



**SHAKTHIMAN SUPER**



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**Shakthiman Super uPVC Pipes**



## 45 YEAR OLD TRUSTED TRADITION TURNS FUTURISTIC

1974 seems a long way back, from now. It was the year when the Nediya Group created history in South India, by pioneering the manufacturing of PVC pipes to replace costly, heavier, corrosion prone GI pipes to carry water. Brand Shakthiman Super was thus born.

The penchant for exceptional system and product quality, continuous R&D initiatives and quality upkeep benchmarks like ISI Certification, won the brand wider market acceptance and preference. To augment capacity, Chloroplast was commissioned in 1986. This was followed by the commissioning of highly advanced and state-of-the-art manufacturing facility – Shakthiman Extrusions Pvt. Ltd, in 2015. With the growing market demand for hot water pipes, Shakthiman Super extended its superior quality product line to cater to this demand. The company also manufactures plumbing components with a quality standard on par with global benchmarks.

Turning innovation into daily experience, Shakthiman Super is now equipped with all the bells and whistles to cater to the demand of the customers with a wide product folio.





Shakthiman uPVC Fittings

The universe and life in it flow incessantly to nature's rhythm.

Shakthiman Super Pipes and Fittings  
draws inspiration from this flawless flow.









## SHAKTHIMAN EXTRUSIONS PVT. LTD. (SEPL)

SEPL has a state-of-the-art, fully dedicated, 37,000 sq.ft. manufacturing facility to produce uPVC pipes with ISI mark. A pioneering venture in Kerala, the plant has an annual production capacity of 10,000 tonnes.

## PROCESS

Once the raw materials are fed to the bulk feed hoppers, the material is drawn at the required ratio and weight and fed into the Heater Mixer for proper compounding. When the compound attains the set temperature, it is drained to the Cooler Mixer, where it is cooled down to the set temperature and then pumped to storage silos having a total capacity of 10 Tons. From Silos the compound is drawn to each extrusion machine through vacuum suction according to requirement. All these fully automated operations are carried out using pre-programmed software. Thus once the parameters are set, the entire process from mixing to feeding is carried out automatically. Most modern twin screw extruders are used to produce pipes under pre-set process parameters and the formed pipes are cut at required length and socketed using online socketing machines automatically. Samples are drawn periodically for quality tests in the fully equipped testing laboratory as per IS 4985 : 2000 specifications laid out by the Bureau of Indian Standards. Batch numbers are provided to each pipe to identify the date, shift and machine and its production & quality testing records are stored for review and correction.

