VECTUS
PIPES AND TANKS

www.vectus.in

India ki Waterline!

PRODUCT TECHNICAL BROCHURE

About Us

With presence across the length & breadth of the country, and a footprint of over 30 years in the industry, Vectus Industries Limited is one of the leading Polymer Based Water Storage Solutions companies in India; primarily in the business of manufacturing water storage tanks and piping systems.

With more than 4300 dealers and distributors, 14 manufacturing plants and 4 depots across the country, Vectus has become India's one of the leading and fastest growing Water Storage and Piping System company.

Keeping abreast with the national and international standards of quality, Vectus Industries Limited is an ISO 9001:2015 Certified Company.

From being the first in India to introduce blow moulded tanks to being one of the largest manufacturer of blow moulded tanks in the world, Vectus Industries Limited is one of the leading water storage and piping solutions provider in India; catering to residential, commercial, industrial, infrastructural and agricultural sectors.

It operates across distinct product verticals namely:

1. **Water storage tanks**
2. **Pipes and fittings**
3. **Household moulded plastic products**
4. **Bath accessories range**
5. **Road safety barricades**
6. **Gardening Products**

Hence, it's a one-stop solution for all kinds of water storage & water transference needs. Owing a strong brand recall for plastic water storage tanks, Vectus also has one of the most diversified product portfolios in the pipes segment. The company's focus on quality and value for money product range are applauded both amidst vendors and customers.

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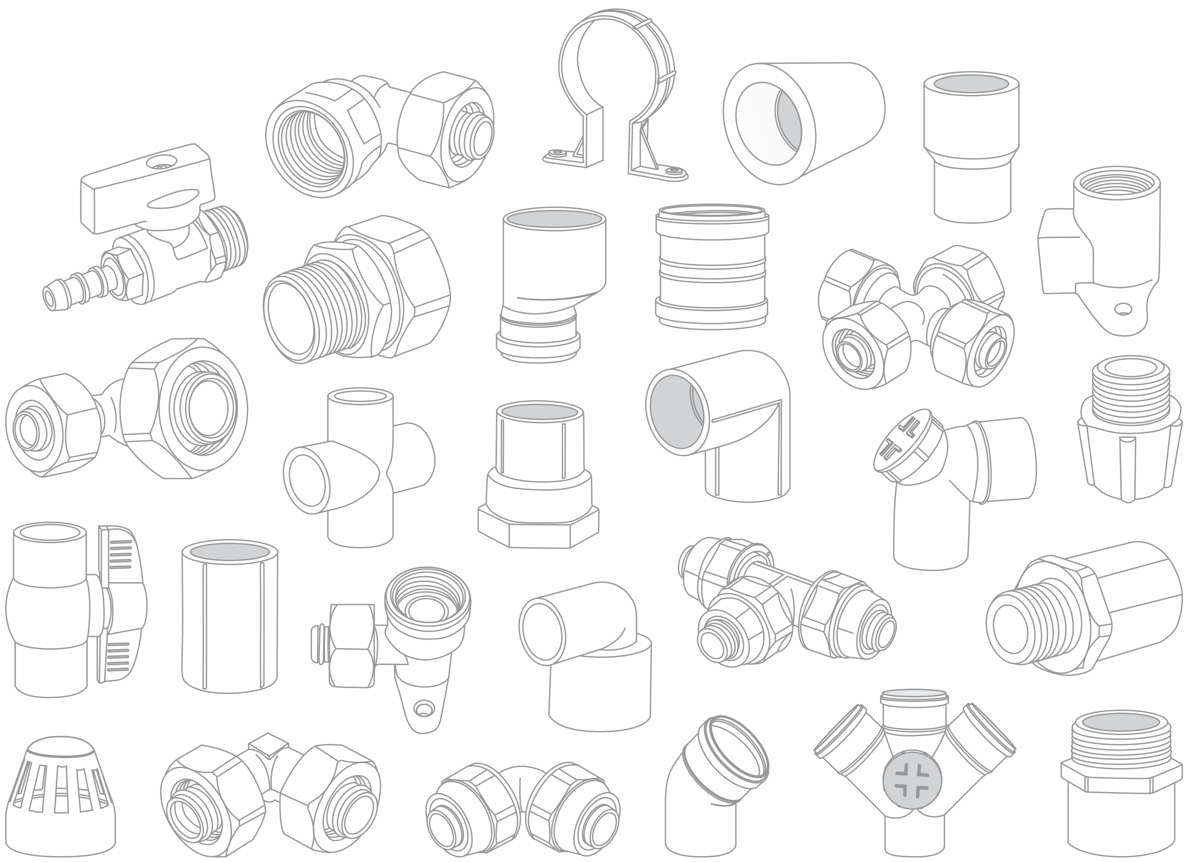


Milestones

1989 Started manufacturing Rotational Moulded Tanks

2006 Introduced PVC Piping System & PPR Piping System

2008 Introduced Composite Piping System

2009 Started manufacturing Blow Moulded Tanks

2010 Added CPVC Piping System to our portfolio

2013 Collaborated with Floteks, Turkey Introduced Manholes and Underground Tanks

2015 Introduced Four Layer Tanks in Blow Moulding

2016 Introduced Column Pipes

2019 Associated with Microban & introduced European standard Tanks in India

2020 Introduced Bath Accessories Range, Road Safety Products & UGD Pipes

Recent Awards and Accolades

Business Today's Business Leaders of Madhya Pradesh Awards 2019

Vectus Industries Limited has won best awards for the "Best Manufacturing company" (>500 crore but <Rs. 1000 crore category) by Business Today.

SAP HANA Innovation Award 2017

Vectus Industries Limited has been felicitated by the SAP HANA Innovation Award 2017 for reducing operational costs by implementing SAP S/4 HANA 1511 On-Premise Edition across PAN India operations.

Our Esteemed Clientele

CPVC
PIPING SYSTEM

What is CPVC?

Vectus CPVC pipes and fittings are manufactured using world class raw material and technology, which makes them ideal for both hot and cold water distribution systems. These pipes are made from a special plastic, chemically known as Chlorinated Polyvinyl Chloride, commonly known as CPVC.

These pipes are a unique combination of high impact resistance, with no compromise in the pressure bearing capacity / tensile strength or Vicat softening temperature. These qualities lower the chances of cracks / damages while handling, during storage and installation.

The pipes are manufactured as per IS 15778 & ASTM F 441 while the fittings are manufactured as per ASTM D 2846 & ASTM F 439 in CTS (Copper Tube Sizing).

- Pipes are available in SDR 11, SDR 13.5, SCH 40 & SCH 80
- The available range of pipes and fittings varies from 15 mm to 100 mm

Features

Corrosion Resistant · Maintenance Free · Can withstand up to 82°C · High Strength · UV Resistant · Self Extinguishing

Applications

Hot & Cold Plumbing · Transference of Drinking Water · Residential Purposes · Industrial Use · Transference of Corrosive Fluid

Standard

15778 · F 441 · D 2846 · F 439

Advantages of CPVC

Property	Vectus CPVC	Copper	GI
Corrosion	No effect due to excellent chemical resistance	Will corrode over a period of time	Corrodes faster and deteriorates
Scaling, Pitting and Leaching and full bore flow	Absence of scaling, pitting and leaching leads to full bore flow	Scaling, pitting and leaching leads to reduced bore flow	Severe scaling, pitting and leaching leads to reduced bore flow
Thermal conductivity and insulation levels	Lower thermal conductivity reduces heat loss and requires reduced insulation levels	Very high thermal conductivity increases heat loss and requires high insulation	Very high thermal conductivity increases heat loss and requires high insulation levels
Bacterial growth	Extremely low	More than CPVC	More than copper
Fire Resistance	LOI is 60% and hence does not catch fire or sustain burning	Being metallic, better Fire resistance	Being metallic, better Fire resistance
Installation	Easy. Through cold welding, requiring less man-hours. No electric / heat source required. Hence cost effective	Requires highly skilled manpower and electric / heat source.	Very slow and Cumbersome. Requires more man hours
Leakage	Leak free installation for the entire life span of the piping system.	Leak free, provided carried out by highly trained manpower.	Always susceptible to leakage from day one of installation.
Thermal Expansion	Lower. Leads to less pipe expansions, less looping and offsets	Although thermal expansion is lower, the stress induced is far greater.	Although thermal expansion is lower, the stress Induced is far greater.
Range of Fittings	Wide range of fittings makes layout easier and compact for Architects, consultants, builders and end users.	Limited range of fittings involves frequent cutting / Welding to achieve the desired layout.	Limited range of fittings.

Water is precious!
Do not waste water!

Specifications and Properties

General

Property	Test	Condition	English Units	S.I Units
Specific Gravity	ASTM D792	73°F/23°C	1.50 - 1.53	1.50 - 1.53
Water Absorption	ASTM D570	73°F/23°C	0.03%	0.03%
		212°F/100°C	0.55%	0.55%
Rockwell Hardness	ASTM D785	73°F/23°C	119	-
Cell Classification	ASTM D1784	-	23447	-

Mechanical

Property	Test	Condition	English Units	S.I Units
Izod Impact	ASTM D256	73°F/23°C	1.5 ft lbs/in. o.n	80 J/m o.n
Tensile Strength	ASTM D638	73°F/23°C	8000 psi	55 N/mm^2
Tensile Modulus	ASTM D638	73°F/23°C	360,000 psi	2500 N/mm^2
Flexural Strength	ASTM D790	73°F/23°C	15,100 psi	104 N/mm^2
Flexural Modulus	ASTM D790	73°F/23°C	415,000 psi	2860 N/mm^2
Compressive Strength	ASTM D695	73°F/23°C	10,100 psi	70 N/mm^2
Compressive Modulus	ASTM D695	73°F/23°C	196,000 psi	1350 N/mm^2

Thermal Properties

Property	Test	Condition	English Units	S.I Units
Coefficient of Thermal Expansion	ASTM D696	-	3.4x10-5in/in/°F	6.1x10-5m/m/K
Thermal Conductivity	ASTM C177	-	0.95 BTU in/hr/ft^2/°F	0.14Wm/K/m^2
Heat Distortion Temperature	ASTM D648	-	217°F	103°C
Heat Capacity	DSC	73°F/23°C	0.21 BTU/lb°F	0.90 J/gK
		212°F/100°C	0.26 BTU/lb°F	1.10 J/gK

Flammability

Property	Test	Condition	English Units	S.I Units
Flammability Rating	UL94	-	0.062 in/0.157cm	V-0,5VB, 5VA
Flame Spread	ASTME84	-	15	-
Smoke Developed	ASTM E84	-	70-125	-
Limiting Oxygen Index	ASTM D2863	-	60%	-

Standards and Codes

Vectus CPVC pipes and fittings are manufactured in sizes from ½" to 4".

Class of Pipe	Standard	Sizes	Color Coding	Class of Fitting	Sizes	Standard
SDR 11 Pipe	IS 15778	½" - 2"	Tan red stripe with logo	SDR 11 Fittings	½" - 2"	ASTM D 2846
SDR 13.5 Pipe	IS 15778	½" - 2"	Tan brown stripe with logo			
SCH 40 Pipe	ASTM F 441	2½" - 4"	Tan brown stripe			
SCH 80 Pipe	ASTM F 441	2½" - 4"	Tan red stripe	SCH 80 Fittings	2½" - 4"	ASTM F 439

Dimensional Details

Dimensional details and Pressure Ratings of SDR 11 CPVC Pipes as per IS 15778

Nominal (Size)		Outside Diameter (mm)		Wall Thickness (mm)		Pressure Rating at 27°C		Pressure Rating at 82°C	
mm	inch	Average	Tolerance	mm	Tolerance	(kg/cm^2)	(MPA)	(kg/cm^2)	(MPA)
15	½	15.9	±0.1	1.95	±0.25	28.14	2.76	6.93	0.68
20	¾	22.2	±0.1	2.25	±0.25	28.14	2.76	6.93	0.68
25	1	28.6	±0.1	2.85	±0.25	28.14	2.76	6.93	0.68
32	1¼	34.9	±0.1	3.45	±0.25	28.14	2.76	6.93	0.68
40	1½	41.3	±0.1	4.05	±0.25	28.14	2.76	6.93	0.68
50	2	54	±0.1	5.2	±0.30	28.14	2.76	6.93	0.68

Dimensional details and Pressure Ratings of SDR 13.5 CPVC Pipes as per IS 15778

Nominal (Size)		Outside Diameter (mm)		Wall Thickness (mm)		Pressure Rating at 27°C		Pressure Rating at 82°C	
mm	inch	Average	Tolerance	mm	Tolerance	(kg/cm^2)	(MPA)	(kg/cm^2)	(MPA)
15	½	15.9	±0.1	1.65	±0.25	22.22	2.18	5.60	0.55
20	¾	22.2	±0.1	1.95	±0.25	22.22	2.18	5.60	0.55
25	1	28.6	±0.1	2.35	±0.25	22.22	2.18	5.60	0.55
32	1¼	34.9	±0.1	2.85	±0.25	22.22	2.18	5.60	0.55
40	1½	41.3	±0.1	3.35	±0.25	22.22	2.18	5.60	0.55
50	2	54	±0.1	4.30	±0.30	22.22	2.18	5.60	0.55

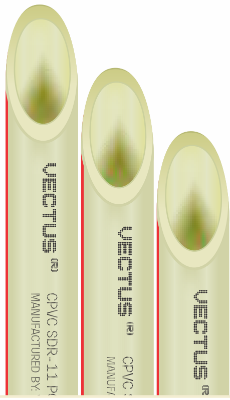
Dimensional details of Sch. 40 Pipes with maximum water pressure rating as per ASTM F 441

Nominal (Size)		Outside Diameter (mm)				Wall Thickness (mm)				Pressure Rating at 23°C	Pressure Rating at 82° C
mm	inch	Average		Tolerance		Minimum		Tolerance			
		mm	inch	mm	inch	mm	inch	mm	inch	PSI (Kg/cm2)	PSI (Kg/cm2)
65	2½	73.0	2.875	0.18	±0.007	5.16	0.203	0.61	+0.024	300 (21.1)	75 (5.3)
80	3	88.9	3.5	0.20	±0.008	5.49	0.216	0.66	+0.026	260 (18.25)	65 (4.58)
100	4	114.3	4.5	0.23	±0.009	6.02	0.237	0.71	+0.028	220 (15.49)	55 (3.87)

Dimensional details of Sch. 80 Pipes with maximum water pressure rating as per ASTM F 441

Nominal (Size)		Outside Diameter (mm)				Wall Thickness (mm)				Pressure Rating at 23°C	Pressure Rating at 82° C
mm	inch	Average		Tolerance		Minimum		Tolerance			
		mm	inch	mm	inch	mm	inch	mm	inch	PSI (Kg/cm2)	PSI (Kg/cm2)
65	2½	73.00	2.875	0.18	±0.007	7.01	0.276	0.84	+0.033	420 (29.57)	105 (7.34)
80	3	88.9	3.5	0.20	±0.008	7.62	0.3	0.91	+0.036	370 (26.00)	90 (6.33)
100	4	114.3	4.5	0.23	±0.009	8.56	0.337	1.02	+0.04	320 (22.53)	80 (5.60)

CPVC Piping System



PIPES as per IS 15778

SDR 11: Available in lengths of 3 & 5 meters
Size mm (inches): 15 (½"), 20 (¾"), 25 (1"), 32 (1¼"), 40 (1½"), 50 (2")

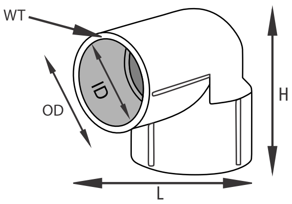
SDR 13.5: Available in lengths of 3 & 5 meters
Size mm (inches): 15 (½"), 20 (¾"), 25 (1"), 32 (1¼"), 40 (1½"), 50 (2")

PIPES as per ASTM F 441

SCH 40: Available in lengths of 3 & 5 meters
Size mm (inches): 65 (2½"), 80 (3"), 100 (4")

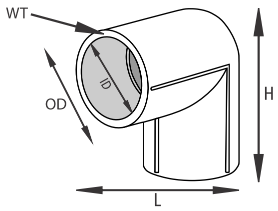
SCH 80: Available in lengths of 3 & 5 meters
Size mm (inches): 65 (2½"), 80 (3"), 100 (4")

Elbow 90° (brass)

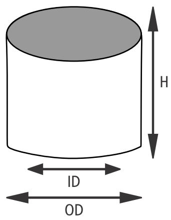
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15x15	½ x ½	16.08	21.26	2.59	12.70	36.0	45.0
20x15	¾ x ½	22.45	27.63	2.59	17.78	41.0	51.0
20x20	¾ x ¾	22.45	27.63	2.59	17.78	42.0	55.0
25x15	1 x ½	28.83	33.56	2.59	22.86	53.0	55.0
25x20	1 x ¾	28.83	33.56	2.59	22.86	62.0	56.0
25x25	1 x 1	28.83	33.56	2.59	22.86	57.0	61.0

Elbow 90°

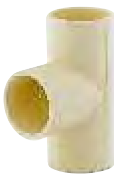
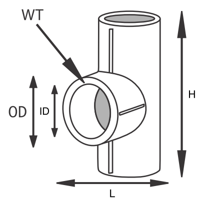
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	32.0	32.0
20	¾	22.45	27.63	2.59	17.78	45.0	45.0
25	1	28.83	33.56	2.59	22.86	57.0	57.0
32	1¼	35.20	41.56	3.18	27.94	69.0	69.0
40	1½	41.66	49.18	3.76	33.02	80.0	80.0
50	2	54.38	64.18	4.90	43.18	102.0	102.0
65	2½	73.38	87.4	7.01	44.45	131.0	130.0
80	3	89.31	104.55	7.62	47.63	152.0	161.0
100	4	114.76	131.92	8.58	57.15	190.0	196.0

End Cap

Size (mm)	Size (inch)	ID	OD	WT	SL	H
15	½	16.08	21.26	2.59	12.70	19.0
20	¾	22.45	27.63	2.59	17.78	26.0
25	1	28.83	33.56	2.59	22.86	31.0
32	1¼	35.20	41.56	3.18	27.94	38.0
40	1½	41.66	49.18	3.76	33.02	44.0
50	2	54.38	64.18	4.90	43.18	57.0
65	2½	73.38	87.4	7.01	44.45	64
80	3	89.31	104.55	7.62	47.63	70
100	4	114.76	131.92	8.58	57.15	82

Equal Tee

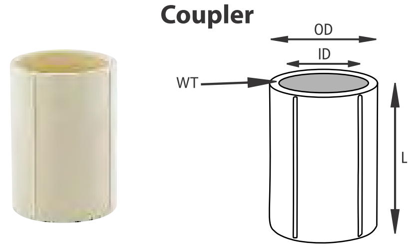



Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	33.3	45.0
20	¾	22.45	27.63	2.59	17.78	45.0	62.0
25	1	28.83	33.56	2.59	22.86	57.0	79.0
32	1¼	35.20	41.56	3.18	27.94	68.2	94.0
40	1½	41.66	49.18	3.76	33.02	80.0	110.0
50	2	54.38	64.18	4.90	43.18	105.0	142.0
65	2½	73.38	87.40	7.01	44.45	133.0	172.0
80	3	89.31	104.55	7.62	47.63	154.0	196.0
100	4	114.76	131.92	8.58	57.15	187.0	239.0

ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

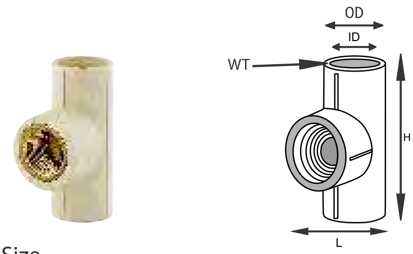
CPVC Piping System

Coupler



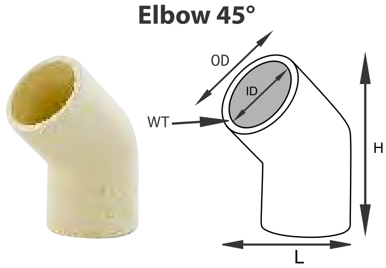
Size (mm)	Size (inch)	ID	OD	WT	SL	H
15	½	16.08	21.26	2.59	12.70	29.0
20	¾	22.45	27.63	2.59	17.78	40.0
25	1	28.83	33.56	2.59	22.86	47.5
32	1¼	35.20	41.56	3.18	27.94	62.0
40	1½	41.66	49.18	3.76	33.02	71.0
50	2	54.38	64.18	4.90	43.18	90.5
65	2½	73.38	87.4	7.01	44.45	96
80	3	89.31	104.55	7.62	47.63	103
100	4	114.76	131.92	8.58	57.15	120

