**
- **Minimum excavation and installation expenses**
- **Low maintenance costs**
- **Cost effective**

# Ultra PLUS Double Wall Corrugated Pipes

*... Ideal pipes for drainage and sewerage application*

IS:16098-2
CM/L-7700079217

Supreme Ultra plus double wall corrugated pipes are more stronger than solid wall pipes of the same wall thickness and have a unique wall structure with corrugated structure externally and smooth surface internally. This specific structure gives the pipes a unique combination of stiffness and flexibility to sustain soil and traffic loads that the pipe may encounter in service while buried. Many remarkable material properties give these pipes an edge over conventional RCC and many other pipes in terms of handling, installation and performance.

## Unique features

- Great flexibility
- Excellent stiffness
- Perfect hydraulic properties
- Excellent chemical, corrosion and abrasion resistance
- Watertight joints
- Easy and quick installation
- Maintenance free
- Long life
- Cost effective
- Eco-friendly

## Applications

- Disposal of industrial effluents
- Underground drainage and sewerage
- Storm water drainage
- Rainwater harvesting
- Road/highway cross drainage works

## Product range

- Supreme DWC pipes are available in 75 to 800mm sizes according to IS:16098 in SN 4 and SN 8 stiffness class. Dimensions of DWC pipes are ID based. Pipes up to 250mm as well as 500 to 800mm sizes are supplied plain ended with separate couplers whereas 300 and 400mm sizes are supplied in both varieties i.e. with integral sockets as well as with separate couplers.
- DWC adapters, different fittings and accessories are made available to meet complete system requirements.

# Polyethylene Piping System

IS:4984
CM/L-7789412

Supreme polyethylene pipes are a safe, long lasting and cost effective solution for transportation of water, effluents and different chemicals. Supreme HDPE pipes are manufactured from virgin raw material with the help of state of the art manufacturing facilities. Stringent tests on raw material and finished goods ensure the quality as per national and international standards.

## Unique features

- High reliability and proven service performance
- Resistance to low temp. (up to - 40°C)
- High impact and abrasion resistance
- Excellent chemical and UV resistance
- Excellent flow characteristics and water hammer resistance
- Easy, quick and economical installation
- Long service life

## Applications

- Water supply and water distribution
- Industrial effluents, chemicals, slurries, liquid foods and pulps
- Coal handling in mines
- Ventilation and air conditioning ducts
- Underground drainage and sewerage

## Product range

**Pipes:**
- 20 to 800mm PE 63, 80 and 100 grades as per IS:4984 in 2.5 to 16 kgf/cm$^2$ pressure class.
- 63 to 630mm PE 63, 80 and100 grades as per IS:14333 in 2.5 to 16 kgf/cm$^2$ pressure class.
- Pipes are also made available in coils up to 110mm size.

**Fittings:** All the compatible fittings are made available to cater to all system requirements.

Similar to PP-R pipes, PE pipes are joined using butt-welding process.

# Specialty Valves

We need variety of valves for different purposes like flow controls, change in direction of flow and to protect different equipments from reverse flow and water hammer etc. To meet these requirements we have recently introduced series of specialty valves like Butterfly valves, Non-return valves, Swing check valves, Ball valves, Air release valves etc. These valves are very functional products and are designed keeping in mind all the functional requirements like smooth operation, water tightness, strength and durability and are much superior when compared with valves made of conventional material and other similar products available in the market. These innovative, versatile, high performance valves stand much superior against alternative products available in the market at reasonably good price.

## Ball Valves

Ball valves are basically used for flow regulations, we offer wide range of valves in uPVC, C-PVC and PP-R .

### Product range

- uPVC ball valves - ½" to 4" - SCH 80 pressure class.
- C-PVC ball valves - ½" to 2" in SDR 11 and 2½" and 3" in SCH 80 pressure class.
- PP-R ball valves - 20 to 63mm in PN 20 pressure class.

### Applications

- uPVC ball valves are suitable for process water, RO water, DM water lines etc.
- C-PVC and PP-R valves can be used for hot and cold water supply lines carrying different chemicals and effluents .
- PP-R valves are suitable for hot and cold lines and compressed air distribution lines.

**Ball valve**

**Ball valve** (plastic)

**Ball valve**

**Ball valve**

**Union ball valve** (plain)

**Union ball valve** (threaded)

**Ball valve**

**Ball valve**

## Non Return Valves

Non Return Valves are commonly used to ensure unidirectional flow of water or any fluid in pressure piping. With excellent sealing ability, it restricts the sudden reverse flow of water/fluid in order to safeguard the equipment such as pumps, compressor etc. and to avoid emptying of pipelines. It also helps to avoid pipe squeezing and water hammer problems and protects the pipeline from failure. Designed with union provision and ball, Supreme make NRVs in uPVC offer many good features like compact design, strength and sturdiness, excellent flow characteristics, durability and minimal maintenance requirements.

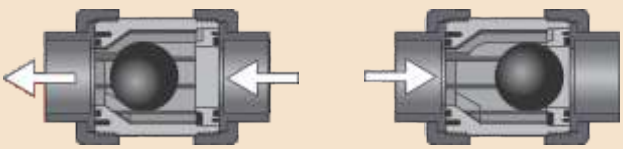
### Product range

| Std. Dia. | Pressure rating | Type of joint |
|---|---|---|
| 63mm | PN 10 | Solvent weld |
| 75, 90 and 110mm | PN 6 | Solvent weld |

### Applications

- Industrial effluent lines
- Water supply lines
- Dilute chemical lines
- RO water, DM water lines etc.