1

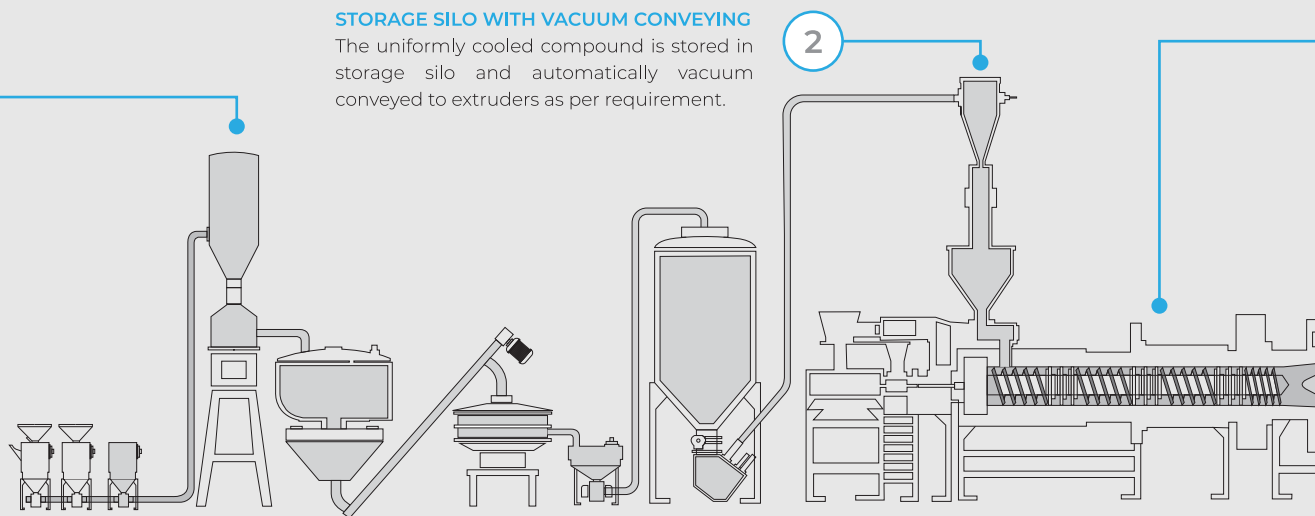
### MIXING

Once the raw materials are fed to respective hoppers, entire compounding process is fully automated by means of computer programmed software. The raw materials are fed to weighing silo by means of vacuum conveyor. It is fed to high speed heater mixer where the mix is heated to set temperature and is drained to a cooler mixer. The compound is drained at set temperature and sieved to remove the foreign particles. The sieved compound is pressure conveyed to the storage silos.

### STORAGE SILO WITH VACUUM CONVEYING

The uniformly cooled compound is stored in storage silo and automatically vacuum conveyed to extruders as per requirement.

2







3

#### EXTRUSION PROCESS

The compound is fed to twin screw extruders which are operated at high temperatures. 2nd stage compounding takes place in the screw-barrel assembly and the melted compound is extruded through the die & mandrel set-up for the suitable pipe size.

5

#### HAUL-OFF UNIT & PRINTING

Haul-off unit pulls the pipe forward right from the extruder through the cooling tank and the formed pipe is then passed through printing machine, which prints all the details including ISI Logo & License number, brand name, size and pressure rating, batch number and control unit number. This ensures complete back tracking of each and every pipe.

4

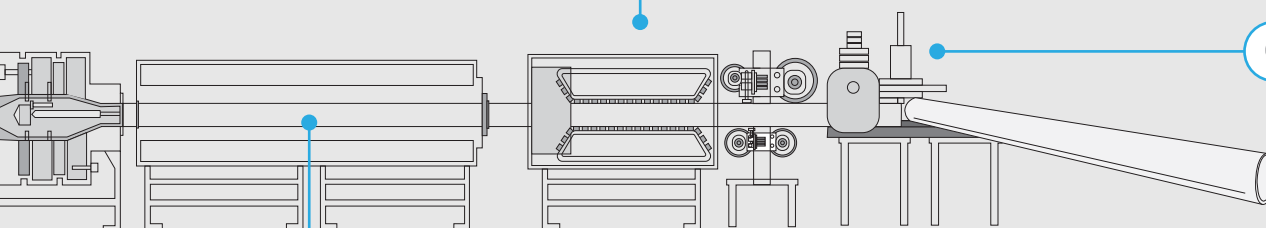
#### COOLING OF uPVC PIPE

The uPVC pipe thus extruded is passed through cooling tank consisting of vacuum sizer of required size to bring down the high temperature extruded uPVC to room temperature to form solid uPVC pipes.

6

#### CUTTING UNIT

The pipes are cut using online cutters at specified length to form the final product. Required number of Test samples are drawn at predefined intervals during production as well as from the finished pipes in a shift to conduct various tests as per IS 4985 Specification in the well-equipped testing laboratory. Only those pipes successfully pass these tests are transferred to the storage racks for delivery to the customers.









## QUALITY - WE BELIEVE IN IT AND WE DELIVER

### **ISI mark not just on paper but on pipes**

has been our tagline since we acquired the ISI certification licence. This tagline has created ripples and we were able to effectively convey the crux of this message to the mass. Our strong determination in delivering a quality product has made our brand standout from the rest. We conduct 10 different tests in our full fledged testing laboratory, which works 24x7 to ensure the product quality. Apart from this, as per the specifications laid out by World Health Organisation (WHO), Effect on Water Test is also conducted periodically to ensure that the pipes are environment friendly and safe for drinking water.