Brass Tee



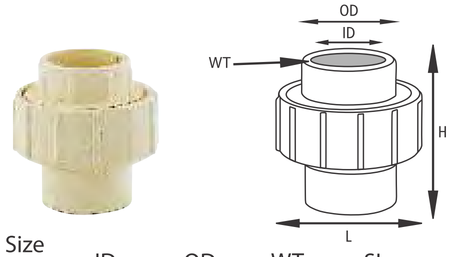
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15x15x15	½ x ½ x ½	16.08	21.26	2.59	12.70	38.0	52.0
20x15x20	¾ x ½ x ¾	22.45	27.63	2.59	17.78	42.0	68.0
25x15x25	1 x ½ x 1	28.83	33.56	2.59	22.86	50.0	79.0
25x20x25	1 x ¾ x 1	28.83	33.56	2.59	22.86	56.0	77.0
25x25x25	1 x 1 x 1	28.83	33.56	2.59	22.86	56.0	79.0

Elbow 45°



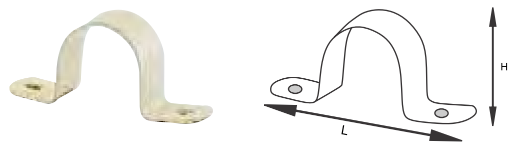
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20	¾	22.45	27.63	2.59	17.78	42.0	58.0
25	1	28.83	33.56	2.59	22.86	53.0	69.0
32	1¼	35.20	41.56	3.18	27.94	61.0	84.0
40	1½	41.66	49.18	3.76	33.02	72.0	99.0
50	2	54.38	64.18	4.90	43.18	91.0	127.0

Union



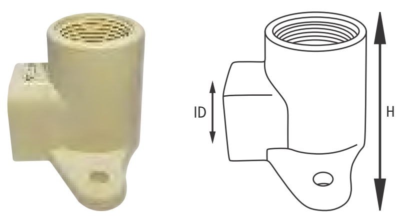
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	39.0	37.0
20	¾	22.45	27.63	2.59	17.78	45.0	45.0
25	1	28.83	33.56	2.59	22.86	55.0	57.0
32	1¼	35.20	41.56	3.18	27.94	64.0	63.5
40	1½	41.66	49.18	3.76	33.02	73.0	79.0
50	2	54.38	64.18	4.90	43.18	95.0	99.0
65	2½	73.38	87.4	7.01	44.45	125.0	100.0

Pipe Clip - Metal



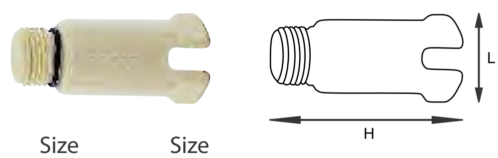
Size (mm)	Size (inch)	WT	L	H
15	½	1.00	60.0	21.0
20	¾	1.20	65.0	25.0
25	1	1.20	74.0	30.0
32	1¼	1.20	88.0	37.0
40	1½	1.20	109.0	45.0
50	2	1.20	113.0	59.0

Wall Mounted Female Elbow



Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x20	¾x¾	22.45	27.63	2.59	17.78	48.0	75.0

End Plug

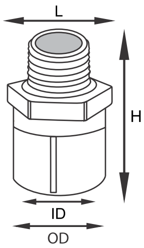


Size (mm)	Size (inch)	L	H
15	½	27.0	66.0

ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

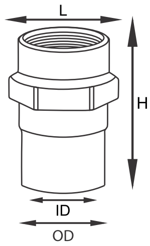
CPVC Piping System

Male Adapter Brass Threaded - MABT



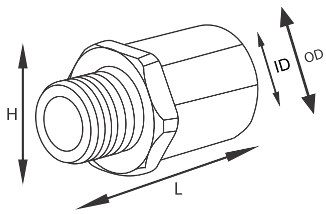
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	30.0	47.0
20	¾	22.45	27.63	2.59	17.78	31.0	54.0
25	1	28.83	33.56	2.59	22.86	38.0	71.0
32	1¼	35.20	41.56	3.18	27.94	50.0	81.0
40	1½	41.66	49.18	3.76	33.02	57.0	88.0
50	2	54.38	64.18	4.90	43.18	70.0	104.0
65	2½	73.38	87.4	7.01	44.45	94.0	111.0

Female Adapter Brass Threaded - FABT



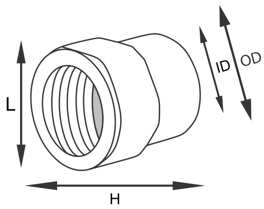
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	27.0	43.0
20	¾	22.45	27.63	2.59	17.78	32.0	50.0
25	1	28.83	33.56	2.59	22.86	40.0	64.0
32	1¼	35.20	41.56	3.18	27.94	50.0	78.0
40	1½	41.66	49.18	3.76	33.02	57.0	83.0
50	2	54.38	64.18	4.90	43.18	70.0	97.0
65	2½	73.38	87.4	7.01	44.45	94.0	100.0

Reducing Male Adapter Brass Threaded - RMABT



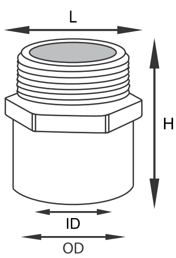
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H	Thread (inch)
20x15	¾ x ½	22.45	27.63	2.59	17.78	53	31	½
25x15	1 x ½	28.83	33.56	2.59	22.86	53	38	½
25x20	1 x ¾	28.83	33.56	2.59	22.86	62	38	¾

Reducing Female Adapter Brass Threaded - RFABT



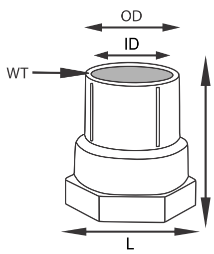
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H	Thread (inch)
20x15	¾ x ½	22.45	27.63	2.59	17.78	33.0	38.0	½
25x15	1 x ½	28.83	33.56	2.59	22.86	98.0	43.0	½
25x20	1 x ¾	28.83	33.56	2.59	22.86	40.0	58.0	¾

Male Adapter Plastic Threaded - MAPT



Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	32.0	22.5
20	¾	22.45	27.63	2.59	17.78	42.0	28.0
25	1	28.83	33.56	2.59	22.86	48.0	35.0
32	1¼	35.20	41.56	3.18	27.94	55.0	42.0
40	1½	41.66	49.18	3.76	33.02	62.0	51.0
50	2	54.38	64.18	4.90	43.18	75.0	65.0

Female Adapter Plastic Threaded - FAPT

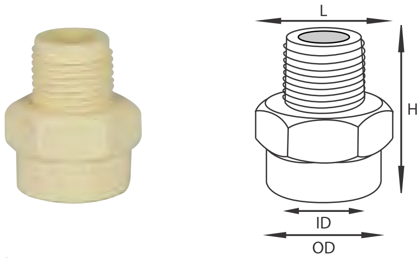


Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
15	½	16.08	21.26	2.59	12.70	27.0	35.0
20	¾	22.45	27.63	2.59	17.78	32.0	42.0
25	1	28.83	33.56	2.59	22.86	45.0	48.0
32	1¼	35.20	41.56	3.18	27.94	60.0	51.0
40	1½	41.66	49.18	3.76	33.02	58.0	67.0
50	2	54.38	64.18	4.90	43.18	71.0	81.0

ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

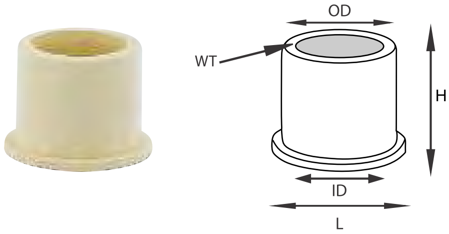
CPVC Piping System

Reducing Male Adapter Plastic Thread - MAPT



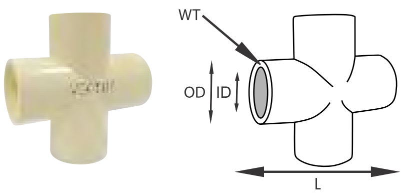
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	38.0	33.0

Bushing



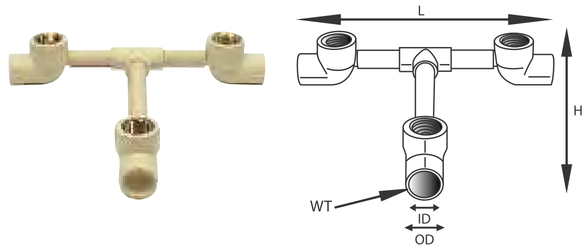
Size (mm)	Size (inch)	OD	ID	SL	L	H
20x15	¾ x ½	22.45	16.08	12.70	27.0	21.1
25x15	1 x ½	28.83	16.08	12.70	35.0	26.0
25x20	1 x ¾	28.83	22.45	17.78	35.0	27.0
32x15	1¼ x ½	35.20	16.08	12.70	41.0	32.0
32x20	1¼ x ¾	35.20	22.45	17.78	42.0	32.0
32x25	1¼ x 1	35.20	28.83	22.86	42.0	31.0
40x15	1½ x ½	41.66	16.08	12.70	49.0	36.0
40x20	1½ x ¾	41.66	22.45	17.78	49.0	36.0
40x25	1½ x 1	41.66	28.83	22.86	49.0	35.0
40x32	1½ x 1¼	41.66	35.20	27.94	49.0	36.0
50x15	2 x ½	54.38	16.08	12.70	65.0	46.0
50x20	2 x ¾	54.38	22.45	17.78	64.0	46.0
50x25	2 X 1	54.38	28.83	22.86	65.0	46.0
50x32	2 X 1¼	54.38	35.20	27.94	65.0	46.0
50x40	2 X 1½	54.38	41.66	33.02	65.0	46.0
65x50	2½ x 2	73.38	54.38	43.18	80.00	53.0
80x50	3 x 2	89.31	54.38	43.18	98.00	56.0
100x50	4 x 2	114.76	54.38	43.18	123.00	66.0

Cross Tee



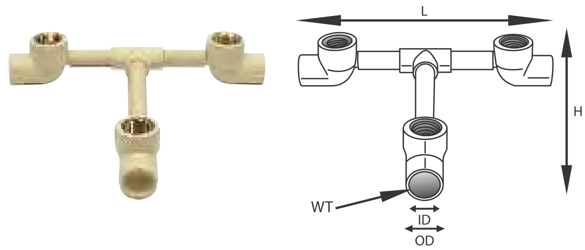
Size (mm)	Size (inch)	ID	OD	WT	SL	L
15	½	16.08	21.26	2.59	12.7	44.0
20	¾	22.45	27.63	2.59	17.78	61.5
25	1	28.83	33.56	2.59	22.86	80.0

Wall Mixer - Top and Side (6")



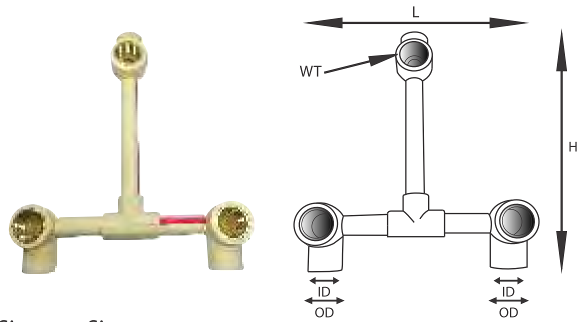
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	190	43.0
25x15	1 x ½	28.83	33.56	2.59	22.86	200	53.0

Wall Mixer - Top and Side (7")



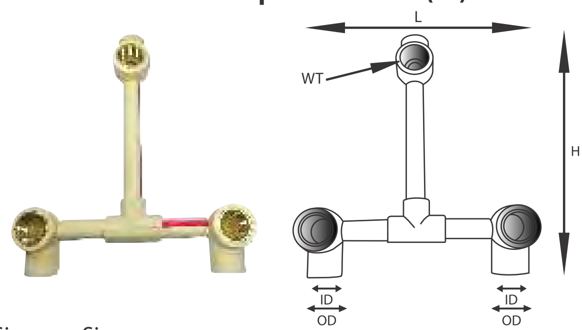
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	205	43.0
25x15	1 x ½	28.83	33.56	2.59	22.86	210	53.0

Wall Mixer - Top and Bottom (6")



Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	220	43.0
25x15	1 x ½	28.83	33.56	2.59	22.86	230	53.0

Wall Mixer - Top and Bottom (7")

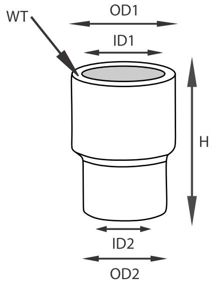


Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	235	43.0
25x15	1 x ½	28.83	33.56	2.59	22.86	235	53.0

ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

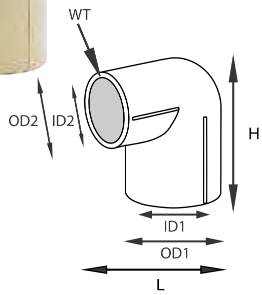
CPVC Piping System

Reducer Coupler

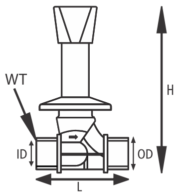
Size (mm)	Size (inch)	ID-1	OD-1	WT-1	SL-1	ID-2	OD-2	WT-2	SL-2	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	16.08	21.26	2.59	12.70	34.0
25x15	1 x ½	28.83	33.56	2.59	22.86	16.08	21.26	2.59	12.07	53.0
25x20	1 x ¾	28.83	33.56	2.59	22.86	22.45	27.63	2.59	17.78	45.0
32x20	1¼ x ¾	35.20	41.56	3.18	27.94	22.45	27.63	2.59	17.78	51.0
32x25	1¼ x 1	35.2	41.56	3.18	27.94	28.83	33.56	2.59	22.86	54.0
40x20	1½ x ¾	41.66	49.18	3.76	33.02	22.45	27.63	2.59	17.78	55.0
40x25	1½ x 1	41.66	49.18	3.76	33.02	28.83	33.56	2.59	22.86	59.0
40x32	1½ x 1¼	41.66	49.18	3.76	33.02	35.2	41.56	3.18	27.94	64.0
50x32	2 x 1¼	54.38	64.18	4.9	43.18	35.2	41.56	3.18	27.94	74.0
50x40	2 x 1½	54.38	64.18	4.9	43.18	41.66	49.18	3.76	33.02	79.0
65x50	2½ x 2	73.38	87.4	7.01	44.45	54.38	64.18	4.9	43.18	103.0
80x50	3 x 2	89.31	104.55	7.62	47.63	54.38	64.18	4.9	43.18	110.0
100x50	4 x 2	114.76	131.92	8.58	57.15	54.38	64.18	4.9	43.18	128.0

Reducer Elbow

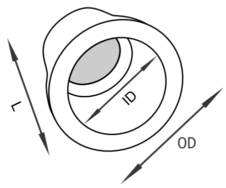
Size (mm)	Size (inch)	ID-1	OD-1	WT-1	SL-1	ID-2	OD-2	WT-2	SL-2	L	H
20x15	¾ x ½	22.45	27.63	2.59	17.78	16.08	21.26	2.59	12.70	45.0	50.0
25x15	1 x ½	28.83	33.56	2.59	22.86	16.08	21.26	2.59	17.78	62.0	58.0
25x20	1 x ¾	28.83	33.56	2.59	22.86	22.45	27.63	2.59	17.78	49.0	50.0
32x20	1¼ x ¾	35.2	41.56	3.18	27.94	22.45	27.63	2.59	17.78	69.0	72.0
40x25	1½ x 1	41.66	49.18	3.76	33.02	28.83	33.56	2.59	22.86	80.0	81.0
40x32	1½ x 1¼	41.66	49.18	3.76	33.02	35.2	41.56	3.18	27.94	80.0	83.0
65x50	2 ½ x 2	73.38	87.4	7.01	44.45	54.38	64.18	4.9	43.18	138.0	130.0
80x50	3 x 2	89.31	104.55	7.62	47.63	54.38	64.18	4.9	43.18	153.0	161.0
100x50	4 x 2	114.76	131.92	8.58	57.15	54.38	64.18	4.9	43.18	188.0	196.0

Concealed Valve (Qtr. Turn & Full Turn)

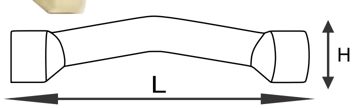
Size (mm)	Size (inch)	ID	OD	SL	H
20 (QT.)	¾	22.45	27.6	21.0	135.0
20 (FT.)	¾	22.45	27.6	21.0	131.0

Transition Bush

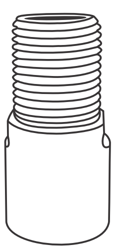
Size (mm)	Size (inch)	ID	OD	WT	SL	L	H
20x20	¾x¾	22.45	27.63	2.59	17.78	32.0	28.0
25x25	1x1	28.83	33.56	2.59	22.86	40.0	32.0

Step Over Bend

Size (mm)	Size (inch)	ID	L	H
15	½	16.08	152.0	39.0
20	¾	22.45	191.0	50.0
25	1	28.83	231.0	60.0

Metal Extension Nipple

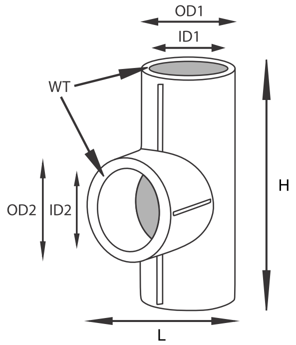
Size (mm)	Size (inch)	Finish	Wt/Pc (Gms) +/- 5%
25	1	Chrome Plating	40
40	1½	Chrome Plating	60
50	2	Chrome Plating	80
65	2½	Chrome Plating	100
80	3	Chrome Plating	120
100	4	Chrome Plating	140

1/2" BSP Male thread at one end & 1/2" BSP Femal threads at other end for connections and fitting. Length of Metal Extension is specified by overall length with thread.

ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

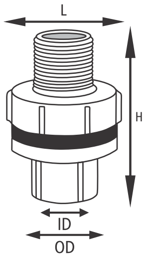
CPVC Piping System

Reducer Tee



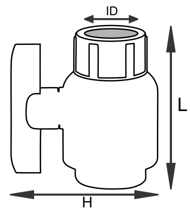
Size (mm)	Size (inch)	ID-1	OD-1	WT-1	SL-1	ID-2	OD-2	WT-2	SL-2	ID-3	OD-3	WT-3	SL-3	L	H
15x20x15	½ x ¾ x ½	16.08	21.26	2.59	12.7	22.45	27.63	2.59	17.78	16.08	21.26	2.59	12.7	45	68
20x20x15	¾ x ¾ x ½	22.45	27.63	2.59	17.78	22.45	27.63	2.59	17.78	16.08	21.26	2.59	12.7	45	68
20x15x20	¾ x ½ x ¾	22.45	27.63	2.59	17.78	16.08	21.26	2.59	12.7	22.45	27.63	2.59	17.78	48	62
25x15x25	1 x ½ x 1	28.83	33.56	2.59	22.86	16.08	21.26	2.59	12.7	28.83	33.56	2.59	22.86	60	79
25x20x25	1 x ¾ x 1	28.83	33.56	2.59	22.86	22.45	27.63	2.59	17.78	28.83	33.56	2.59	22.86	60	79
32x15x32	1¼ x ½ x 1¼	35.2	41.56	3.18	27.94	16.08	21.26	2.59	12.7	35.2	41.56	3.18	27.94	72	94
32x20x32	1¼ x ¾ x 1¼	35.2	41.56	3.18	27.94	22.45	27.63	2.59	17.78	35.2	41.56	3.18	27.94	72	94
32x25x32	1¼ x 1 x 1¼	35.2	41.56	3.18	27.94	28.83	33.56	2.59	22.86	35.2	41.56	3.18	27.94	72	94
40x15x40	1½ x ½ x 1½	41.66	49.18	3.76	33.02	16.08	21.26	2.59	12.7	41.66	49.18	3.76	33.02	84	110
40x20x40	1½ x ¾ x 1½	41.66	49.18	3.76	33.02	22.45	27.63	2.59	17.78	41.66	49.18	3.76	33.02	84	110
40x25x40	1½ x1 x 1½	41.66	49.18	3.76	33.02	28.83	33.56	2.59	22.86	41.66	49.18	3.76	33.02	84	110
40x32x40	1½ x 1¼ x 1½	41.66	49.18	3.76	33.02	35.2	41.56	3.18	27.94	41.66	49.18	3.76	33.02	84	110
50x15x50	2 x ½ x 2	54.38	64.18	4.9	43.18	16.08	21.26	2.59	12.7	54.38	64.18	4.9	43.18	109	142
50x20x50	2 x ¾ x 2	54.38	64.18	4.9	43.18	22.45	27.63	2.59	17.78	54.38	64.18	4.9	43.18	109	142
50x25x50	2 x 1 x 2	54.38	64.18	4.9	43.18	28.83	33.56	2.59	22.86	54.38	64.18	4.9	43.18	109	142
50x32x50	2 x 1¼ x 2	54.38	64.18	4.9	43.18	35.2	41.56	3.18	27.94	54.38	64.18	4.9	43.18	109	142
50x40x50	2 x 1½ x 2	54.38	64.18	4.9	43.18	41.66	49.18	3.76	33.02	54.38	64.18	4.9	43.18	109	142
*65x50x65	2 ½ x 2 x 2 ½	73.38	87.4	7.01	44.45	54.38	64.18	4.9	43.18	73.38	87.4	7.01	44.45	173.0	139.0
*80x50x80	3 x 2 x 3	89.31	104.55	7.62	47.63	54.38	64.18	4.9	43.18	89.31	104.55	7.62	47.63	198.0	158.0
*100x50x100	4 x 2 x 4	114.76	131.92	8.58	57.15	54.38	64.18	4.9	43.18	114.76	131.92	8.58	57.15	239.0	193.0

Tank Connection



Size (mm)	Size (inch)	ID	OD	SL	L	H
20	¾	22.45	27.63	17.78	48.0	75.0
25	1	28.83	33.56	22.86	54.0	80.0
32	1¼	35.20	41.56	27.94	65.0	86.0
40	1½	41.66	49.18	33.02	70.0	98.0
50	2	54.38	64.18	43.18	83.0	104.0

Ball Valve

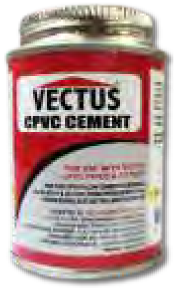


Size (mm)	Size (inch)	ID	SL	L	H
15	½	16.08	12.70	62.0	59.0
20	¾	22.45	17.78	71.0	78.0
25	1	28.83	22.86	89.0	87.0
32	1¼	35.20	27.94	102.0	106.0
40	1½	41.66	33.02	120.0	124.0
50	2	54.38	43.18	133.0	152.0

ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

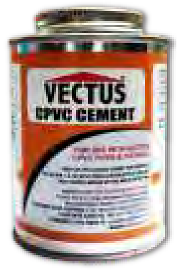
CPVC Piping System

CPVC Solvent Cement



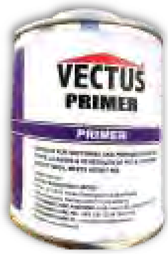
Size (Oz)	Size (ml)	Tin/Tube
1 Oz	29.5	Tube
2 Oz	59	Tube
4 Oz	118	Tin
8 Oz	237	Tin
16 Oz	473	Tin

CPVC Cement (Heavy Duty)



Size (Oz)	Size (ml)	Tin/Tube
8	237	Tin
16	473	Tin

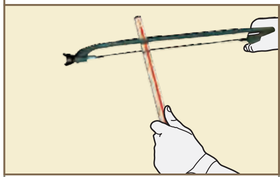
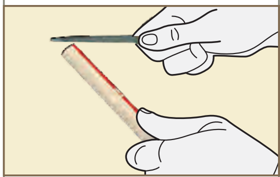
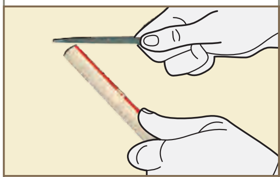
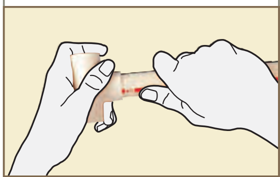
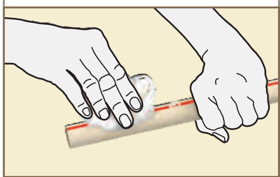
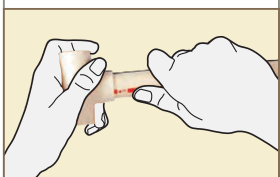
CPVC Primer



Size (ml)	Tin/Tube
473	Tin

Note: All metals inserts and plastic threads are BSP standard threads.
ID Internal Diameter • **SL** Socket length • **OD** Outer Diameter • **L** Length • **WT** Wall Thickness • **H** Height

CPVC Piping System

	DO'S	DONT'S
	**CUTTING** It is imperative to mark the pipe from all sides so that pipe is cut with the help of a hand saw. It should be a right angle cut from all the sides. The cut piece should not be with burr or edge.	**CUTTING** Do not cut slant/unevenly.
	**CHAMFERING** After cutting, the pipe needs to be chamfered from the outer sides. It is advisable to provide approximately 2mm wide, slight chamfer on spigot end.	**CHAMFERING** Do not proceed with installation of pipe without chamfering.
	**DEBURRING AND RIDGE REMOVAL** Remove all the burrs and ridges accumulated on the inner as well as the outer edges of the pipe with the help of a deburring knife, file or abrasive paper.	**DEBURRING AND RIDGE REMOVAL** Do not proceed with installation of pipe without deburring.
	**DRYFIT TEST** Before applying solvent cement, insert the pipe end into the socket of the next pipe or fitting to check that interference occurs at about 1/3 to 2/3 of the socket depth.	**DRYFIT TEST** Do not apply solvent cement without dryfit test.
	**CLEANING** Thoroughly clean the pipe with dry cloth where the solvent cement is going to be applied to avoid dust, dirt, oil, moisture and other foreign material during the installation process.	**CLEANING** Do not join the pipes without cleaning the pipe ends.
	**APPLICATION OF SOLVENT CEMENT** Mark the pipe length to be inserted for jointing. Apply a liberal coat of solvent cement with the help of the brush on the marked surface.	**APPLICATION OF SOLVENT CEMENT** Do not apply excess solvent cement on the pipe and do not use solvent cement by hand.
	**JOINTING** Push the pipe inside the fitting/pipe so that it goes inside equally from all the sides. Wipe off excess solvent cement that comes out of the edges. Hold the joint for one to two minutes so that the jointing is perfect. **FOR THREADED JOINTS** • Clean the Male & Female threads. • Apply Teflon tape in the direction of thread tightening. • Hand-tighten the threads firmly. • Tighten the joint more by using pipe wrench. Do not over tighten. Userubber packing to avoid scratches on pipe	**JOINTING** Do not use a hammer or half push the pipes. **FOR THREADED JOINTS** Don't over tighten with pipe wrench

INSTALLATION AND COMMISSIONING

- Pipe line should be installed in proper alignment & along with necessary clamps.
- Pressure testing to be done before concealing work.
- Pressure testing may be carried out after a curing period of 24 hrs and should not be done before that.

uPVC
PIPING SYSTEM

What is uPVC?

Vectus uPVC (Unplasticized Polyvinyl Chloride) pipes and fittings are specifically designed for cold water operations in residential buildings and offices. These pipes are non-toxic and lead free which makes them safe for carrying potable water. The jointing process is accomplished quickly and easily using inexpensive tools. Hence, reducing labor and installation cost to a great extent. Vectus uPVC pipes are available in SCH 40 & SCH 80 and are manufactured as per ASTM D 1785, fittings are manufactured as per ASTM D 2467.

Features

Lightweight | Non Toxic | UV Resistant | Maintenance Free | Self -Extinguishing | Lead Free

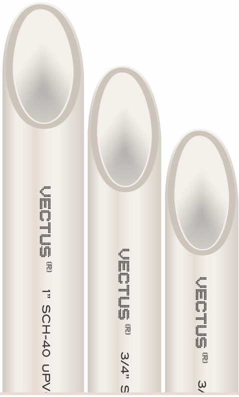
Applications

Cold Water Applications | Offices | Residential Purposes | Carrying Drinking Water | Swimming Pool

Standard

D 1785 | D 2467

uPVC Piping System



PIPES as per ASTM D 1785

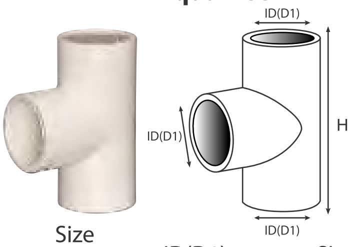
SCH 40: Available in lengths of 3 & 6 meters

Size mm (inches): 15 (½"), 20 (¾"), 25 (1"), 32 (1¼"), 40 (1½") 50 (2"), 65 (2½"), 80 (3"), 100 (4") **Plain Pipe**

SCH 80: Available in lengths of 3 & 6 meters

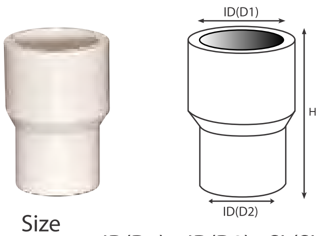
Size mm (inches): 15 (½"), 20 (¾"), 25 (1"), 32 (1¼"), 40 (1½") 50 (2"), 65 (2½"), 80 (3"), 100 (4") **Plain Pipe** & 15 (½"), 20 (¾"), 25 (1"), 32 (1¼"), 40 (1½"), 50 (2") **Threaded Pipe.**

Equal Tee



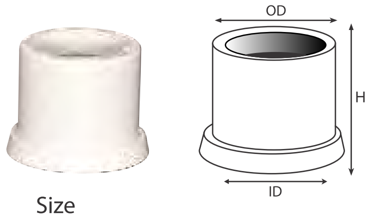
Size (mm)	Size (inch)	ID(D1)	SL	H
15	½	21.4	22.25	69
20	¾	26.7	25.40	79
25	1	33.45	28.60	91.5
32	1¼	42.23	31.75	113.5
40	1½	48.32	34.95	130
50	2	60.66	38.10	147.5
65	2½	73.12	44.45	173
80	3	89	47.65	198
100	4	114.42	57.15	238

Reducer Coupler



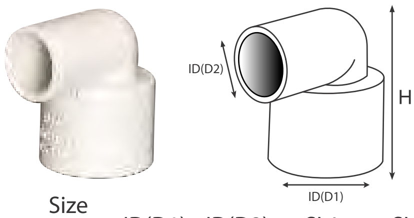
Size (mm)	Size (inch)	ID(D1)	ID(D2)	SL(SL1)	SL(SL2)	H
20 x 15	¾ x ½	26.7	21.4	25.40	22.25	57
25 x 15	1 x ½	33.45	21.4	28.60	22.25	62
25 x 20	1 x ¾	33.45	26.7	28.60	25.40	65
32 x 15	1¼ x ½	42.23	21.4	31.75	22.25	62.5
32 x 20	1¼x ¾	42.23	26.7	31.75	25.40	64
32 x 25	1¼x 1	42.23	33.45	31.75	28.60	68
40 x 20	1½ x ¾	48.32	26.7	34.95	25.40	70
40 x 25	1½ x 1	48.32	33.45	34.95	28.60	74
40 x 32	1½x1¼	48.32	42.23	34.95	31.75	77
50 x 15	2 x ½	60.66	21.4	38.10	22.25	72.5
50 x 20	2 x ¾	60.66	26.7	38.10	25.40	75
50 x 32	2 x 1¼	60.66	42.23	38.10	31.75	80

Reducing Bush



Size (mm)	Size (inch)	OD	ID	SL	H
20 x 15	¾ x ½	26.7	21.4	22.25	28
25 x15	1 x ½	33.45	21.4	22.25	31.5
25 x20	1 x ¾	33.45	26.7	25.40	32
32 x 20	1¼ x ¾	42.23	26.7	25.40	32
32 x 15	1¼ x ½	42.23	21.4	22.25	32
32 x 25	1¼ x 1	42.23	33.45	28.60	36.5
40 x 15	1½ x ½	48.32	21.4	22.25	35
40 x 20	1½ x ¾	48.32	26.7	25.40	35
40 x 25	1½ x 1	48.32	33.45	28.60	40.5
40 x 32	1½ x 1¼	48.32	42.23	31.75	40.5
50 x 15	2 x ½	60.66	21.4	22.25	48
50 x 25	2 x 1	60.66	33.45	28.60	48
50 x40	2x1½	60.66	48.32	34.95	48
65 x50	2½x2	73.12	60.66	38.10	52.5
80 x 50	3x2	89.00	60.66	38.10	55.75
100 x 50	4x2	114.42	60.66	38.10	67

Reducer Elbow

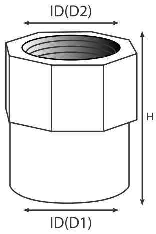


Size (mm)	Size (inch)	ID(D1)	ID(D2)	SL1	SL2	H
25 x 15	1 x ½	33.45	21.4	28.60	22.25	56.5

ID Internal Diameter • **OD** Outer Diameter • **SL** Socket length • **H** Height

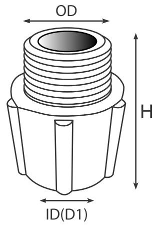
uPVC Piping System

Female Adapter Brass Threaded - FABT

Size (mm)	Size (inch)	ID(D1)	ID(D2)	SL	H
15 x 15	½ x ½	21.4	½"	22.25	43.5
20 x 15	¾ x ½	26.7	½"	25.40	47
20 x 20	¾ x ¾	26.7	¾"	25.40	47
25 x 15	1 x ½	33.45	½"	28.60	53
25 x 20	1 x ¾	33.45	¾"	28.60	57.5
25 x 25	1 x 1	33.45	1"	28.60	52.5
32 x 32	1¼ x 1¼	42.23	1¼"	31.75	64.5
40 x 40	1½ x 1½	48.32	1½"	34.95	68
50 x 50	2 x 2	60.66	2"	38.10	79

Male Adapter Brass Threaded- MABT

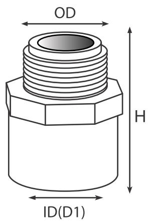



Size (mm)	Size (inch)	ID(D1)	OD	SL	H
15 x 15	½ x ½	21.4	½"	22.25	51.5
20 x 15	¾ x ½	26.7	½"	22.25	59
20 x 20	¾ x ¾	26.7	¾"	25.40	50.5
25 x 15	1 x ½	33.45	½"	22.25	73.5
25 x 20	1 x ¾	33.45	¾"	25.40	74.5
25 x 25	1 x 1	33.45	1"	28.60	55.5
32 x 32	1¼ x 1¼	42.23	1¼"	31.75	86.5
40 x 40	1½ x 1½	48.32	1½"	34.95	90.5
50 x 50	2 x 2	60.66	2"	38.10	91

Female Adapter Plastic Threaded- FAPT

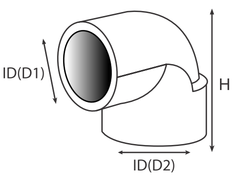

Size (mm)	Size (inch)	ID(D1)	ID(D2)	SL	H
15	½	21.4	½"	22.25	40.5
20	¾	26.7	¾"	25.40	44.5
25	1	33.45	1"	28.60	53.5
32	1¼	42.23	1¼"	31.75	63
40	1½	48.32	1½"	34.95	68.5
50	2	60.66	2"	38.10	69

Male Adapter Plastic Threaded- MAPT

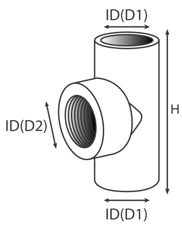
Size (mm)	Size (inch)	ID(D1)	OD	SL	H
15	½	21.4	½"	22.25	41.5
20	¾	26.7	¾"	25.40	45
25	1	33.45	1"	28.60	54.5
32	1¼	42.23	1¼"	31.75	62
40	1½	48.32	1½"	34.95	64
50	2	60.66	2"	38.10	65

Female Elbow Brass Threaded-FEBT

Size (mm)	Size (inch)	ID(D1)	ID(D2)	SL	H
15 x 15	½ x ½	21.4	½"	22.25	52.5
20 x 15	¾ x ½	26.7	½"	25.40	58.5
25 x 15	1 x ½	33.45	½"	28.60	63.5
25 x 20	1 x ¾	33.45	¾"	28.60	68.5
25 x 25	1 x 1	33.45	1"	28.60	63.5

Brass Tee

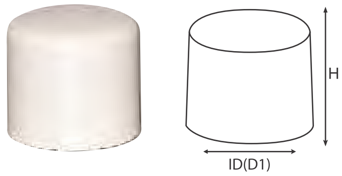



Size (mm)	Size (inch)	ID(D1)	ID(D2)	SL	H
15 x 15	½ x ½	21.4	½"	22.25	76.5
20x 15	¾ x ½	26.7	½"	25.40	79.5
25 x 15	1 x ½	33.45	½"	28.60	84
25 x 20	1 x ¾	33.45	¾"	28.60	79.5
25 x 25	1 x 1	33.45	1"	28.60	79.5

ID Internal Diameter • **OD** Outer Diameter • **SL** Socket length • **H** Height

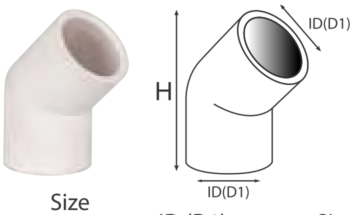
uPVC Piping System

End Cap



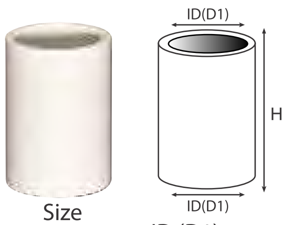
Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.4	22.25	26
20	¾	26.7	25.40	33.5
25	1	33.45	28.60	38.5
32	1¼	42.23	31.75	44.5
40	1½	48.32	34.95	45.5
50	2	60.66	38.10	51
65	2½	73.12	44.45	65
80	3	89	47.65	70
100	4	114.42	57.15	86

Elbow 45°



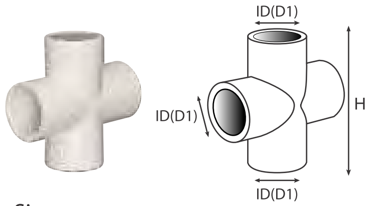
Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.4	22.25	59
20	¾	26.7	25.4	69
25	1	33.45	28.6	84
32	1¼	42.23	31.75	90
40	1½	48.32	34.95	108

Coupler



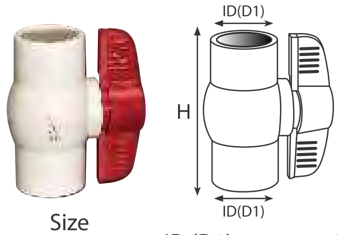
Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.4	22.25	47
20	¾	26.7	25.4	54
25	1	33.45	28.6	60.5
32	1¼	42.23	31.75	68.5
40	1½	48.32	34.95	74
50	2	60.4	38.1	79
65	2½	73.12	44.45	95
80	3	89	47.65	101
100	4	114.42	57.15	120