**Working mechanisum**



**Open** **Closed**

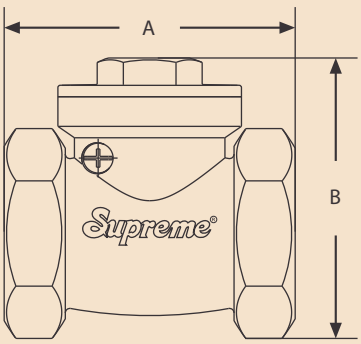
# Swing Check Valves

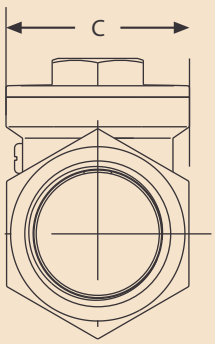
Designed keeping in mind precision and functional requirements, such as smooth operation, water tightness, strength and durability, Supreme make Swing check valves stand much superior against alternative products available in the market at reasonable price. These valves are normally used to prevent the reverse flow of fluids in pressure pipelines and offers many outstanding features as listed below. Being manufactured from engineering plastics, these valves are free from corrosion and adverse chemical reactions. These valves are most ideal for industrial applications where acids, alkaline and corrosive substances are required to be handled.

## Unique features

- Work with automatic action without external controls
- Allow the fluid to pass through only in one direction and avoid emptying situations in the line.
- Provided with flap for easy operation
- They are necessary for all the installations that uses pumps to avoid the water hammers.
- Compact design - need little space
- 100% Tight shut-off
- Extremely low opening pressures
- Highly resistant to corrosive chemicals, acids and alkaline substances.
- 100% factory tested
- Can be installed either vertically or horizontally
- Easy to install and maintain

## Product range and dimension details




| Size | | A | B | C | PN | PSI | Kgf/cm² |
|---|---|---|---|---|---|---|---|
| (inch) | (mm) | | | | | | |
| ¾" | 25 | 71 | 72 | D46 | 10 | 150 | 10 |
| 1" | 32 | 83 | 79 | D53 | 10 | 150 | 10 |
| 1¼" | 40 | 110 | 94 | D66 | 10 | 150 | 10 |
| 1½" | 50 | 126 | 103 | D69 | 10 | 150 | 10 |
| 2" | 63 | 128 | 124 | D81 | 10 | 150 | 10 |

## Applications

- Useful for mild acidic and alkaline solutions
- Can be used in water lines receiving chlorine gas or bleach
- Water supply lines and rising mains
- Chemical processing
- Food and beverage
- Pharmaceutical
- Pulp and paper
- Marine and corrosive environments

## General specification

| | |
|---|---|
| Category | : Swing check valve (NR) |
| Driving mode | : Self operated |
| Connection type | : BSP threads |
| Working pressure | : 150 PSI/PN10 @ 20°C |
| Material | : Engineering plastic |
| Mounting | : Vertical/Horizontal |

Supreme®
People who know plastics best

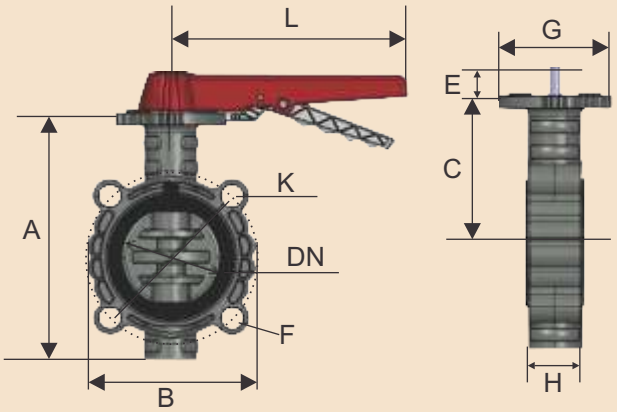
**Advanced Piping Solution for Industrial Applications**

# Butterfly valves

Butterfly valves are ideally suitable for piping systems carrying fluids at high speed or fluids with suspended particles. These valves are a very specialty product wherein precision is a mandatory requirement. Designed, keeping in mind precision and functional requirements, Supreme Butterfly valves are much superior. Following mentioned distinguishing features make it an ideal choice for industrial applications.

## Unique features

- Excellent structural stability, flow efficiency and sealing properties
- Compact space saving design
- Easy to operate - only a quarter turn is needed to open or close the valve
- Excellent flow control and throttling stop handle
- Bi-directional, 100% tight shut off
- Need low operation torque
- High impact and UV stabilized
- Provision to lock the valve at eight different positions of opening
- Easy to install and maintain




## Product range and dimension details

| D | DN | A | B | C | E | F | G | H | K | L | PN | PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 65 | 201 | 137 | 120 | 29 | 20 | 115 | 54 | 132 | 220 | 10 | 150 |
| 90 | 80 | 232 | 152 | 137 | 29 | 20 | 115 | 54 | 149 | 220 | 10 | 150 |
| 110 | 100 | 255 | 172 | 148 | 29 | 20 | 115 | 54 | 178 | 243 | 10 | 150 |
| 160 | 150 | 312 | 225 | 180 | 29 | 25 | 115 | 70 | 228 | 320 | 10 | 150 |

## Applications

- Ideally suitable for piping systems carrying fluids at high speed or fluids with suspended particles.
- Water treatment or distribution and irrigation application
- Suitable for mild acidic and alkaline solutions
- Water lines receiving chlorine gas or bleach

* For more details please refer to the technical manual of respective products or contact our technical team.



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