Name of Test		Conformity
	Visual Appearance	Colour light grey. Both inner and outer surfaces shall be smooth
	Dimensions Check	Wall thickness, length, outside diameter, mean outside diameter, bell end dimensions etc. should be as per IS 4985 : 2000 specifications.
	Opacity Test	Does not pass more than 0.2% of falling light
	Effect on Water	Lead, Dialkyl tin C4 and other toxic substances shall be within the prescribed limit
	Reversion Test	The change in length shall be $\pm 5\%$
	Vicat Softening Temperature Test	The penetration shall not be more than 1mm at 80°C
	Density Test	1.40-1.46 gms/cm <sup>3</sup>
	Sulphated Ash Content Test	Ash content shall be below 11%
	Internal Hydrostatic Pressure Test (Acceptance)	The pipe shall not burst at a test pressure of 4.19 times its' working pressure at 27°C for a duration of 1 hour.
	Internal Hydrostatic Pressure Test (Type)	The pipe shall not burst at a test pressure of 1.16 times its' working pressure at an elevated temperature of 60°C for a duration of 1000 hours.
	Resistance to External Blows at 0 °C	The true impact rate shall be below 10%





**CHLOROPLAST**  
uPVC fittings with  
**Pellet Booster Technology**  
**(PBT)**



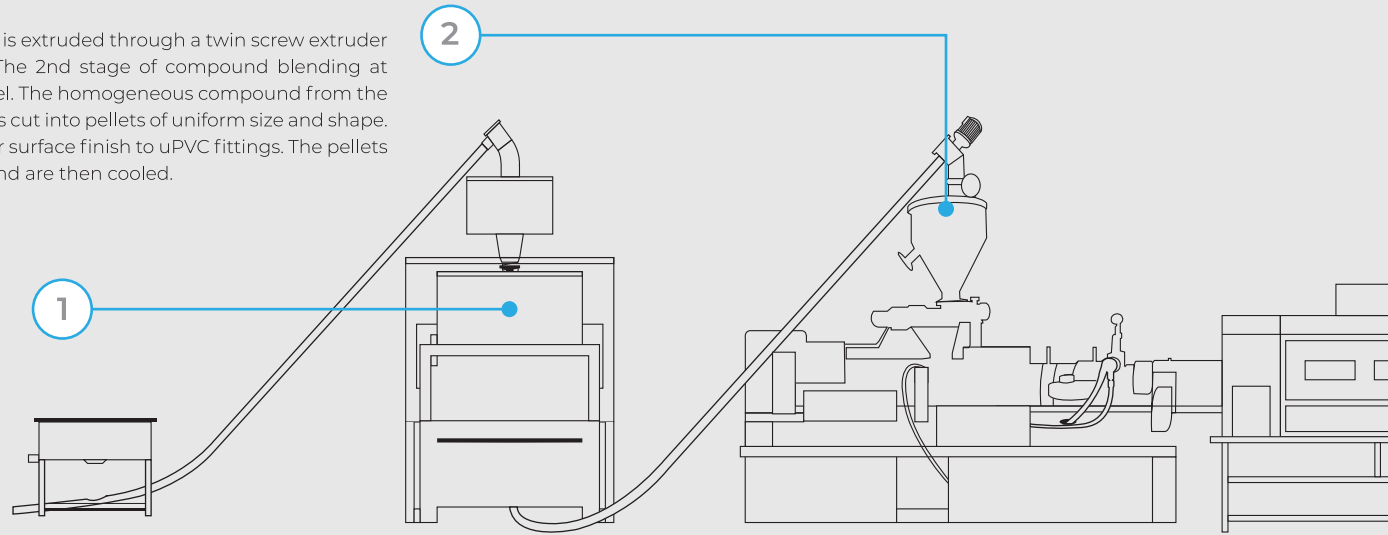
Shakthiman group diversified into dedicated uPVC fittings manufacturing, thus offering end-to-end plumbing solutions.