Cross Tee



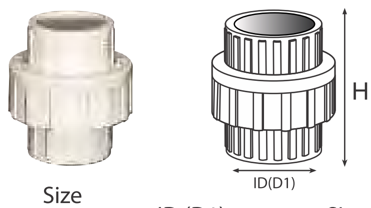
Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.4	22.25	84
20	¾	26.7	25.4	95
25	1	33.45	28.6	108

Ball Valve



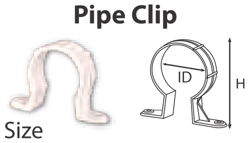
Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.40	22.25	53
20	¾	26.70	25.40	83
25	1	33.45	28.60	99
32	1¼	42.23	31.75	109
40	1½	48.32	34.95	129
50	2	60.40	38.10	148

Union



Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.4	22.25	54
20	¾	26.7	25.40	60.5
25	1	33.45	28.60	70
32	1¼	42.23	31.75	75.5
40	1½	48.32	34.95	75
50	2	60.4	38.10	90.5

Pipe Clip

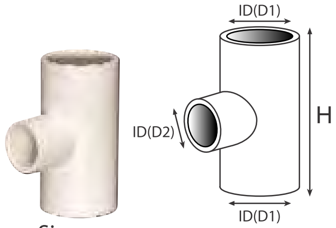


Size (mm)	Size (inch)	ID	H
15	½	21.4	28.5
20	¾	26.7	35.5
25	1	33.45	42

ID Internal Diameter • **OD** Outer Diameter • **SL** Socket length • **H** Height

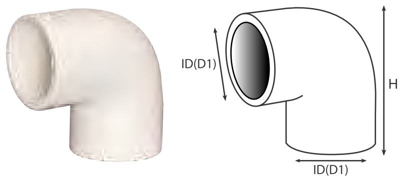
uPVC Piping System

Reducer Tee



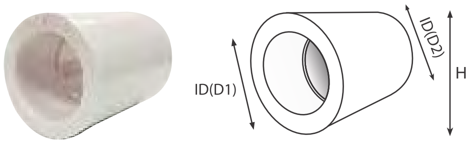
Size (mm)	Size (inch)	ID (D1)	ID (D2)	SL1	SL2	H
20 X 15	¾ x ½	26.7	21.4	25.40	22.25	80
25 X 15	1 x ½	33.7	21.4	28.60	22.25	88.5
25 X 20	1 x ¾	33.45	26.7	28.60	25.40	93.5
32 X 15	1¼ x ½	42.23	21.4	31.75	22.25	93.5
32 X 25	1¼x 1	42.23	33.45	31.75	28.60	105.5
40 X 15	1½ x ½	48.32	21.4	34.95	22.25	98.5
40 X 25	1½ x 1	48.32	33.45	34.95	28.60	112.5
40 X 32	1½ x 1¼	48.32	42.23	34.95	31.75	120
50 X 15	2 x ½	60.66	21.4	38.10	22.25	103
50 X 20	2 x ¾	60.66	26.7	38.10	25.40	108
50 X 25	2 x 1	60.66	33.45	38.10	28.60	115
50 X 32	2 x 1¼	60.66	42.23	38.10	31.75	124
50 X 40	2 x 1½	60.66	48.32	38.10	34.95	135

Elbow 90°



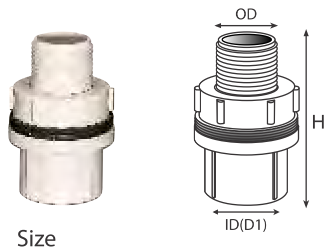
Size (mm)	Size (inch)	ID (D1)	SL	H
15	½	21.4	22.25	48
20	¾	26.7	25.40	58.5
25	1	33.45	28.60	66
32	1¼	42.23	31.75	80
40	1½	48.32	34.95	92.5
50	2	60.66	38.10	110.64
65	2½	73.12	44.45	132
80	3	89	47.65	152
100	4	114.42	57.15	188

Transition Bush



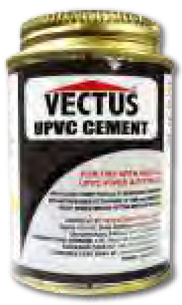
Size (mm)	Size (inch)	ID (D1)	ID(D2)	SL-1	SL-2	H
15 x 15	½(ASTM) X ½(CPVC)	21.42	15.92	15.92	15.92	39
20 x 20	¾(ASTM) X ¾(CPVC)	26.84	22.28	22.28	22.28	49.5
25 x 25	1(ASTM) X 1(CPVC)	33.58	28.67	28.67	28.67	55.5

Tank Connection



Size (mm)	Size (inch)	ID (D1)	OD	SL	H
20	¾	26.7	¾″	27.25	78.5
25	1	33.45	1″	30.40	82
32	1¼	42.23	1¼″	34.00	85
40	1½	48.32	1½″	39.50	89.5

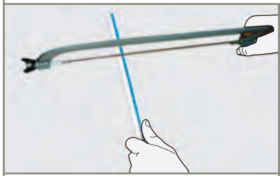
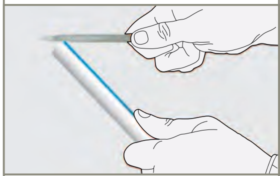
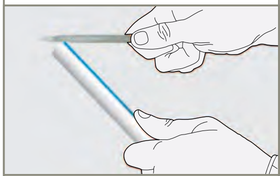
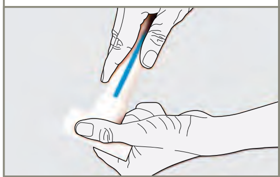
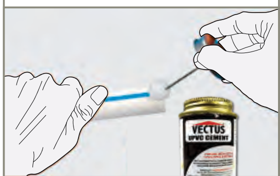
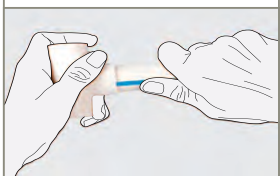
uPVC Solvent Cement



Qty (ml)	Tin/Tube
50 ml	Tin
100 ml	Tin
118 ml	Tin
237 ml	Tin
473 ml	Tin

Note: All metal inserts and plastic threads are BSP standard threads.
ID Internal Diameter • **OD** Outer Diameter • **SL** Socket length • **H** Height

uPVC Piping System

	DO'S	DONT'S
	**CUTTING** It is imperative to mark the pipe from all sides so that pipe is cut with the help of a Hand Saw. It should be a right angle cut from all the sides. The cut piece should not be with burr on edges.	**CUTTING** Do not cut slant/unevenly.
	**CHAMFERING** After cutting, the pipe needs to be chamfered from the outer sides. It is advisable to provide approximately 2mm wide, slight chamfer on spigot end will ease entry of the pipe into the socket of the fitting.	**CHAMFERING** Do not proceed with installation of pipe without chamfering.
	**DEBURRING AND RIDGE REMOVAL** Remove all the burrs and ridges accumulated on the inner as well as the outer edges of the pipe with the help of a deburring knife, file or abrasive paper.	**DEBURRING AND RIDGE REMOVAL** Do not proceed with installation of pipe without deburring.
	**DRYFIT TEST** Before applying solvent cement, insert the pipe end into the socket of the next pipe or fitting to check that interference occurs at about 1/3 to 2/3 of the socket depth.	**DRYFIT TEST** Do not apply solvent cement without dryfit test.
	**CLEANING** Thoroughly clean the pipe with dry cloth where the solvent cement is going to be applied to avoid dust, dirt, oil, moisture and other foreign material during the installation process.	**CLEANING** Do not join the pipes without cleaning the pipe ends.
	**APPLICATION OF SOLVENT CEMENT** Mark the pipe length to be inserted for jointing. Apply a liberal coat of solvent cement with the help of the brush on the marked surface.	**APPLICATION OF SOLVENT CEMENT** Do not apply excess solvent cement on the pipe and do not use solvent cement by hand.
	**JOINTING** Push the pipe inside the fitting/pipe so that it goes inside equally from all the sides. Wipe off excess solvent cement that comes out of the edges. Hold the joint for one to two minutes so that the jointing is perfect. **FOR THREADED JOINTS** • Clean the Male & Female threads. • Apply Teflon tape in the direction of thread tightening. • Hand-tighten the threads firmly. • Tighten the joint more by using pipe wrench. Do not over tighten. Userubber packing to avoid scratches on pipe	**JOINTING** Do not use a hammer or half push the pipes. **FOR THREADED JOINTS** Don't over tighten with pipe wrench

INSTALLATION AND COMMISSIONING

- Pipe line should be installed in proper alignment & along with necessary clamps.
- Pressure testing to be done before concealing work.
- Pressure testing may be carried out after a curing period of 24 hrs and should not be done before that.

PPR
PIPING SYSTEM

What is PPR?

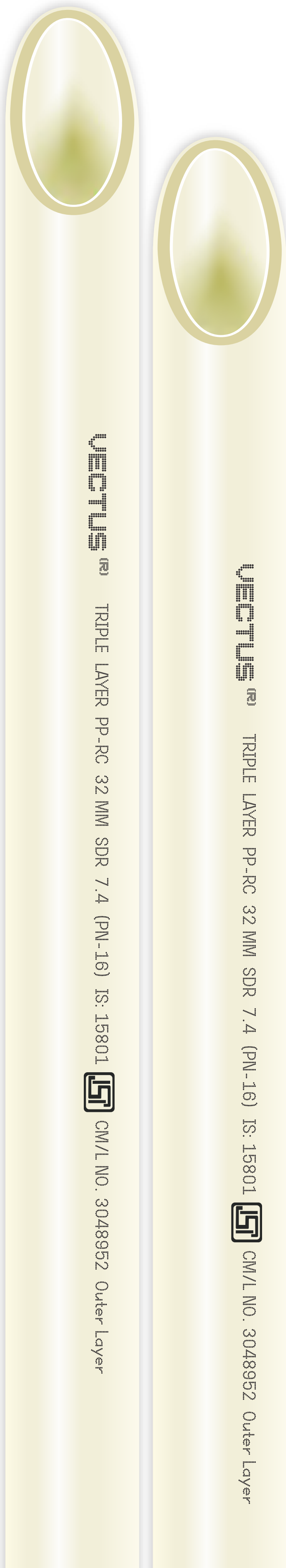
Vectus PPR pipes and fittings are manufactured using Polypropylene Random Copolymer (PP-RC), which is the most reliable polymer in the piping industry. The superior physical characteristics of PPR such as having a working temperature from -20° upto 95°C, along with excellent chemical resistance, providing a definite solution to oxidation and calcification; make Vectus PPR Piping Systems ideal primarily for chemical transportation, in pharmaceutical companies and for other industrial use, as well as, hot & cold water plumbing systems in buildings and industrial piping.

Due to the high level of strength and light weight, Vectus PPR Piping System prove to be the most trusted piping system to be employed in industrial applications and water supply (hot and cold).

The physio-chemical features of Polypropylene Random Copolymer and the type of welding carried out - fusion welding - ensures that the piping system maintains a perfect seal even under the most difficult conditions, which makes it suitable to be used for various other systems like air distribution, radiator heating, etc. Vectus PPR Piping System are physically superior, hygienically safe and non-carcinogenic.

The Pipes are manufactured as per IS 15801 and are available in PN 6, PN 10, PN 16 & PN 20.

- The available range of pipes and fittings varies from 16 mm to 160 mm.
- The pipes & fittings are available in 2 different colours:



Features

Can withstand up to 95°C | Low on Sound | Anti Bacterial | Economical | Low Thermal Expansion | Durable

Applications

Hot & Cold Plumbing | Transference of Drinking Water | Residential Purposes | Radiator | Transference of Corrosive & Chemical Fluid

Standard

15801

PPR Piping System

Advantages of PPR pipes

- Weight: Lightweight - Easy to handle, transport and install. Hence, saves labour cost.
- Corrosion Resistance: High Corrosion Resistance - No scaling; can withstand higher 'pH' values.
- Toxicity: Non Toxic - Safe for drinking water. No harmful effects on human beings & environment.
- Softening Temperature: High Vicat Softening Temperature - Ensures thermal stability for hot water applications.
- UV Resistance: High UV Resistance - The outer layer out of the three layer pipes, is UV resistant which makes them suitable for outdoor installations exposed to direct sunlight
- Thermal Insulation: Prevents the heat from escaping from the hot water used for household/industrial purpose.
- Chemical Resistance: Non-reactive to most of the chemicals & industrial liquids.
- Strength: Stiffer & stronger than the standards pipes. Suitable for use in seismic areas.
- Jointing Process: Doesn't require any use of solvent for jointing. The joints are welded together which results in a homogeneous plastic system that is leak proof.
- Noise Insulation: Minimum water hammer sound.
- Anti bacterial: Can be used underground because of anti - bacterial properties.
- Coefficient of Friction: Low pressure drops help reduce pumping cost.
- High Volume Resistivity: Poor conductor of electricity. No effect of stray currents.
- Linear Expansion: 75% less linear expansion than standard pipes.

Applications

- Piping systems for transportation of aggressive fluids in industries.
- Pharmaceuticals.
- Compressed air supply system.
- Transportation of drinking water and liquid food.
- Indoor as well as outdoor hot & cold water piping systems.
- Solar water heating systems.
- Heating system inside buildings; including floor, wall and radiator heating.

Areas of Installation

- Residential and commercial buildings.
- Public places such as cinema halls, airports, railway stations, bus stations, etc.
- Hospitals, schools & colleges and hotels.
- Swimming pools.
- Industries such as chemical plants, breweries, petroleum & gas plants, oil plants, mineral water plants, water treatment plants, etc.
- Solar water heating systems.

PPR Piping System

Advantages of PPR pipes

PROPERTY	COPPER	GALVANIZED IRON	VECTUS PPR
Type of Joint	Soldering	Threaded	**Fusion Socket Welding. For transition joints, fittings with threaded metal inserts are also available**
Installation	Time consuming & requires skill	Tedious & time consuming	**Easy to install, saves time & labour cost**
Corrosion Resistance	Non resistant	Non resistant	**Free from corrosion**
Chemical Resistance	Poor	Not resistant	**Excellent chemical resistance even at fairly high temperatures**
Scale Formation	Common	Very common	**No scaling**
Suitability in cold areas-sub-zero temperatures	Not suitable, pipe bursts	Not suitable, pipe bursts	**Most suitable due to typical elastic nature and good impact strength**
Insulation requirements	Essential	Essential	**Not required**
Impact strength	Less	Excellent	**High impact strength**
Life span under rated pressure & temperature	20 - 30 years	5 - 15 years	**Can exceed 50 years**
Reaction to fire	Resistant but de-shapes or punctures	Resistant	**Melts like all other plastics but no generation of any toxic gases**

PPR Piping System

Specifications and Properties

Technical Specifications

PROPERTY		TEST METHOD	UNITS	VALUE
Density at 27°C		IS 12235 (Part 14)	Kg/m3	**900 - 910**
Melt Flow Rate	at 230°C/2.16 Kg	IS 13360 (Part 4 / Sec 1)	Gm/10 min	**< 0.50**
	at 230°C/5 Kg	IS 13360 (Part 4 / Sec 1)	Gm/10 min	**< 0.80**
Viscosity		ISO 1191 • ISO 1628 T3		

Thermal Properties

PROPERTY	TEST METHOD	UNITS	VALUE
Thermal Conductivity	DIN 52612	W/m.k	0.24
Specific Heat at 23°C	Calorimeter	KJ/Kg.K	2.0
Coefficient of Linear Expansion	DIN 53752	mm/M°C	1.5 X 10-4
VICAT Softening Temperature	ISO 306	°C	132
Melting Temperature Range	ISO 3146	°C	140 - 150

Mechanical Properties

PROPERTY		TEST METHOD	UNITS	VALUE
Tensile Stress at Yield (50mm/minute)		ISO 527 - 1,2	Mpa	24
Tensile Strain at Yield (50mm/minute)		ISO 527 - 1,2	%	>50
Tensile Modulus (secant)		ISO 527 - 1,2	Mpa	850
Flexural Modulus		ASTM D 790	Mpa	850
Tear Strength		ISO 527	Mpa	40
Elongation at Tear		ISO 527	%	800
Shore D Hardness		DIN 53 505	-	65
Pipe Friction Factor		-	-	0.007
CHARPY Impact Strength	+23°C	ISO179/leU	KJ/m^2	22.0
	0°C	ISO179/leU	KJ/m^2	4.0
	-30°C	ISO179/leU	KJ/m^2	2.5

Admissible Operating Pressure

Temp.°C	Service Life in Years	PIPE SERIES AS PER DIN 8077 / 8078		
		SDR 11 PN 10	SDR 7.4 PN 16	SDR 6 PN 20
		Safety Factor - 1.5		
		Normal Pressure for PP-R Pipes (Kg/cm2)		
10°C	1	17.6	27.8	35.0
	5	16.6	26.4	33.2
	10	16.1	25.5	32.1
	25	15.6	24.7	31.1
	50	15.2	24.0	30.3
	100	14.8	23.4	29.5
20°C	1	15.0	23.8	30.0
	5	14.1	22.3	28.1
	10	13.7	21.7	27.3
	25	13.3	21.1	26.5
	50	12.9	20.4	25.7
	100	12.5	19.8	24.9
30°C	1	12.8	20.2	25.5
	5	12.0	19.0	23.9
	10	11.6	18.3	23.1
	25	11.2	17.7	22.3
	50	10.9	17.3	21.8
	100	10.6	16.9	21.2
40°C	1	10.8	17.1	21.5
	5	10.1	16.0	20.2
	10	9.8	15.6	19.6
	25	9.4	15.0	18.8
	50	9.2	14.5	18.3
	100	8.9	14.1	17.8

Temp.°C	Service Life in Years	PIPE SERIES AS PER DIN 8077 / 8078		
		SDR 11 PN 10	SDR 7.4 PN 16	SDR 6 PN 20
		Safety Factor - 1.5		
		Normal Pressure for PP-R Pipes (Kg/cm2)		
50°C	1	9.2	14.5	18.3
	5	8.5	13.5	17.0
	10	8.2	13.1	16.5
	25	8.0	12.6	15.9
	50	7.7	12.2	15.4
	100	7.4	11.8	14.9
60°C	1	7.7	12.2	15.4
	5	7.2	11.4	14.3
	10	6.9	11.0	13.8
	25	6.7	10.5	13.3
	50	6.4	10.1	12.7
70°C	1	6.5	10.3	13.0
	5	6.0	9.5	11.9
	10	5.9	9.3	11.7
	25	5.1	8.0	10.1
	50	4.3	6.7	8.5
80°C	1	5.5	8.6	10.9
	5	4.8	7.6	9.6
	10	4.0	6.3	8.0
	25	3.2	5.1	6.4
95°C	1	3.9	6.1	7.7
	5	2.5	4.0	5.0
	(10)*	(2.1)*	(3.4)*	(4.2)*

Recommended application

Cold water installation

Hot water installation

Central heating installation

*Bracketed values apply where testing can be shown to have been carried out for longer than 1000 hours at 95°C

PPR Piping System

Support Intervals

Vectus Pipe - SDR 6.0 & SDR 7.4

Table to determine support intervals
in conjunction with temperature and outside diameter

Difference in temp. ΔT(C)	16	20	25	32	40	50	63	75	90	110
	Support Intervals in cms.									
0	70	85	105	125	140	165	190	205	220	250
20	50	60	75	90	100	120	140	150	160	180
30	50	60	75	90	100	120	140	150	160	180
40	50	60	70	80	90	110	130	140	150	170
50	50	60	70	80	90	110	130	150	150	170
60	50	55	65	75	85	100	115	125	140	160
70	50	50	60	75	80	95	105	115	125	140

Vectus Pipe - SDR 11

Table to determine support intervals for
cold water application (temperature of medium: 20°C)
in conjunction with outside diameter.

Pipe Diameter d (mm)										
16	20	25	32	40	50	63	75	90	110	160
Support Intervals in cms.										
60	75	90	100	120	140	150	160	180	200	225

Central heating pipes, installed in heated rooms or building parts between heated rooms of the one user, where heat output can be controlled by open stop valves do not require a minimum thickness of the insulation.