#### PELLETIZING OF COMPOUND

The compound from intermediate hopper is extruded through a twin screw extruder enveloped by a series of barrel heaters. The 2nd stage of compound blending at elevated temperature happens in the barrel. The homogeneous compound from the extruder is fed to a die face cutter where it is cut into pellets of uniform size and shape. This ensures enhanced strength and better surface finish to uPVC fittings. The pellets are screened to remove foreign particles and are then cooled.

#### RAW MATERIAL COMPOUNDING

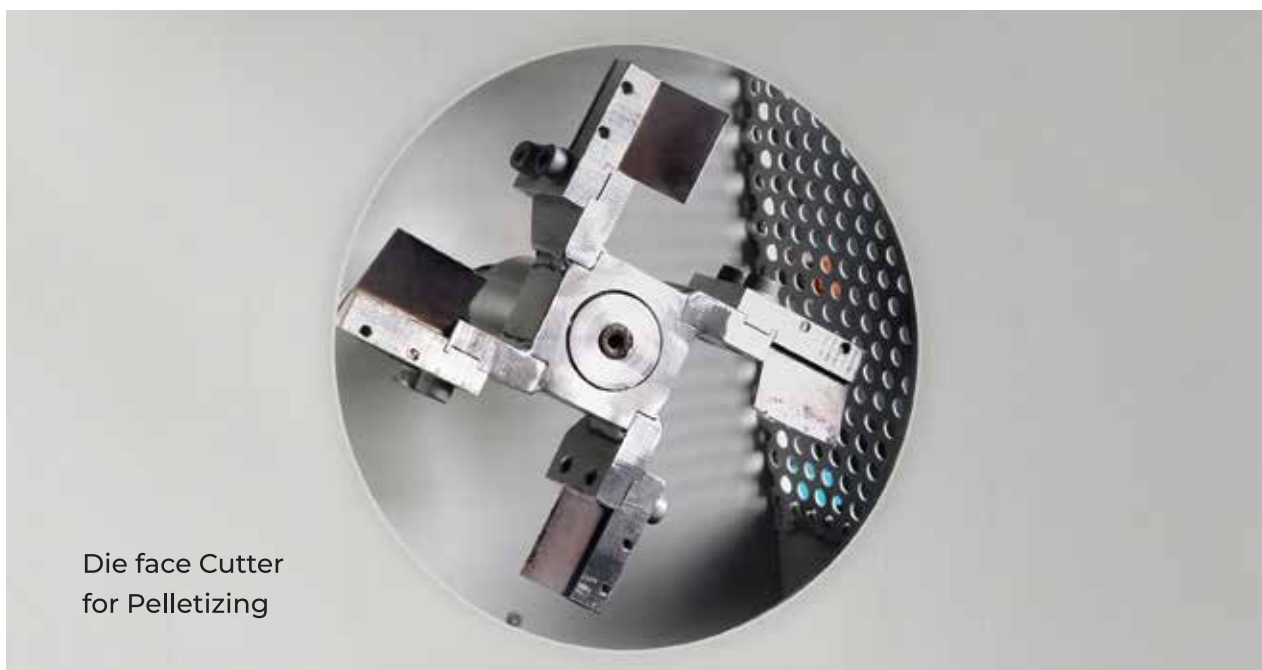
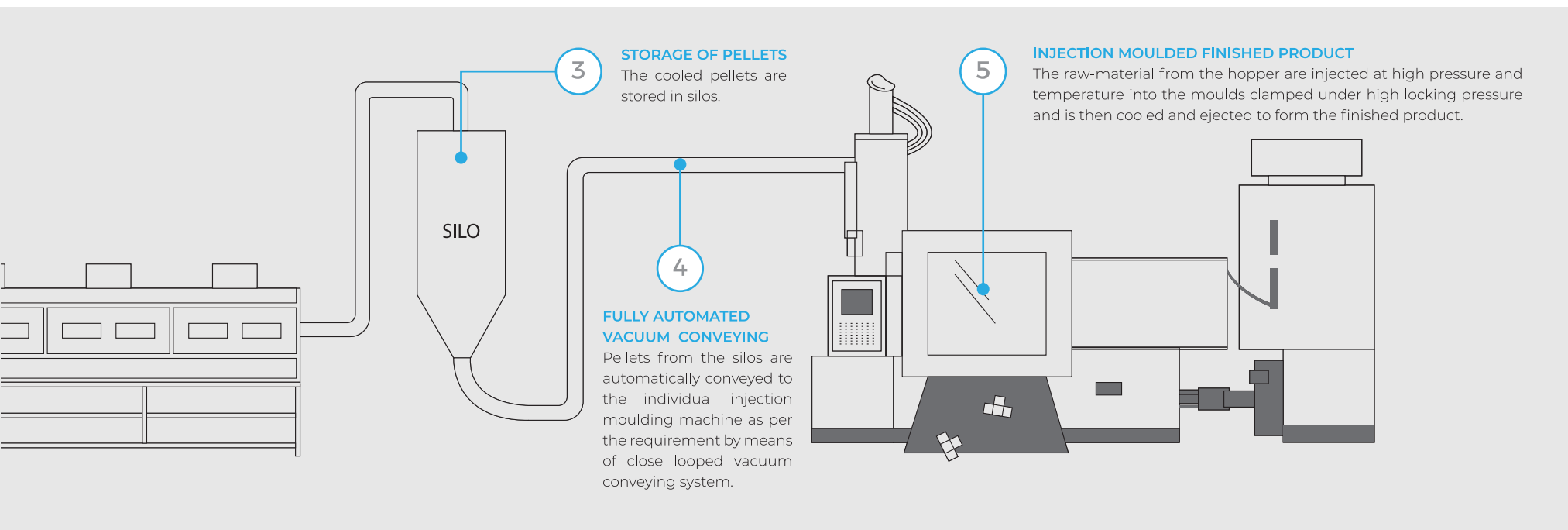
The raw-materials required are fed to the feed hopper. By means of spring conveyor, they are conveyed to heater mixer. Materials are dry blended in the heater mixer to a set temperature. Once attaining the set temperature, it is transferred to cooling mixer where the compound is cooled to a set temperature and drained to an intermediate hopper. The cooled mixture is fed to extruder hopper.