This even applies to warm water pipes up to an inner diameter of 22 mm in flats, which are neither in the circulation nor have an additional electric heating.

Applying material with thermal conductivities different to 0.035W/mK the minimum thickness of the insulation has to be converted correspondingly.

Thermal insulation of warm water pipes

The decree for energy saving thermal protection and energy saving technique for buildings

Extract from § 12 addendum 5 of the EnEV

Line	Type of pipe/fitting	Minimum thickness of insulation referred to thermal conductivity of 0.035W/(mK)
1	Inner diameter up to 22mm	20mm
2	Inner diameter more than 22 mm up to 35 mm	30mm
3	Inner diameter more than 35 mm up to 100 mm	same as inner diameter
4	Inner diameter more than 100 mm	100mm
5	Pipes and fittings, in wall- and ceiling openings, in crossing area of pipes, at pipe connections, at distributors	1/2 of the demand of line 1 to 4
6	Pipes of central heating which have been installed after introduction of this decree between heated rooms of various users	1/2 of the demand of line 1 to 4
7	Pipes in floor construction	6mm

For the conversion and the thermal conductivity of the insulation the ways and values of calculation described in the technical regulations must be applied.

The minimum insulation according to the table for heating distributions and heating pipes can be reduced as far as the same limit of heat output even for further insulation demands in consideration of the insulating effect of the pipe walls are guaranteed.

PPR Piping System

Installation

According to this decree Vectus Pipes and fittings have to be insulated against loss of heat. The insulation thickness depends on the respective installation. The heat conductivity figure of Vectus PPR is 0.15 W/(mK)

This means that in terms of heat transfer Vectus pipes and fittings offer a significantly higher degree of self-insulation compared to metal pipes Insulation thickness according to Decree for Energy Saving for Vectus pipes Due to the high insulation values of the Vectus PPR material the level of insulation thickness compared to metallic pipe systems can be reduced according to the following minimum insulation thickness.

Thermal Conductivity Dimensions	0.030 W/(mK)		0.035 W/(mK)		0.040 W/(mK)	
	Minimum insulation thickness in mm					
	50%	100%	50%	100%	50%	100%
16mm	6.1	12.8	8.0	17,0	10.1	22.2
20mm	6.1	12.9	7.8	16.8	9.7	21.6
25mm	6.0	13.0	7.6	16.7	9.3	21.0
32mm	9.4	19.9	11.8	25.5	14.4	32.2
40mm	9.3	19.8	11.5	25.1	13.9	31.2
50mm	90	19.7	11.0	24.7	13.2	30.2
63mm	13.1	27.9	15.9	35.0	19.0	42.9
75mm	15.6	33.4	19.0	41.7	22.6	51.1
90mm	18.8	40.2	22.8	50.1	27.1	61.3
110mm	23 .1	49.1	27.9	61.1	33.1	74.7

Thermal Insulation Cold Water Pipes As stipulated in **DIN 1988, Part 2**

Potable water plants have to be protected against heat gain and the formation of condensation. Standard values for the minimum insulation thicknesses have to be taken from the following table. The given insulation thicknesses are applicable to all pipe materials and also to Vectus pipes.

The above values are corresponding to the German Industry Standard (DIN) and have to be adapted to the respective national regulations.

Standard values for the minimum insulation thicknesses for the insulation of potable water plants (cold) Insulation thickness

Type of the Installation	Insulation thickness at A=0.040 (W/mK)*
Open installed pipe in a not heated room (i.e. basement)	4mm
Open installed pipe, in a heated room	9mm
Pipe in a duct, without hot water pipes	4mm
Pipe in a duct, beside hot water pipes	13mm
Pipe in a pipe chase riser	4mm
Pipe in a pipe chase, beside hot water pipes	13mm
Pipe on a concrete floor	4mm
*The insulation thicknesses, applied t6 d diameter of d = 20 mm, for other coefficients of thermal conduction have to be calculated correspondingly.	

PRESSURE TEST / TEST CONTROL

According to the Technical Rules for Potable Water Installations DIN 1988

All pipelines have to be (while still visible) hydraulically pressure tested. The test pressure has to be 1.5 times of the operating pressure.

When carrying out the pressure test the material properties of Vectus PPR pipes lead to an expansion of the pipe. This influences the test result. A further influence of the test result can because by the coefficient of thermal expansion of Vectus PPR pipes. Different temperatures of pipe and test medium lead to alterations of pressure. A temperature change of 10 K corresponds to a pressure difference of 0.5 to 1 bar. Therefore, the highest possible constant temperature of the test medium has to be ascertained at the hydraulic pressure test of installations with Vectus PPR pipes.

The hydraulic pressure test requires a preliminary, principal and final test.

For the preliminary test, a pressure of 1.5 times of the highest possible operating pressure has to be produced. This test pressure has to be re-established twice within 30 minutes within an interval of 10 minutes. After a test time of a further 30 minutes the test pressure must not drop more than 0.6 bar and no leakage should have appeared.

The preliminary test is to be followed directly by the principal test. Test time is 2 hours. On doing so the test pressure taken from the preliminary test may not fall more than 0.2 bar. After completion of the preliminary and principal tests the final test must be conducted, with a test pressure of alternate 10 and 1 bar in a rhythm of at least 5minutes

Between each test course the pressure has to be removed.

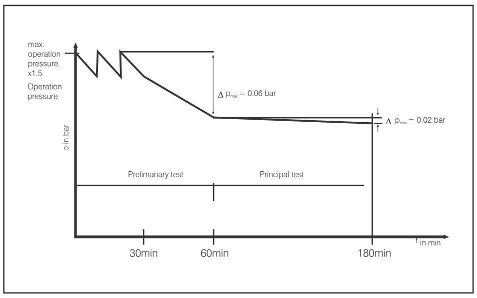
No leakage must appear at any point of the tested installation.

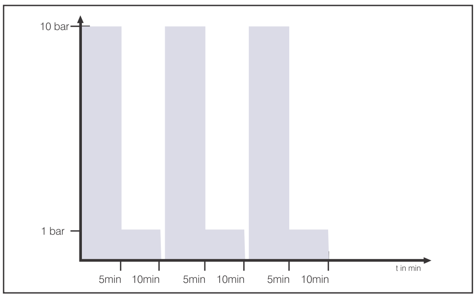
Measuring of the Test Pressures

Measuring has to be done with a manometer allowing a perfect reading of a pressure change of 0.1 bar. The manometer has to be placed at the deepest point of the installation.

Test Record

A record of the hydraulic pressure test has to be prepared and signed by the client and contractor stating place and date





PPR Piping System

Chemical Resistance

		TEMPERATURE		
	Conc %	20°C	60°C	100°C
Acetone	TR	+	+	
Acetic acid (glacial acetic acid)	TR	+	•	-
Acetic acid, hydr.	50	+	+	•
Acetic acid anhydride	TR	+		
Alum	GL	+	+	
Alum of all kinds, hydr.	all	+	+	
Ammonia, gaseous	TR	+	+	
Ammonia, hydr.	cone.	+	+	
Ammoniumacetate	GL	+	+	
Ammonium carbonate	GL	+	+	
Ammonium cloride	GL	+	+	
Ammonium nitrate	GL	+	+	+
Ammonium phosphate	GL	+	+	+
Ammonium sulphate	GL	+	+	+
Amylalchol, pure	TR	+	+	+
Aniline	TR	•	•	
Apple juice	H	+	+	+
Antifreeze solution (motor vehicles)	H	+	+	+
Batterie acid		+	+	
Barium salts	GL	+	+	+
Butyl acetete	TR	•	-	-
Bichromate of potash	GL	+	+	
Benzaldehyde	GL	+	+	
Benzine	H	•	-	-
Benzoic acid	GL	+	+	
Benzene	TR	•	-	-
Beer	H	+	+	+
Bleaching solution	20	•	•	-
Borax	L	+	+	
Boric acid	GL	+	+	+
Bromine, liquid	TR	-	-	-
Bromine, vapours	all	•	-	-
Bromine water	GL	•	-	-
Bromine gas	TR	+	+	
Butyl acetete				
Calcium cloride	GL	+	+	+
Calcium nitrate	GL	+	+	
Castor oil	TR	+	+	
Carbon Tetrachloride	TR	-	-	-
Citric acid , hydr.	VL	+	+	+
Carbonum disulphide	TR	-	-	-
Coconut oil	TR	+		

		TEMPERATURE		
	Conc %	20°C	60°C	100°C
Cresol	90	+	+	
Corn oil	TR	+	•	
Caustic potash solution	50	+	+	+
Chlorine, liquid	TR	-	-	-
Caustic soda solution	up to 60	+	+	+
Chlorine, gaseous wet	1	-	-	-
Chlorobenzene	TR	•		
Chloride of lime	all	+	+	
Chloroform	TR	•	-	-
Chlorosulphonic acid	TR	-	-	-
Chlorine water	GL	•	-	-
Chromic sulphuric acid		-	-	-
Cyclohexane	TR	+		
Cyclohexanol	TR	+	•	
Cyclohexanone	TR	•	-	-
Dekahydronaphtaline	TR	•	-	-
Detergent	VL	+	+	
Dibutyl phthalate	TR	•	-	-
Diesel oil	H	+	•	
Diethylether	TR	+	•	
1, 4-Dioxane	TR	•	•	
Ethyl acetate	TR	+	•	-
Ether				
Ethyl benzene	TR	•	-	-
Ethyl chloride	TR	-	-	-
Formaldehyde , hydr.	40	+	+	
Formic acid		+	•	
	85	+	•	
	10	+	+	•
Fruit juices	H	+	+	+
Fuel oil	H	+	•	
Glycerine	TR	+	+	+
Heptane	TR	+	•	
Hydrogen chloride , gaseous	TR	+	+	
Hydrofluoric acid solution	40	+	+	
Hydrogen sulphide	TR	+	+	
Hexane	TR	+	•	
Hydrogen peroxide, hydr.	30	+	•	
Hydrochloric acid, hydr.	up to 20	+	+	
	20-36	+	•	
Iso-octane	TR	+	•	-
Jodine solution	H	+	•	

Signs and symbols:

- **VL** moderate loosening, mass-part 10%
- **L** moderate loosening, mass-part > 10%
- **GL** Saturated (with 20°C), hydrous solution
- **TR** medium rate flow is minimum-technical pure
- **H** usual in trade composition
- **+** resistant
- **•** limited resistant
- **-** inconstant

Chemical Resistance

	Conc %	20°C	60°C	100°C
	TEMPERATURE			
LANOLIN®	H	+	•	
Linseed oil	H	+	+	+
Lactic acid	90	+	+	
Magnesium salts	GL	+	+	
Mercury	TR	+	+	
Mercury salts	GL	+	+	
Menthol	TR	+	•	
Menthanol	TR	+	+	
Methylene chloride	TR	•	-	-
Methyl ethyl ketone	TR	+	•	
Milk	H	+	+	+
Motor oil (motor vehicles)	TR	+	•	
Nitric acid, hydr.	10	+	•	-
Nickle salts, hydr.	GL	+	+	
Oleum	TR	-	-	-
Olive oil	TR	+	+	
Oleic acid	GL	+	•	-
Oxalic	GL	+	+	•
Ozone	0,5 ppm	+	•	
Paraffin	H	+	+	
Paraffin oil	TR	+	•	-
Pine needle oil	H	+	•	
Peanut oil	TR	+	+	
Petroleum jelly	TR	+	•	
Perchlorethylene				
Petroleum ether	TR	+	•	
Petroleum	TR	+	•	
Peppermint oil	TR	+		
Phenol (hydr. phase)	5	+	+	
Phosphoric acid	85	+	+	+
Photographic developer	H	+	+	
Propane, gaseous	Tr	+	•	
Pyridine	TR	•	•	
(potassium hydroxide)				
Potassium carbonate (Potash)	GL	+	+	
Potassium chlorate	GL	+	+	
Potassium chloride	GL	+	+	
Potassium iodide	GL	+	+	
Potassium nitrate, hydr.	GL	+	+	
Potassium permanganate	GL	+	+	
Potassium persulphate	GL	+	+	
Sodium carbonate	50	+	+	•

	Conc %	20°C	60°C	100°C
	TEMPERATURE			
Sodium chlorate	GL	+	+	
Sodium chloride	VL	+	+	+
Sodium chlorite, hydr.	2-20	+	•	-
Sodium hydrochlorite, hydr.	10	+		
Sodium nitrate	GL	+	+	
Sodium nitrite	GL	+	+	
Sodium phosphate	GL	+	+	+
Sodium sulphate	GL	+	+	
Sodium sulphide	GL	+	+	
Sodium sulphite	GL	+	+	+
Sodium thiosulphate	GL	+	+	
Sulphur acid , hydr.	GL	+	+	
Succinic acid, hydr.	GL	+	+	
Sulphuric acid, hydr.	80-TR	•	-	
	10-80	+	+	
	10	+	+	+
Sea water	H	+	+	+
Silver salts	GL	+	+	
Silicone oil	TR	+	+	+
Sodium carbonate (soda)	50	+	+	•
Soybean oil	TR	+	•	
Stannous chloride	GL	+	+	
Starch solution, hydr.	all	+	+	
Sugar syrup	H	+	+	
Turpentine oil	TR	-	-	-
Turpentine substitute	TR	+	•	-
Tetrachloroethane	TR	•	-	-
Tetrachloroethylene (Perchlorethylen)	TR	•	•	
Tetrahydrofurane	TR	•	-	-
Tetrahydronaphtalene (Tetralin)	TR	-	-	-
Toluene	TR	•	-	
Transformer oil	TR	•	-	
Trichloroethylene	TR	-	-	-
Tricresyl phosphate	TR	+	•	
Trioctyl phosphate	TR	+		
Tartaric acid , hydr.	10	+	+	
Urea, hydr.	GL	+	+	
Vinegar	H	+	+	+
Water	H	+	+	+
Wine	H	+	+	
Xylene	TR	•	-	-
Zinc salts, hydr.	GL	+	+	

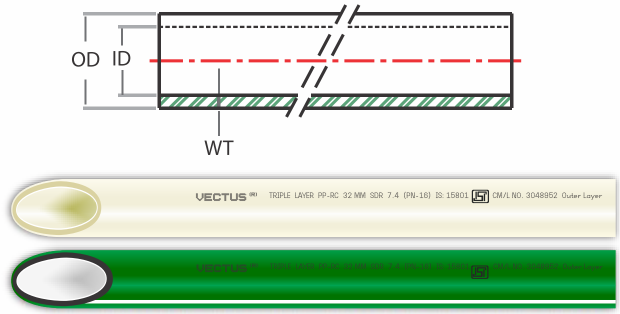
Signs and symbols:

- **VL** moderate loosening, mass-part 10%
- **L** moderate loosening, mass-part > 10%
- **GL** Saturated (with 20°C), hydrous solution
- **TR** medium rate flow is minimum-technical pure
- **H** usual in trade composition
- **+** resistant
- **•** limited resistant
- **-** inconstant

VECTUS

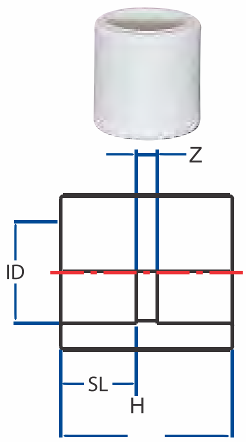
PPR Piping System

		SDR 11 (PN10)		SDR 7.4 (PN16)		SDR 6 (PN20)	
Size (mm)	OD	ID	WT	ID	WT	ID	WT
20	20	16.2	1.9	14.4	2.8	13.2	3.4
25*	25	20.4	2.3	18.00	3.5	16.6	4.2
32*	32	26.2	2.9	23.20	4.4	21.2	5.4
40*	40	32.6	3.7	29.00	5.5	26.6	6.7
50*	50	40.8	4.6	36.20	6.9	33.4	8.3
63*	63	51.4	5.8	45.80	8.6	42	10.5
75	75	61.4	6.8	54.40	10.3	50	12.5
90	90	73.6	8.2	65.40	12.3	60	15
110	110	90	10	79.80	15.1	73.4	18.3
160	160	130.8	14.6	116.20	21.9	-	-



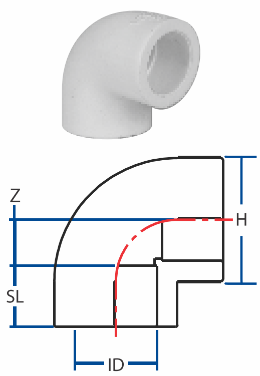
***PP-RC T Strong Pipes** triple layer are used for hot water supply because of the very low heat loss thermal properties. These pipes are made as per PN 20 class & available in white & green colours.

Coupler



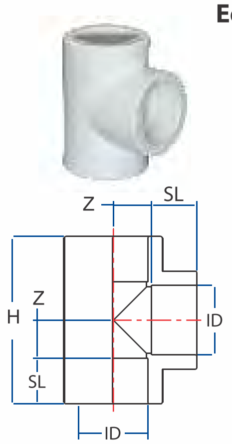
SIZE	ID	SL	Z	H
16	15.5	15.0	3.5	32.0
20	19.0	16.0	3.5	33.0
25	24.0	16.0	4.0	35.0
32	31.0	21.0	4.0	44.5
40	38.5	24.0	4.0	51.5
50	48.0	24.0	4.0	52.0
63	61.0	25.0	7.0	57.0
75	73.0	31.0	7.0	69.0
90	88.0	35.0	7.0	76.0
110	107.5	41.0	7.0	89.0
160	157.0	48.0	10.0	106.0

Elbow 90°



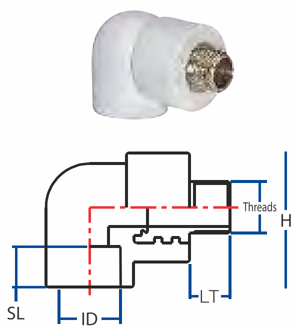
SIZE	ID	SL	Z	H
16	15.5	15.0	9.5	38.0
20	19.0	16.0	11.5	42.5
25	24.0	16.0	14.0	48
32	31.0	21.0	17.5	58.0
40	38.5	24.0	21.0	73.0
50	48.0	24.0	26.0	80.5
63	61.0	25.0	32.5	98.5
75	73.0	31.0	38.5	120.0
90	88.0	35.0	46.0	138.0
110	107.5	41.0	56.0	170.0
160	157.0	48.0	80.5	225.0

Equal Tee



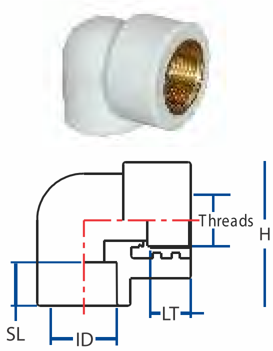
SIZE	ID	SL	Z	H
16	15.5	15.0	9.5	51.5
20	19.0	16.0	11.5	55
25	24.0	16.0	14.0	64
32	31.0	21.0	17.5	75
40	38.5	24.0	21.0	87
50	48.0	24.0	26.0	98
63	61.0	25.0	32.5	130
75	73.0	31.0	38.5	146
90	88.0	35.0	46.0	161
110	107.5	41.0	56.0	198
160	157.0	48.0	80.5	258

Male Elbow Brass Threaded - MEBT



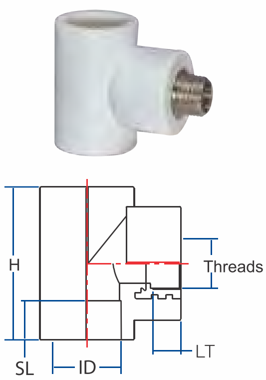
Size (mm x inch)	ID	SL	H	LT	Thread (inches)
16x1/2"	15	15	60	15	1/2"
20x1/2"	19	17	64	14.4	1/2"
20x3/4"	19	16	71.5	16	3/4"
25x1"	24	16	80	21	1"
25x1/2"	24	16	68.5	14.5	1/2"
25x3/4"	24	16	71	15	3/4"
32x1"	31	18	86	19	1"
32x1 1/4"	31	18	90.5	20.5	1/4"
32x1/2"	31	18	78	14.5	1/2"
32x3/4"	31	18	79	15	3/4"
40x1 1/4"	38.5	20	102	22.5	1/4"

Female Elbow Brass Threaded - FEBT



Size (mm x inch)	ID	SL	H	LT	Thread (inches)
16x1/2"	15	15	45	17	1/2"
20x1/2"	19	16	52	17	1/2"
20x3/4"	19	16	55	21	3/4"
25x1/2"	24	16	55	16	1/2"
25x3/4"	24	16	56	16.5	3/4"
25x1"	24	16	61	90	1"
32x1/2"	31	18	64	21.5	1/2"
32x3/4"	31	18	64	16	3/4"
32x1"	31	18	67	21.5	1"
32x1 1/4"	31	18	69	19.5	1 1/4"
40x1 1/4"	39	20	79	86	1 1/4"

Male Tee Brass Threaded - MTBT

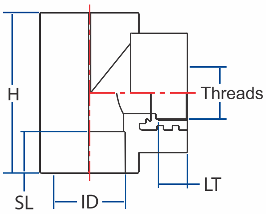


Size (mm x inch)	ID	SL	LT	H	Thread (inches)
16x½"	15	15	14.5	60	1/2"
20x½"	19	16	14.5	63	1/2"
20x¾"	19	16	14.5	64	3/4"
25x½"	24	16	14.5	68	1/2"
25x¾"	24	16	16	73	3/4"
25x1"	24	16	20	81	1"
32x½"	31	18	19	86	1"
32x¾"	31	18	14.5	83	1/2"
32x1"	31	18	16	83	3/4"
32x1¼"	31	18	21.95	100	1/4"
40x1¼"	39	20	22.5	103	1/4"

*All sizes are in mm.

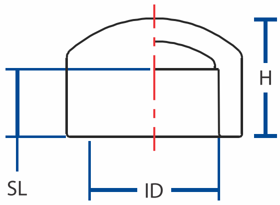
PPR Piping System

Female Tee Brass Threaded - FTBT



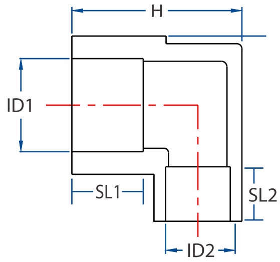
Size (mm x inch)	ID	SL	H	LT	Thread (inches)
16x1/2"	15	15	55	17	1/2"
20x1/2"	19.0	15.5	55	17	1/2"
20x3/4"	19.0	15.5	55	21	3/4"
25x1/2"	24.0	16	63.5	16	1/2"
25x3/4"	24.0	16	59	16.5	3/4"
25x1"	24.0	16	64	21.5	1"
32x1/2"	31.0	18	69	16	1/2"
32x3/4"	31.0	18	66	21.5	3/4"
32x1"	31.0	18	71	19.5	1"
32x1 1/4"	31.0	19	86	86	1/4"
40x1/4"	38.5	24	51	90	1/4"

End Cap



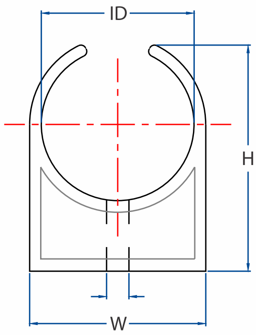
SIZE	ID	SL	H
16	15.5	15	24
20	19	16	24
25	24.0	16.0	25
32	31.0	21.0	26
40	38.5	24.0	31
50	48.0	24.0	36
63	61.0	25.0	43
75	73.0	31.0	45
90	88.0	35.0	50
110	107.5	41.0	58
160	158.5	45.5	156

Reducer Elbow



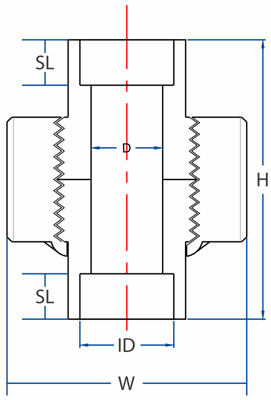
SIZE	ID1	ID2	SL1	SL2	Z
20x16	19	15	16.0	15	-
25x20	24	19	16.0	16	35.5
32x20	31	19	21.0	16	42.5
32x25	31	24	21.0	16	45
40x20	38.5	19	21.0	16	50
40x25	38.5	24	21.0	16	52.5
40x32	38.5	31	21.0	21	56
50X32	48	31	24.0	16	82
50X40	48	50	24.0	15.6	82.5
63X32	61	31	25.0	16	99.5
63X40	61	38.5	25.0	18.5	102.5

Pipe Clip



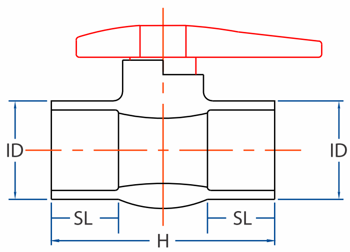
SIZE	ID	W	H
20	20	26	32.5
25	25	32	37
32	31	38.5	46
40	39	45	55.5
50	49	63	51.5
63	62	77	63

Union



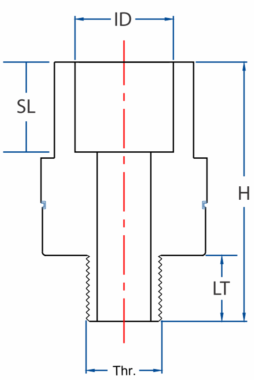
SIZE	ID	SL	W	H
20	19.0	15.0	48	56.5
25	24.0	16.0	59	56.5
32	31.0	16.0	67	59.0
40	38.5	21.0	81	67.5
50	48.0	24.0	91	73.0
63	62.0	24.0	116	88.0

Ball Valve



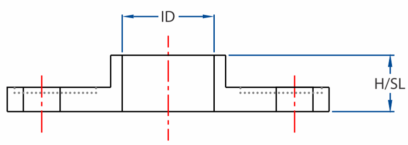
SIZE	ID	SL	H
20	19.10	23.50	78.50
25	24.30	24.55	89.30
32	31.15	25.35	102.25
40	39.10	30.05	113.25
50	49.10	34.70	130.15
63	61.70	37.60	149.20
75	73.55	43.80	176.10
90	88.10	35.35	187.90
110	105.65	60.75	248.00

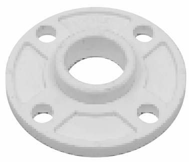
Tank Connection



SIZE	ID	SL	LT	H	Thr.
20	19.0	17	27.5	74.5	1/2"
25	24.0	18	40.5	77.5	3/4"
32	31.0	19	42	80.5	1"
40	38.5	20	32	74.5	1 1/4"
50	48.0	23	37.5	89	1 1/2"
63	N.A.	N.A.	39.5	160	2"

Flange Coupling



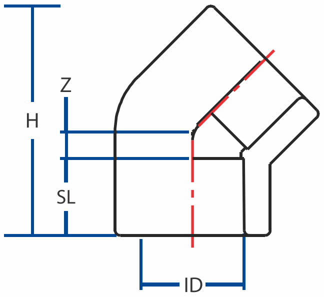


SIZE	ID	SL	H
32	31.0	22.5	22.5
40	38.5	23.5	23.5
50	48.0	25.5	25.5
63	61.0	38.5	38.5
75	73.0	39.5	39.5

*All sizes are in mm.

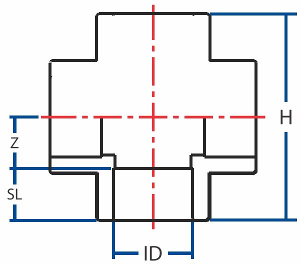
PPR Piping System

Elbow 45°



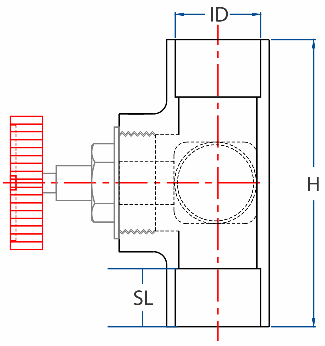
SIZE	ID	SL	Z	H
20	19.0	16.0	11.5	54.0
25	24.0	16.0	14.0	58.0
32	31.0	17.0	17.5	65.0
40	38.5	21.0	21.0	75.0

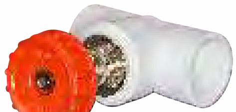
Cross Tee



SIZE	ID	SL	Z	H
20	19.0	16.0	11.5	56
25	24.0	16.0	14.0	65
32	31.0	21.0	17.5	70
40	38.5	24.0	21.0	84

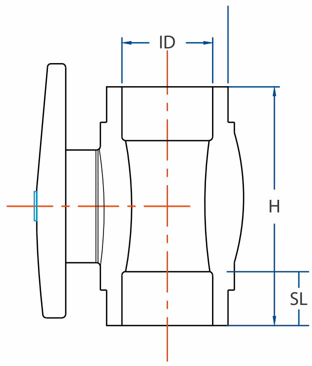
Gate Valve





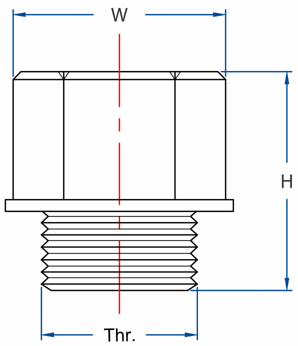
SIZE	ID	SL	H
20	19	16	101
25	24	19	102.5
32	31	19	112
40	38.5	23	132.5

Ball Valve - Heavy Duty (With Brass Ball)



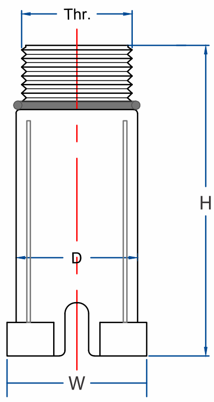
SIZE	ID	SL	H
20	19.10	23.50	78.50
25	24.30	24.55	89.30
32	31.15	25.35	102.25
40	39.10	30.05	113.25
50	49.10	34.70	130.15
63	61.70	37.60	149.20
75	73.55	43.80	176.10
90	88.10	35.35	187.90
110	105.65	60.75	248.00

Thread Plug



Size (inch)	H	W	Thread (inches)
3/4"	41.6	28	3/4"
1"	41	34	1"

Long / Short Plug



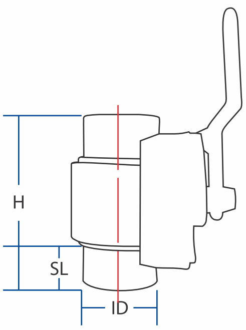
LONG

Size (inch)	H	W
1/2"	66	27.1

SHORT

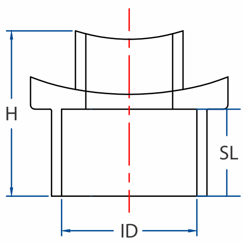
Size (inch)	H	W
1/2"	30	13

Top Loading Ball Valve



SIZE	ID	SL	H
32	30.65	23.90	128.20
40	38.90	25.60	148.15
50	48.10	27.80	155.80
63	61.50	29.60	160.80
75	72.70	34.10	185.90
90	88.50	35.80	215.50
110	107.30	42.70	260.00

Saddle

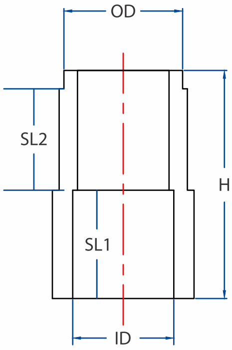


SIZE	ID	SL	H
90X32	31.5	20.5	49
110X32	31.5	20.5	49

*All sizes are in mm.

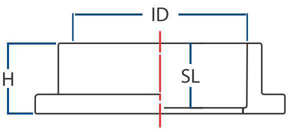
PPR Piping System

Reducing Socket



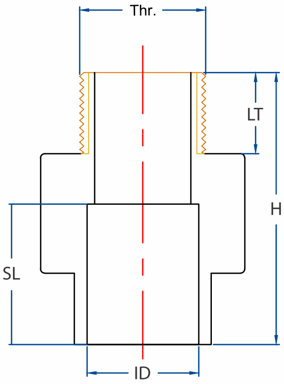
SIZE	ID	OD	SL1	SL2	H
25x20	19	25	16	20	39.5
32x20	19	32	16	20	41.5
32x25	24	32	16	20	43
40x20	19	40	16	25	43.5
40x25	24	40	16	25	45
40x32	31	40	21	25	49
50x20	37.8	19.2	15.6	16.55	41.5
50x25	24	50	16	25	42
50x32	31	50	21	25	44
50x40	38.5	50	24	25	47
63x25	51.2	23.6	31.8	15.7	50.3
63x32	31	63	21	31	53
63x40	51.4	38.65	22.85	20.7	48.7
63x50	48	63	25	31	52
75x32	31	75	21	31	55
75x40	38.5	75	24	31	56
75x50	48	75	25	31	61
75x63	62	75	31	31	65
90x63	88	63	31	25	65

Flange Core



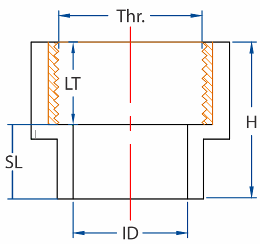
SIZE	ID	SL	H
32	31.0	20	25.0
40	38.5	21.5	26.5
50	48.0	24	29.0
63	61.0	27.5	32.0
75	73.0	31.5	35.5
90	88	35	41
110	107.5	41	47
160	158.5	45.5	55

Male Adaptor Brass Threaded (MABT)



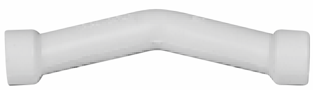
Size (mm x inch)	ID	SL	H	LT	Thread (inches)
16x1/2″	15	15	56	27	1/2″
20x1/2″	19	16	54	24	1/2″
20x3/4″	19	16	60	28	3/4″
25x1/2″	24	17	55	24	1/2″
25x3/4″	24	17	59	21	3/4″
25x1″	24	17	67.5	31	1″
32x1/2″	31	17.5	60	28.5	1/2″
32x3/4″	31	17.5	66	32	3/4″
32x1″	31	17.5	69	27	1″
32x1 1/4″	31	18.5	69.5	28.5	1/4″
40x1″	38.5	22	74	28.5	1″
40x1 1/4″	38.5	22	74	29	1/4″
40x1 1/2″	38.5	22	74	30	1/2″
50x1 1/4″	48	26	75	26	1/4″
50x1 1/2″	48	26	75	25.4	1/2″
63x2″	62	26	91	25	2″
75x2 1/2″	73	31	108	32	1/2″
90x3″	88	34	131	45	3″
110x4″	107.5	37	157	56.5	4″

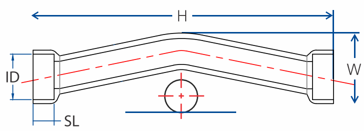
Female Adaptor Brass Threaded (FABT)



Size (mm x inch)	ID	SL	H	LT	Thread (inches)
16x1/2″	15	15	42	27	1/2″
20x1/2″	19	16	39.5	24	1/2″
20x3/4″	19	16	40	25	3/4″
25x1/2″	24	16	40.5	24	1/2″
25x3/4″	24	16	42	19	3/4″
25x1″	24	16	46.5	30	1″
32x1/2″	31	21	46.5	28.5	1/2″
32x3/4″	31	21	49.5	32	3/4″
32x1″	31	21	50	26.5	1″
32x1 1/4″	31	21	47	30	1/4″
40x1 1/4″	38.5	24	51	29	1/4″
40x1″	38.5	24	51	29	1″
40x1 1/2″	38.5	24	53	30	1/2″
50x1 1/4″	48.0	25	52.5	26	1/4″
50x1 1/2″	48.0	25	52.5	26	1/2″
63x2″	62	25	74	26	2″
75x2 1/2″	73	31	96	32	1/2″
90x3″	88	31	96	46	3″
110x4″	107.5	33.5	117.5	56.5	4″

Cross Over



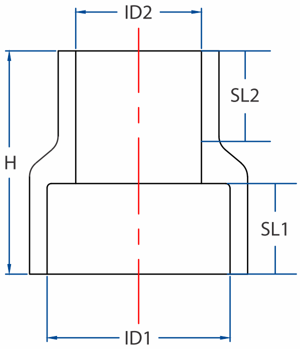


SIZE	ID	SL	W	H
20	19.0	16	50.5	159
25	24.0	17	57	179

*All sizes are in mm.

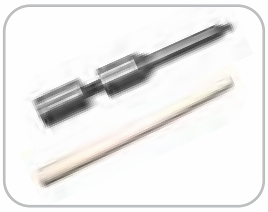
PPR Piping System

Reducer Coupler



SIZE	ID1	ID2	SL1	SL2	H
20x16	19	15	16	15	36
25x16	24	15	16	15	36
25x20	24	19	16	16	34
32x16	31	15	18	15	39
32x20	31	19	18	16	38
32x25	31	24	18	16	37
40x20	38.5	19	20	16	39
40x25	38.5	24	20	16	39
40x32	38.5	31	20	18	40
50x20	48	19	24	16	47
50x25	48	24	24	16	47
50x32	48	31	24	18	48
50x40	48	38.5	24	20	52
63x32	61.5	31	25	18	51
63x40	61.5	38.5	25	20	52
63x50	61.5	48	25	24	54
90x32	88	30	31	26	79.5
90x40	88	38.5	31	20	79.5
90x50	88	48	31	24	79.5
90x63	88	61.5	31	25	79.5
90x75	88	73	31	34	74
110x25	107.5	24	37	24	81
110x32	107.5	30	37	25	81
110x40	107.5	38.5	37	20	81
110x50	107.5	47.8	37	24	81
110x63	107.5	61.5	37	25	72
110x90	107.5	88	37	31	78
110x75	107.5	73	37	34	80
160x75	157.2	74.1	46.5	32.25	88.7
160x90	158.5	88.05	45.5	35	98.5
160x110	158.5	107.6	45.5	41	98.5

Hole Repair Matrice and Bar



7x11

Welding Matrices (dies)

16, 20, 25, 32, 40, 50
63, 75, 90, 110

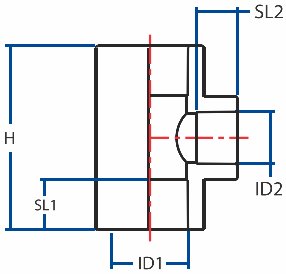
Polyfusion Device

16x40, 50x75x 90x110

Pipe Cutter

42

Reducing Tee



SIZE	ID1	ID2	SL1	SL2	H
20x16	19	15	16	15	52
25x20	24	19	16	16	55
32x20	31	19	19	16	67
32x25	31	24	19	16	67
40x20	38.5	19	21	16	70
40x25	38.5	24	21	16	70
40x32	38.5	31	12	19	80
50x20	48	19	24	16	99
50x25	48	24	24	16	99
50x32	48	31	24	19	99
50x40	48	38.5	24	21	99
63x20	61	19	31	16	102
63x25	61	24	31	16	105
63x32	61	31	31	21	109
63x40	61	38.5	31	21	131
63x50	61	48	31	24	131
75x25	74	24.5	35.5	18	107
75x32	74	30.5	35.5	20	107
75x40	74	39	35.5	22.5	107
75x50	74	48	35.5	28	107
75x63	74	60	35.5	28.5	107
90x32	87	30	35.5	22	161
90x40	87	38.5	35.5	21	161
90x50	87	47	35.5	25	161
90x63	87	60.5	35.5	29	161
90x75	87	72.5	35.5	28	161
110x25	107.5	24	43	16	179
110x32	107.5	30	43	20	179
110x40	107	38.5	43	21	179
110x50	107	48.5	43	22.5	179
110x63	107	61.5	43	28	179
110x75	107	72.5	43	28	179
110x90	107	86.5	43	37.5	179
160x32	158.5	30	47.5	20	258
160x40	158.5	38.5	47.5	21	258
160x50	158.5	47	47.5	25	258
160x63	158.5	59.6	47.5	28	258
160x75	158.5	72.5	47.5	29	258
160x90	158.5	85.5	47.5	34.5	258
160x110	158.5	107	47.5	33.5	258

Note: All metal inserts and plastic threads are BSP standard threads.
*All sizes are in mm.