## PROCESS

The advanced plant has most modern automated Injection Moulding Machines to produce 1000 tonnes of uPVC Fittings per annum. Deviating from the traditional practice of producing fittings from dry blended PVC compound, our facility has a pelletizing machinery to produce PVC pellets. Twin Screw Extruder is used to hot melt the dry blended compound to make pellets using face cutter. The pellets, thus produced, will be a homogeneous mix of the intended additives used in compound formulation. This Pellet Booster Technology (PBT) imparts enhanced strength and finish to the fittings. An automated material conveying system has been installed in the uPVC pipe plant for feeding pellets to each moulding machine as per requirement. High precision diamond polished moulds of reputed manufacturers are used for moulding each fitting. The product finish, dimensional accuracy and quality are assured in each fitting.












# uPVC PIPES

## TECHNICAL SPECIFICATIONS

### uPVC PIPES AS PER IS 4985

CLASS	PRESSURE RATING	COLOUR CODE	SIZE RANGE
1	2.5 Kg/Cm2		90mm to 250mm
2	4.0 Kg/Cm2		63mm to 250mm
3	6.0 Kg/Cm2		40mm to 250mm
4	8.0 Kg/Cm2		25mm to 180mm
5	10 Kg/Cm2		20mm to 160mm
6	12.5 Kg/Cm2		20mm to 160mm
	Plumbing Pipes		20mm to 50mm
We do not manufacture uPVC pipes having nominal outside diameter of 125 mm and 225 mm			