PPR Piping System

Welding/Installation Process

Mounting of the tools

1. Assemble and tighten the cold welding tools manually.
2. Before fusing distribution blocks, where two connections are welded at the same time, place the welding tool into the corresponding holes of the heating surface.
3. All welding tools must be free from impurities. Check if they are clean before assembling.
4. Place the welding tools on the welding device. Ensure that there is full surface contact between the welding tool and the heating surface.
5. Plug in the welding device. Depending on the ambient temperature, it takes 5-15 minutes to heat up the heating surface.

   The heating up process is finished, when the temperature pilot light is switched on.

Heating up Phase

6. During the heating up phase tighten the welding tools carefully with the allan key.

   Take care that the tools are completely on the heating surface. Never use pliers or any other unsuitable tools, as this will damage the coating of the welding tools.
7. The necessary temperature to weld Vectus PPR system is 260 °C.

   ATTENTION: First welding - two minutes after reaching the welding temperature!

Handling

8. A tool change on a heated device requires another check of the welding temperature at the new tool (after its heating up).
9. If the device has been unplugged, i.e. during longer breaks, the heating up process has to be restarted.
10. After use, unplug the welding device and let it cool down. Water must never be used to cool the welding device, as this would destroy the heating resistance.
11. Protect welding devices and tools against impurities. Burnt particles may lead to an incorrect fusion. The tools may be cleaned with cleansing cloths. Always keep the welding tools dry. If necessary, dry them with a clean, non fibrous tissue.
12. For perfect fusion, damaged or dirty welding tools must be replaced, as only impeccable tools grant a perfect connection.
13. Never attempt to open or repair a defective device. Send defective device for repair by a technician.
14. Check the operating temperature of welding devices regularly by means of suitable measuring instruments.

    If necessary clean the welding tools with a non fibrous, coarse tissue and with methylated spirit.

Vectus PP-RC welding process is subject to the following data

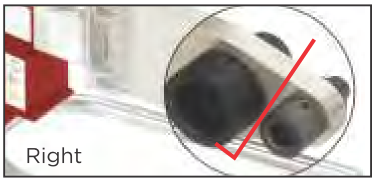
Pipe external-Ø mm	Welding depth mm	Heating time		Welding time sec.	Cooling time min
		sec. DVS	sec. AQE*		
16	13.0	5	8	4	2
20	14.0	5	8	4	2
25	15.0	7	11	4	2
32	16.5	8	12	6	4
40	18.0	12	18	6	4
50	20.0	18	27	6	4
63	24.0	24	36	8	6
75	26.0	30	45	8	8
90	29.0	40	60	8	8
110	32.5	50	75	10	8
125	40.0	60	90	10	8

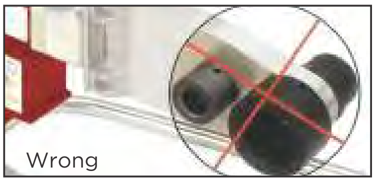
The dimension above 125 mm are joined by Butt Welding.

* Heating time recommended by Vectus at outdoor temperatures below +5°C.

To watch the installation video, please scan this code.

QR code





JOINTING PROCEDURE

Step-1

Measure and cut the pipe perpendicular to the pipe axis.

Step-2

Clean the socket heater and pipe with dry cloth. Welding machine should be heated upto 260°C.

Step-3

Push pipe and the socket of fitting into the heater in axial direction.

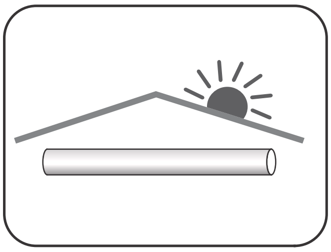
Step-4

After heating period, remove the fitting & pipe from the heater and quickly join them together.

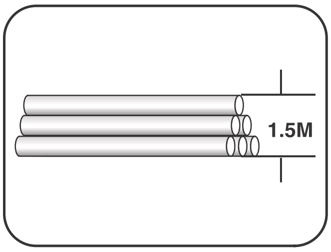
PPR Piping System

Instructions

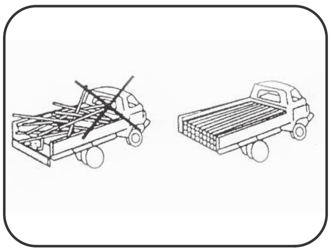
STORAGE
Although **Vectus** PP-RC Pipe system material is stabilized for use at elevated temperatures, do not expose the pipes & fittings to direct sunlight.



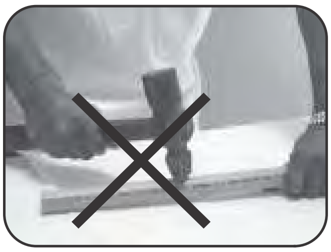
STORAGE
Vectus PP-RC Pipe storage height should not be more than 1.5 meter.



TRANSPORTATION
During transportation, **Vectus** PP-RC pipes should be loaded in a proper manner, otherwise pipes may get deformed.



HANDLING
The **Vectus** PP-RC Pipe system should be protected from impact of hard and sharp objects.

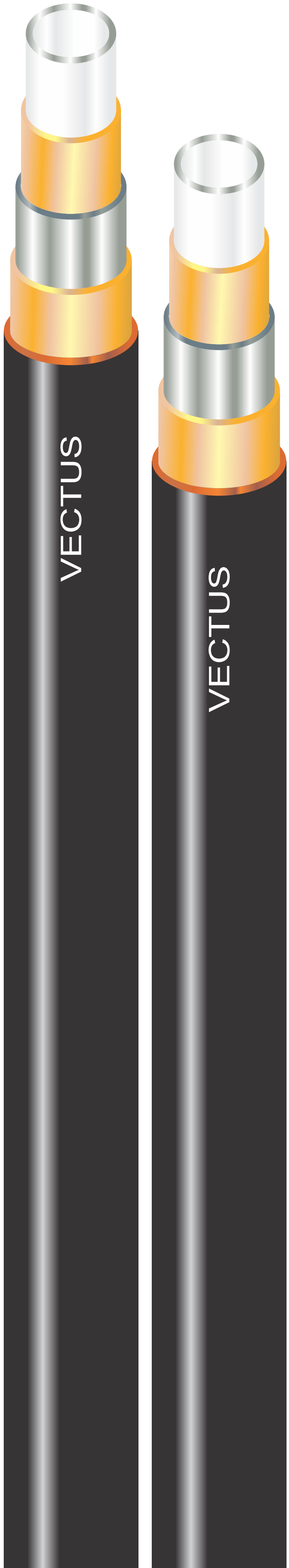


VECTUS

COMPOSITE
PIPING SYSTEM

What is Composite?

Vectus Industries Limited manufactures PE-AL-PE multi-layer Composite Pipes, which are composed of an aluminium core encased in an inner and outer layer of Polyethylene. All the layers are permanently bonded together by intermediate adhesive layers
The thickness of the aluminium layer in Vectus Composite Pipes has been selected to meet compressive and flexural strength requirements. This helps to combine the advantages of metal and plastic pipes and eliminate the disadvantages of both materials at the same time.



Features

Corrosion Resistant	High Strength	Chemically Inert	Smooth Bore	Easy to Bend & Retract	Can withstand up to 95°C

Applications

Hot & Cold Water Application	Radiator Heating System	Transit of Compressed Air & Gas	Conduit of Fiber Cable Operation	Cooling System

Composite Piping System

Vectus Composite piping system

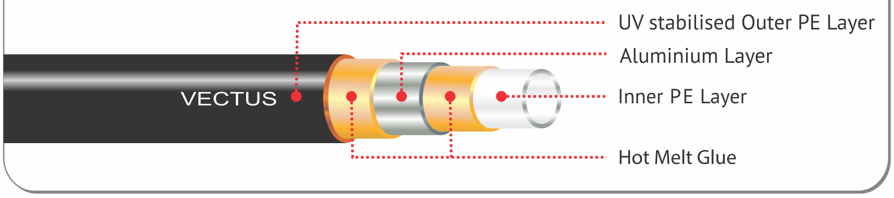
The aluminium core is absolutely diffusion tight and reliably prevents oxygen or gases from permeating into the pipe. It compensates and reduces snap-back forces and heat expansion with changes in temperature.

Vectus black pipe is manufactured as per IS 15450 & Yellow pipe as per ASTM F 1282.

- The available range of pipes and fittings varies from 1014 to 4050.

A Vectus Composite Pipe is composed of five layers.

MULTIPLE PE-AL-PE LAYERS



Black Pipe
1014, 1216
1620, 2025
2532, 3240
4050

Yellow Pipe
1014
1216

Advantages of Composite Pipes

- Vectus Composite Pipes are manufactured in the state of the art manufacturing facilities incorporating modern German technology and know how conforming to global standards.

- The fittings are mainly compression fittings, made of polymer and brass, which are user friendly as the joints are tightened to the pipe by inserting them in. They don't require any glue or solvents, brazing, welding or heat fusions for jointing which result in loss of properties during prolonged usage thereby inducing leakages.

- The Vectus Piping System can be installed in walls and ceilings or mounted surface.

- The pipes have a high level of ductility and flexibility, which means they can be easily bent by hand to form curves and permanently hold whatever shape they are formed into, without getting strained. One doesn't need any additional clips or brackets to retain the shape of bends or curves. However, these pipes only require bending springs to form tight bends down to the radius equivalent to 5 times the diameter of the pipe.

- Also, since these pipes are bendable, a very less number of fittings are required for jointing which makes the piping system leakage proof.

- Due to the smooth internal bore, the Vectus Composite Pipes have a higher flow rate as compared to other plastic pipes of equivalent diameter.

Composite Piping System

Black Composite Pipe

Vectus Black Composite Pipes are manufactured as per **IS 15450:2004.** The piping system is well supported by Compression Composite Fittings which don't require any glue or solvent during installation.

The working temperature of a Black Composite Pipe ranges from -40°C to 95°C, which increases its level of endurance over any other plastic piping system. Although, it can withstand water at a very low temperature due to its frost resistance characteristic, insulation is still recommended.

Also, due to low thermal conductivity it can be used for hot water operations needing a temperature up to 95° C. The middle layer of aluminium which restricts particles from entering into the pipe and the outer UV protective PE layer - made of black carbon, makes it suitable for outdoor operations.

Vectus Black Composite Pipes As per IS 15450:2004

Pipe Size (mm)	Equivalent NB Size (inch)	Inner Diameter (mm)	Maximum Outer Diameter (mm)	Maximum Wall Thickness (mm)	Maximum Coil/ Pipe Length (metres)	Maximum Aluminium Thickness (mm)	Minimum Outer Layer Thickness (mm)	Maximum Weight (Kg/Metre)
1014	⅜	10	14	1.70	200	0.20	0.40	0.10
1216*	½	12	16	1.75	200	0.20	0.40	0.12
1620*	¾	16	20	2.00	200	0.25	0.40	0.16
2025*	1	20	25	2.45	100	0.25	0.40	0.23
2532*	1¼	25	32	2.80	100	0.30	0.40	0.35
3240*	1½	32	40	3.40	50	0.30	0.40	0.52
4050	2	40	50	4.00	50	0.30	0.40	0.68

*These sizes are also available in White/Orange/Blue colours & are manufactured against order only.

Yellow Composite Pipe

Vectus Yellow Composite pipes are manufactured as per **ASTM F-1282**. They are specifically designed and manufactured for oxygen and gas supply and pneumatic system. The working temperature of Yellow composite pipes ranges from - 40 °C to 50 °C.

YELLOW is the International colour coding standard used for pipes meant for gas transmission and blue colour for compressed air; gases namely LPG, CNG, PNG & oxygen supplies. A different colour code helps one easily identify the pipes carrying components that could be hazardous to one's life.

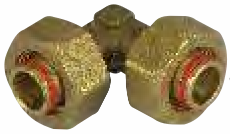
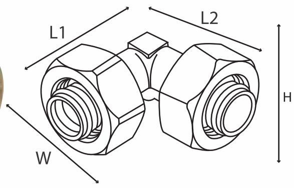
Vectus Yellow Composite Pipes As per ASTM F-1282

Pipe Size (mm)	Equivalent NB Size (inch)	Inner Diameter (mm)	Maximum Outer Diameter (mm)	Maximum Wall Thickness (mm)	Maximum Coil/ Pipe Length (metres)	Maximum Aluminium Thickness (mm)	Minimum Outer Layer Thickness (mm)	Maximum Weight (Kg/Metre)
1014	⅜	10	14	1.70	200	0.20	0.40	0.10
1216	½	12	16	1.75	200	0.20	0.40	0.12

Composite Piping System

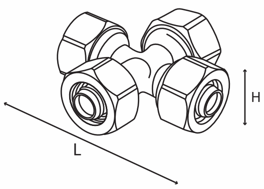
COMPOSITE COMPRESSION BRASS FITTINGS

Equal Elbow

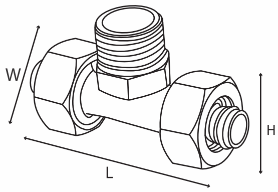
Size (mm x mm)	L1	L2	W	H
1014 x 1014	43	43	26	26
1216 x 1216	43	43	29	29
1620 x 1620	46	46	32	32
2025 x 2025	52	52	40	40
2532 x 2532	58	58	46	46
3240 x 3240	75	75	61	61

Cross Tee

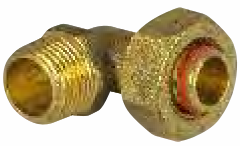
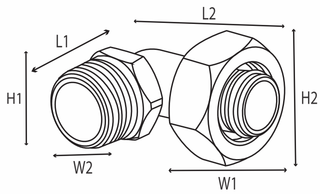
Size (mm x mm x mm)	L	H
1216 x 1216 x 1216	67	28
1620 x 1620 x 1620	71	33

Male Tee

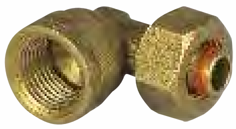
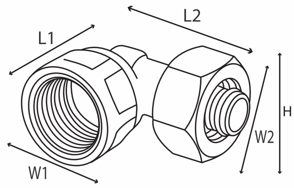
Size (mm x inch x mm)	L	W	H
1216 x ½ x 1216	72	29	29
1620 x ½ x 1620	69	33	33

Male Elbow

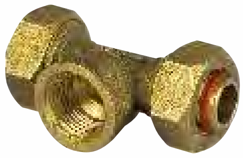
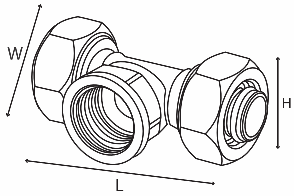
Size (mm x inch)	L1	L2	W1	W2	H1	H2
1216 x ½	34	44	29	24	29	67
1216 x ¾	34	44	32	29	32	60
1620 x ½	37	44	28	24	28	62
1620 x ¾	40	48	32	29	32	67
2532 x 1¼	52	60	48	47	48	89

Female Elbow

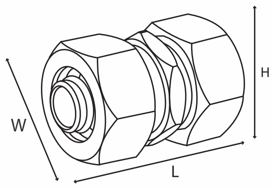
Size (mm x inch)	L1	L2	W1	W2	H
1014 x ½	30	40	29	26	29
1216 x ½	34	44	29	27	29
1216 x ¾	35	47	33	34	33
1620 x ½	37	45	40	28	40
2025 x ½	40	49	40	28	40
2025 x ¾	40	52	40	34	40
2025 x 1	46	63	46	40	46
2532 x 1	35	54	46	40	46
2532 x 1¼	44	60	46	49	46
3240 x 1	50	70	62	59	62
3240 x 1½	56	77	62	59	62

Female Tee

Size (mm x inch x mm)	L	W	H
1014 x ½ x 1014	71	26	26
1216 x ½ x 1216	73	29	29
1620 x ½ x 1620	75	33	33
1620 x ¾ x 1620	84	33	33
2025 x ½ x 2025	80	40	40
2025 x ¾ x 2025	76	39	39
2025 x 1 x 2025	85	40	40
2532 x ½ x 2532	104	46	46
2532 x 1 x 2532	104	46	46

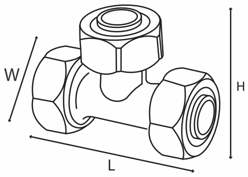
Equal Straight Union

Size (mm x mm)	L	W	H
1014 x 1014	48	26	26
1216 x 1216	44	29	29
1620 x 1620	46	33	33
2025 x 2025	49	40	40
2532 x 2532	59	46	46
3240 x 3240	67	61	61

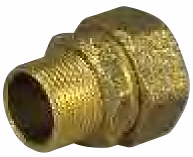
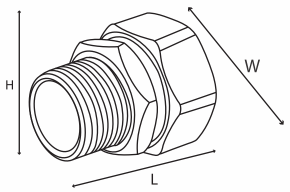
Composite Piping System

Equal Tee

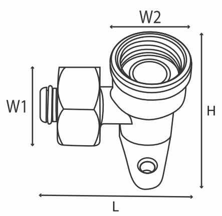
Size (mm x inch x mm)	L	W	H
1014 x 1014 x 1014	65	29	46
1216 x 1216 x 1216	67	29	48
1620 x 1620 x 1620	71	33	51
2025 x 2025 x 2025	82	40	61
2532 x 2532 x 2532	89	46	68
3240 x 3240 x 3240	119	61	88

Male Straight Union

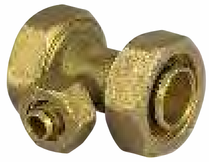
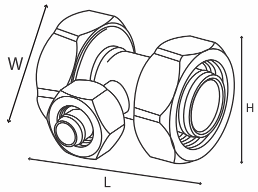
Size (mm x inch)	L	W	H
1014 x ½	41	26	26
1216 x ½	38	29	29
1216 x ¾	41	29	29
1216 x 1	41	28	28
1620 x ½	39	33	33
1620 x ¾	42	32	32
1620 x 1	45	32	32
2025 x ½	41	40	40
2025 x ¾	41	40	40
2025 x 1	44	40	40
2532 x ¾	52	47	47
2532 x 1	54	46	46
2532 x 1¼	47	47	47
2532 x 1½	49	48	48
3240 x 1	56	61	61
3240 x 1¼	56	61	61
3240 x 1½	57	61	61

Wall Plated Female Elbow

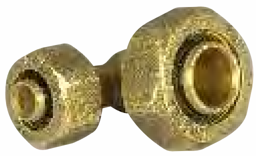
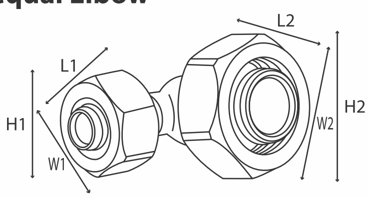
Size (mm x inch)	L	W1	W2	H
1014 x ½	50	26	26	43
1216 x ½	49	29	26	46
1620 x ½	48	33	26	46

Unequal Tee

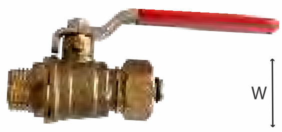
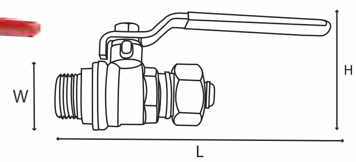
Size (mm x mm x mm)	L	W	H
1216 x 1014 x 1216	65	28	28
1620 x 1216 x 1620	65	33	33
2025 x 1216 x 2025	66	39	39
2025 x 1620 x 1620	78	39	39
2025 x 1620 x 2025	83	39	39
2025 x 2025 x 1620	78	39	39
2532 x 1216 x 2532	66	48	48
2532 x 1620 x 1216	71	48	48
2532 x 1620 x 2532	88	46	46
2532 x 2025 x 2532	88	46	46
3240 x 1620 x 3240	118	61	61
3240 x 2025 x 3240	118	61	61
3240 x 2532 x 3240	118	61	61