## Injection Moulded uPVC Fittings as per IS:7834 (Part 1)

ELBOW 90° (PLAIN)



ITEM	PRESSURE	STD. PACK
20 mm	12.5kgf/cm <sup>2</sup>	100
25 mm	12.5kgf/cm <sup>2</sup>	100
20 mm	10kgf/cm <sup>2</sup>	50
25 mm	10kgf/cm <sup>2</sup>	100
32 mm	10kgf/cm <sup>2</sup>	100
40 mm	6kgf/cm <sup>2</sup>	25
50 mm	6kgf/cm <sup>2</sup>	50
63 mm	6kgf/cm <sup>2</sup>	25
75 mm	6kgf/cm <sup>2</sup>	25
90 mm	4kgf/cm <sup>2</sup>	10
110 mm	4kgf/cm <sup>2</sup>	15
<b>REDUCER ELBOW</b>		
32x25 mm	12.5kgf/cm <sup>2</sup>	25

ELBOW 45°



ITEM	PRESSURE	STD. PACK
25 mm	10kgf/cm <sup>2</sup>	100
32 mm	10kgf/cm <sup>2</sup>	100
40 mm	6kgf/cm <sup>2</sup>	50
50 mm	6kgf/cm <sup>2</sup>	50
63 mm	6kgf/cm <sup>2</sup>	25
75 mm	6kgf/cm <sup>2</sup>	15
90 mm	4kgf/cm <sup>2</sup>	10
110mm	4kgf/cm <sup>2</sup>	15

COUPLER



ITEM	PRESSURE	STD. PACK
20 mm	10kgf/cm <sup>2</sup>	25
25 mm	10kgf/cm <sup>2</sup>	50
32 mm	10kgf/cm <sup>2</sup>	50
40 mm	6kgf/cm <sup>2</sup>	50
50 mm	6kgf/cm <sup>2</sup>	25
63 mm	6kgf/cm <sup>2</sup>	25
75 mm	6kgf/cm <sup>2</sup>	25
90 mm	4kgf/cm <sup>2</sup>	10
110 mm	4kgf/cm <sup>2</sup>	20

STRAIGHT TEE



ITEM	PRESSURE	STD. PACK
20 mm	10kgf/cm <sup>2</sup>	25
25 mm	10kgf/cm <sup>2</sup>	50
32 mm	10kgf/cm <sup>2</sup>	100
40 mm	6kgf/cm <sup>2</sup>	50
50 mm	6kgf/cm <sup>2</sup>	50
63 mm	6kgf/cm <sup>2</sup>	25
75 mm	6kgf/cm <sup>2</sup>	10
90 mm	4kgf/cm <sup>2</sup>	10
110 mm	4kgf/cm <sup>2</sup>	10
<b>REDUCER TEE</b>		
32x25 mm	10kgf/cm <sup>2</sup>	50
50x32 mm	10kgf/cm <sup>2</sup>	25

END CAP (PLAIN)



ITEM	PRESSURE	STD. PACK
20mm	10kgf/cm <sup>2</sup>	25
25 mm	10kgf/cm <sup>2</sup>	50
32 mm	10kgf/cm <sup>2</sup>	25
40 mm	6kgf/cm <sup>2</sup>	25
50 mm	6kgf/cm <sup>2</sup>	25
63 mm	6kgf/cm <sup>2</sup>	25
75 mm	(LW)	15
90 mm	(LW)	10
110 mm	4kgf/cm <sup>2</sup>	15

## REDUCER



ITEM	PRESSURE	STD. PACK
25x20	10kgf/cm <sup>2</sup>	50
32x25	10kgf/cm <sup>2</sup>	50
40x32	10kgf/cm <sup>2</sup>	50
50x32	10kgf/cm <sup>2</sup>	50
50x40	6kgf/cm <sup>2</sup>	50
63x50	6kgf/cm <sup>2</sup>	25
75x63	6kgf/cm <sup>2</sup>	25
90x63	6kgf/cm <sup>2</sup>	15
90x75	4kgf/cm <sup>2</sup>	15
110x63	6kgf/cm <sup>2</sup>	15
110x90	4 kgf/cm <sup>2</sup>	15

## BRASS ELBOW



ITEM	STD. PACK
UPVC 3/4" x 1/2"	25 Nos
UPVC 1" x 1/2"	10 Nos

## MALE THREADED ADAPTER (MTA)



ITEM	PRESSURE	STD. PACK
25x3/4"	10kgf/cm <sup>2</sup>	50
32x1"	10kgf/cm <sup>2</sup>	50
40x1-1/4"	6kgf/cm <sup>2</sup>	50
50x1-1/2"	6kgf/cm <sup>2</sup>	25

## BRASS TEE



ITEM	STD. PACK
UPVC 3/4" x 1/2"	10 Nos

## FEMALE THREADED ADAPTOR (FTA)



ITEM	PRESSURE	STD. PACK
20x1/2"	12.5kgf/cm <sup>2</sup>	100
25x1/2"	12.5kgf/cm <sup>2</sup>	50
25x3/4"	10kgf/cm <sup>2</sup>	50
32x1"	10kgf/cm <sup>2</sup>	50
40x1-1/4"	6kgf/cm <sup>2</sup>	50
50x1-1/2"	6kgf/cm <sup>2</sup>	25
63x2"	6kgf/cm <sup>2</sup>	10

## FABT



ITEM	STD. PACK
UPVC 3/4" x 1/2"	25 Nos
UPVC 1" x 1/2"	25 Nos



## Injection Moulded uPVC SWR Fittings



BEND 87.5° with Door



ITEM	STD. PACK
63mm	15 Nos
75mm	15 Nos
110mm	15 Nos

BEND 87.5° without Door



ITEM	STD. PACK
63mm	15 Nos
110mm	15 Nos

VENT COWL



ITEM	STD. PACK
50/63mm	25 Nos
75mm	15 Nos
110mm	15 Nos

45° BEND - SHOE TYPE



Size	STD. PACK
63 mm	15 Nos
75mm	15 Nos
110mm	15 Nos

TEE 87.5° with Door



ITEM	STD. PACK
63mm	15 Nos
75mm	10 Nos
110mm	10 Nos

TEE 87.5° without Door



ITEM	STD. PACK
63mm	15 Nos
110mm	10 Nos

SINGLE Y



ITEM	STD. PACK
63mm	25 Nos
75mm	10 Nos
110mm	10 Nos

### SINGLE WAY FLOOR TRAP



ITEM	STD. PACK
110mm x 75/63mm	10 Nos

### MULTI WAY FLOOR TRAP



ITEM	STD. PACK
110mm x 75/63mm	10 Nos

### MOULDED BENDS



ITEM	PRESSURE	STD. PACK
32mm	10kg/cm <sup>2</sup>	50 Nos
40mm	6kg/cm <sup>2</sup>	50 Nos
50mm	6kg/cm <sup>2</sup>	50 Nos
63mm	4kg/cm <sup>2</sup>	25 Nos
75mm	4kg/cm <sup>2</sup>	15 Nos
90mm	4kg/cm <sup>2</sup>	10 Nos
110mm	4kg/cm <sup>2</sup>	15 Nos

### REDUCING BUSH



ITEM	STD. PACK	ITEM	STD. PACK
UPVC 110mmx90mm	10 Nos	UPVC 63mmx50mm	25 Nos
UPVC 110mmx75mm	10 Nos	UPVC 50mmx32mm	50 Nos
UPVC 110mmx63mm	10 Nos	UPVC 32mmx25mm	50 Nos

### FABRICATED BENDS



20mm to 160mm

### SWAN NECK



20mm to 110mm



## GARDEN HOSE



ITEM	STD. PACK
20mm	15mtr, 30mtr, 50mtr
25mm	15mtr, 30mtr, 50mtr
32mm	15mtr, 30mtr, 50mtr



## SHAKTHIMAN SUPER CPVC PIPES AS PER - IS 15778 : 2007

## CPVC PIPES & FITTINGS

SHAKTHIMAN SUPER also has totally Lead Free ISI Marked CPVC Pipes & Fittings for hot water conveyance in SDR 11 & 13.5 specifications.

ELBOW 90°



3/4" - Size: 20 mm, Qty: 50 pcs  
1" - Size: 25 mm, Qty: 50 pcs

END CAP 1"



3/4" - Size: 20 mm, Qty: 50 pcs  
1" - Size: 25 mm, Qty: 25 pcs

COUPLING



3/4" - Size: 20 mm, Qty: 50 pcs  
1" - Size: 25 mm, Qty: 50 pcs

ELBOW 45°



3/4" - Size: 20 mm, Qty: 50 pcs  
1" - Size: 25 mm, Qty: 50 pcs

SDR 11&13.5  
CPVC PIPES

3/4" - Size: 20 Qty: 50  
1" - Size: 25 Qty: 25  
3/4" - Size: 20 Qty: 50  
1" - Size: 25 Qty: 25



REDUCER BUSHING



1 x 3/4"  
Size: 25x20 mm, Qty: 25 pcs

REDUCER COUPLING



1 x 3/4"  
Size: 25x20 mm, Qty: 50 pcs

FAPT



$\frac{3}{4}$ " - Size: 20 mm , Qty 50 pcs  
1" - Size: 25 mm, Qty 25 pcs

MAPT



$\frac{3}{4}$ " - Size: 20 mm , Qty 50 pcs  
1" - Size: 25 mm, Qty 50 pcs

## CPVC BRASS FITTINGS

TEE



$\frac{3}{4}$ " - Size: 20 mm, Qty: 50 pcs  
1" - Size: 25 mm, Qty: 25 pcs

UNION



$\frac{3}{4}$ " - Size: 20 mm, Qty: 10 pcs  
1" - Size: 25 mm, Qty: 10 pcs

MABT



$\frac{3}{4}$ " x  $\frac{1}{2}$ "  
Size: 20x15 mm, Qty 10 pcs

BRASS ELBOW



$\frac{3}{4}$ " x  $\frac{1}{2}$ " - Size: 20x15 mm, Qty: 50 pcs  
1" x  $\frac{1}{2}$ " - Size: 25x15 mm, Qty: 10 pcs

STEP-OVER BEND



$\frac{3}{4}$ " - Size: 20 mm, Qty: 10 pcs

BRASS TEE



$\frac{3}{4}$  x  $\frac{3}{4}$  x  $\frac{1}{2}$ " - Size: 20x20x15 mm, Qty: 10 pcs  
1 x 1 x  $\frac{1}{2}$ " - Size: 25x25x15 mm, Qty: 10 pcs

FABT



$\frac{3}{4}$ " x  $\frac{1}{2}$ " - Size: 20 mm , Qty 15 pcs  
1" x  $\frac{1}{2}$ " - Size: 25 mm, Qty 15 pcs

# SOLVENT CEMENT

CPVC SOLVENT



uPVC SOLVENT



59 ml Tin  
118 ml Tin

24 Nos. per pack

50 ml Tin  
100 ml Tin  
250 ml Tin  
500 ml Tin  
5 L Can

24 Nos. per pack

20 Nos. per pack

04 Nos. per pack







## QUALITY POLICY

We are committed to supply right quality products to meet the customers' needs and expectations by continuous quality upgradation



Perumbavoor, Kerala - 683546  
Ph: +91 484 2649056, Mobile: +91 94470 49482  
Visit Us at: [www.shakthimansuper.com](http://www.shakthimansuper.com)  
Email: [marketing@shakthimansuper.com](mailto:marketing@shakthimansuper.com)