Unequal Elbow

Size (mm x mm)	L1	L2	W1	W2	H1	H2
1620 x 1216	42	41	32	28	32	65
2025 x 1216	47	42	39	28	39	70
2025 x 1620	46	46	40	32	40	72
2532 x 1216	56	41	48	28	48	75
2532 x 1620	58	58	47	32	47	84
2532 x 2025	54	50	48	39	48	82
3240 x 1620	76	80	63	32	63	108
3240 x 2025	75	75	61	40	61	105
3240 x 2532	73	75	62	49	62	108

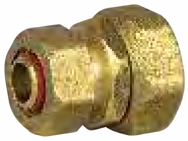
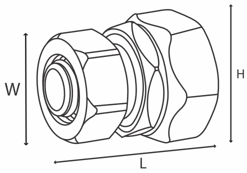
Male Valve

Size (mm x inch)	L	W	H
1014 x ½	133	29	55
1216 x ½	133	29	55
1620 x ½	133	32	57

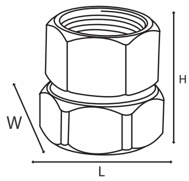
Composite Piping System

Unequal Straight Union

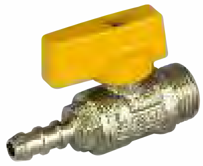
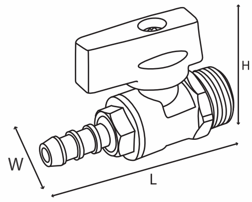
Size (mm x mm)	L	W	H
1620 x 1216	45	33	33
2025 x 1216	48	40	40
2025 x 1620	48	40	40
2532 x 1216	54	47	47
2532 x 1620	60	46	46
2532 x 2025	59	46	46
3240 x 1620	66	61	61
3240 x 2025	66	61	61
3240 x 2532	66	61	61

Female Straight Union

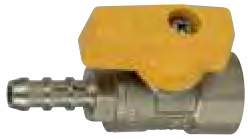
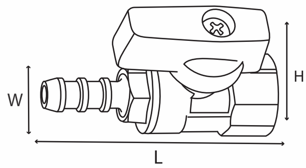
Size (mm x inch)	L	W	H
1014 x ½	26	26	37
1216 x ½	29	29	37
1216 x ¾	33	33	39
1216 x 1	51	51	48
1620 x ½	33	33	38
1620 x ¾	39	39	44
1620 x 1	42	42	41
2025 x ½	39	39	40
2025 x ¾	40	40	40
2025 x 1	40	40	41
2532 x ¾	48	48	34
2532 x 1	48	48	35
2532 x 1½	46	46	50
2532 x 1¼	47	47	50
3240 x 1¼	61	61	55
3240 x 1½	61	61	54

Male Gas Nozzle Valve

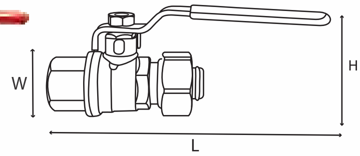
Size (mm x inch)	L	W	H
1216 x ½	69	23	48

Female Gas Nozzle Valve

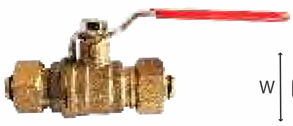
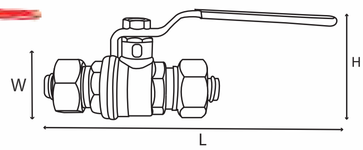
Size (mm x inch)	L	W	H
1216 x ½	67	24	48

Female Valve

Size (mm x inch)	L	W	H
1014 x ½	130	31	69
1216 x ½	133	31	56
1620 x ½	133	31	56

Equal Valve

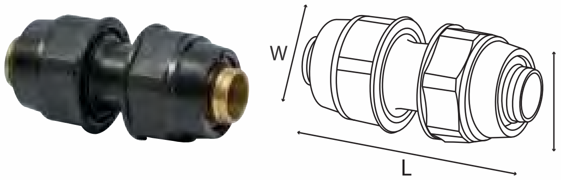



Size (mm x mm)	L	W	H
1014 x 1014	146	26	52
1216 x 1216	146	29	55
1620 x 1620	146	33	58

Note: All metal inserts and plastic threads are BSP standard threads.

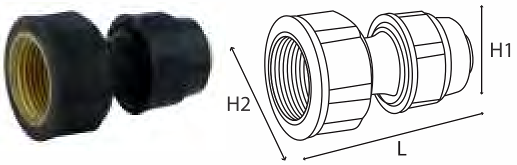
COMPOSITE COMPRESSION POLYMER FITTINGS

Equal Straight Union



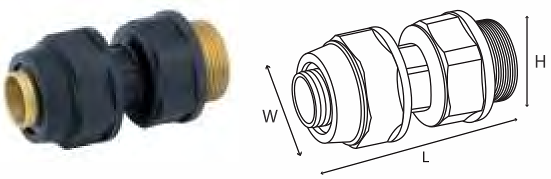
Size (mm x mm)	L	W	H
1216 x 1216	65	29	29
1620 x 1620	73	35	35
2025 x 2025	86	41	41
2532 x 2532	103	50	50
3240 x 3240	130	63	63
4050 x 4050	127	80	80

Female Union



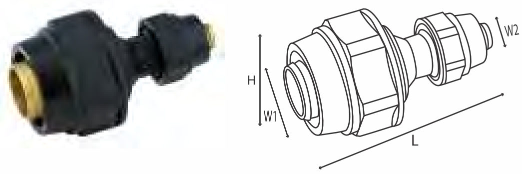
Size (mm x inch)	L	H1	H2
1216 x ½	56	29	33
1620 x ½	60	35	34
1620 x ¾	71	35	41
1620 x 1	70	34	49
2025 x ½	68	41	34
2025 x ¾	76	41	41
2025 x 1	76	42	50
2532 x 1	81	51	49
2532 x 1¼	84	51	59
2532 x 1½	97	51	70
3240 x 1½	105	64	69

Male Straight Union



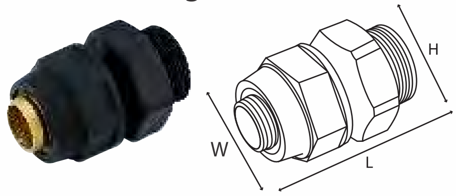
Size (mm x inch)	L	W	H
1216 x ½	71	30	30
1620 x ½	73	32	32
1620 x ¾	83	35	35
1620 x 1	88	35	35
2025 x ¾	88	41	41
2025 x 1	90	41	41
2532 x 1	95	51	51
2532 x 1¼	101	50	50
3240 x 1¼	118	63	63
3240 x 1½	121	63	63

Unequal Straight Union



Size (mm x mm)	L	W1	W2	H
1620 x 1216	70	34	30	34
2025 x 1216	77	41	30	41
2025 x 1620	83	41	35	41
2532 x 1216	86	51	30	51
2532 x 1620	89	51	35	51
2532 x 2025	90	51	41	51
3240 x 1216	96	63	30	63
3240 x 1620	103	63	35	63
3240 x 2025	103	63	41	63
3240 x 2532	114	63	51	63
4050 x 1620	111	80	35	80
4050 x 2025	119	80	41	80
4050 x 2532	128	80	51	80
4050 x 3240	136	80	64	80

Male Straight Union Plastic



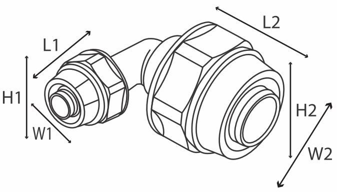
Size (mm x inch)	L	W	H
1216 x ½	57	30	26
1620 x ½	63	35	34
1620 x ¾	62	35	34
2025 x 1	78	41	43
2532 x 1¼	90	51	58
3240 x 1½	102	64	68

Equal Elbow

Size (mm x mm)	L1	L2	W	H
1216 x 1216	47	47	30	30
1620 x 1620	51	51	35	35
2025 x 2025	62	62	41	41
2532 x 2532	73	73	51	51
3240 x 3240	86	86	64	64
4050 x 4050	120	120	80	80

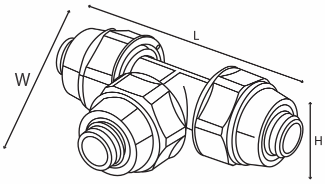
Composite Piping System

Unequal Elbow



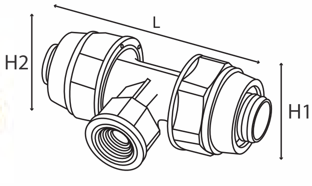
Size (mm x mm)	L1	L2	W1	W2	H1	H2
1620 x 1216	51	48	30	35	30	35
2025 x 1216	54	56	30	41	29	41
2025 x 1620	58	57	35	41	35	41
2532 x 1216	58	63	30	50	30	50
2532 x 1620	64	65	30	50	34	50
2532 x 2025	68	70	41	51	41	51
3240 x 1216	66	85	30	64	64	38
3240 x 1620	56	81	64	35	64	35
4050 x 1620	120	90	80	35	80	35
4050 x 2025	120	98	80	41	80	41
4050 x 2532	120	107	80	51	80	51
4050 x 3240	120	115	80	64	80	64

Equal Tee



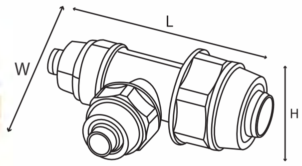
Size (mm x mm x mm)	L	W	H
1216 x 1216 x 1216	85	61	30
1620 x 1620 x 1620	93	67	35
2025 x 2025 x 2025	110	80	41
2532 x 2532 x 2532	136	93	50
3240 x 3240 x 3240	164	115	63
4050 x 4050 x 4050	191	135	80

Female Tee



Size (mm x inch x mm)	L	H1	H2
1216 x ½ x 1216	83	30	30
1620 x ½ x 1620	94	35	35
2025 x ½ x 2025	108	41	41
2025 x 1 x 2025	116	41	41
2532 x ½ x 2532	123	50	50
2532 x 1 x 2532	135	50	50

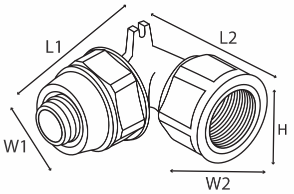
Unequal Tee



Size (mm x mm x mm)	L	W	H
1216 x 1620 x 1216	90	59	35
1216 x 2025 x 1216	96	67	35
1620 x 1216 x 1620	93	63	35
1620 x 1216 x 1216	90	60	35
1620 x 1620 x 1216	92	66	35
1620 x 2025 x 1620	105	70	41
2025 x 1216 x 1216	95	70	41
2025 x 1216 x 1620	109	66	41
2025 x 1216 x 2025	110	66	41
2025 x 1620 x 1216	99	72	41
2025 x 1620 x 1620	100	71	41
2025 x 1620 x 2025	105	74	41
2025 x 2025 x 1216	103	74	41
2025 x 2025 x 1620	111	77	41
2025 x 2025 x 2532	119	84	50
2025 x 2532 x 2532	129	92	50
2025 x 2532 x 2025	122	83	50
2025 x 3240 x 3240	146	114	63
2532 x 1216 x 2025	110	78	51
2532 x 1216 x 2532	115	79	50
2532 x 1620 x 2025	110	84	50
2532 x 1620 x 2532	118	82	50
2532 x 2025 x 1216	111	84	50
2532 x 2025 x 1620	114	84	50
2532 x 2025 x 2532	124	84	50
2532 x 2025 x 3240	132	98	64
2532 x 2532 x 1216	125	94	50
2532 x 2532 x 1620	129	94	50
2532 x 2532 x 2025	129	92	50
2532 x 3240 x 2532	123	102	63
3240 x 1216 x 2532	132	91	63
3240 x 1216 x 3240	139	91	63
3240 x 1620 x 2532	132	91	63
3240 x 1620 x 3240	140	92	63
3240 x 2025 x 2025	124	98	63
3240 x 2025 x 2532	132	98	64
3240 x 2025 x 3240	144	100	63
3240 x 2532 x 1216	127	104	63
3240 x 2532 x 1620	134	101	63
3240 x 2532 x 2532	132	107	64
3240 x 2532 x 3240	151	105	63
3240 x 3240 x 1216	138	114	63
3240 x 3240 x 1620	140	114	63
3240 x 3240 x 2025	146	114	63
3240 x 3240 x 2532	152	115	63
4050 x 1620 x 4050	191	105	80
4050 x 2025 x 4050	191	115	80
4050 x 2532 x 4050	191	123	80
4050 x 3240 x 4050	191	130	80

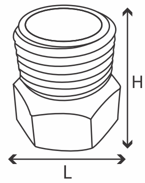
Composite Piping System

Female Elbow



Size (mm x inch)	L1	L2	W1	W2	H
1216 x ½	46	43	30	33	30
1620 x ½	53	48	35	33	35
2025 x ½	55	46	41	33	41
2025 x ¾	57	58	41	41	41
2025 x 1	62	55	41	49	41
2532 x 1	71	61	51	49	35
3240 x 1½	105	87	64	69	69

Threaded End Plug



Size (inch)	L	W	H
½	25	25	26

Accessories :

1. Reamers - (Rounding Tool)

Reamers are used for Rounding of the pipe end, ensuring properly rounded end pipe so that perfect sealing taken place in case of external as well as internal sealing fittings. Proper Reaming in pipe is necessary for easy insertion of fittings and to avoid O ring damage during installation process.

- Reamers are available in sizes 1014x1216x3240 & 1620x2025x2532 mm.
- Seven size rounding tool available in sizes : 1014, 1216, 1620, 2025, 2532, 3240 & 4050 mm.

1014x1216x3240

1620x2025x2532

1014, 1216, 1620, 2025
2532, 3240, 4050

2. Bending Springs :-

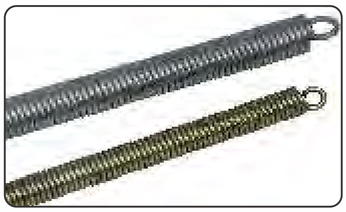
Vectus composite pipes is formed into curves, set by hand and only requires bending springs when forming tight bends down to radius equivalent to 5 times the diameter of pipe.

Inner Spring (Internal bending spring): is steel wire flexible tool used for bending at the end of pipe. Inner spring is inserted inside the pipe for proper bending of pipe.

Available sizes (Inner Spring) : 1014, 1216, 1620, 2025 & 2532 mm.

Outer Spring (External bending spring): Outer spring is steel hollow wire flexible tool. Composite pipe is inserted inside the outer spring for bending operation.

Available sizes (outer spring) : 1014, 1216, 1620, 2025, 2532 & 3240 mm.



Inner Spring

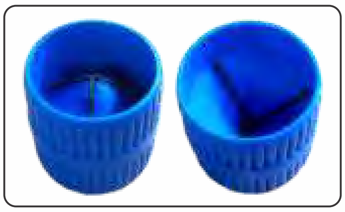
Outer Spring

Composite Piping System

3. Deburring Tool :-

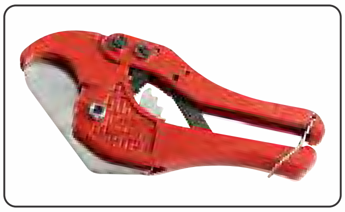
It is always essential to chamfer the end of composite pipe prior to installations with composite fitting.

Deburring tool is used for cleaning extra burrs at inner and outer pipe end surface. This tool also ensure chamfering at pipe end to protect the O Ring damage during installation process.



4. Pipe Cutter: -

Hand pipe cutter is a tool specially used for cutting the composite pipe mouth manually. Suitable to cut pipe dia upto 40 mm pipe.

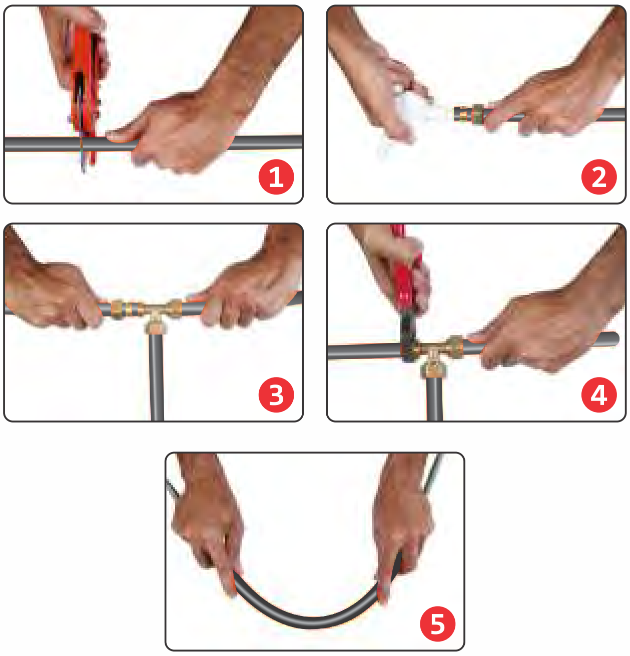


Cutter

Installation

Installing the Vectus Composite Piping system in transmitting of potable water (hot & cold), pneumatic system and noble gas system is not only very easy but cost effective as well, as it doesn't require any involvement of heavy machines or highly skilled labor. Hence, making the overall cost even much lesser than any other system.

1. Cut the composite pipe at right angled into length with Ratchet pipe cutter.
2. Round-en the pipe with the help of reamer & deburring tool.
3. Insert the compression nut and split ring into the pipe & install the fittings of pipe properly.
4. Tighten the external compression nut, which will ensure that it remains air tight and doesn't fail at designed pressure.
5. Bend the pipe only with the help of bending spring.



Vectus Composite Piping system is highly flexible when it comes to the installation. It can be maneuvered easily as per the requirement even after installation hence, saving cost and increasing the productivity of the entire system.

To watch the installation video, please scan this QR code.

SWR
DRAINAGE SYSTEM

What is SWR?

Vectus SWR (Soil, Waste and Rainwater) Drainage System includes a wide range of soil, waste and rain water plumbing products for residential and industrial developments. The system is available in Ring-Fit and Self-Fit options, wherein the pipes are manufactured as per IS 13592 and fittings are as per IS 14735.
Vectus SWR pipes and fittings are available from 75 mm to 160 mm.
The pipes are available in two types:
- Type A - Used for ventilation pipe work and rainwater harvesting.
- Type B - Used for soil and waste discharge systems.

Features

Lightweight | UV Resistant | Leak Proof Joint | Yellow Ring For Easy Installation

Applications

Offices | Residential Purposes | Industrial Use | Hospitals | Sewage & Waste Water Lines | Rainwater Drainage

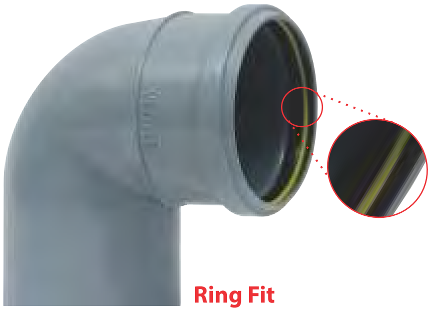
Standard

13592 | 14735

SWR Drainage System

Why SWR?

Self Fit

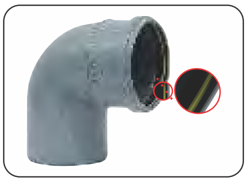


Ring Fit

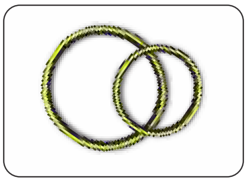
Features of Self fit :
- High flow rate - No choking
- High degree of Dimensional accuracy
- Quick and convenient installation
- Cost effective

Features of Ring fit :
- Uniform size of grooves in fittings with inbuilt collapsible ring fit design mould
- Easy Jointing of the Pipe and fitting
- Long Lasting Ring

Vectus Ring Fit with Yellow Ring Technology
Vectus Ring Fit is a system that is joined together by simply pushing the spigot into socket end of pipe and fitting. This requires no threading or solvent for joining. The spigot end is held firmly in the socket by the reinforced Yellow Ring provided in the groove. It ensures leak-proof joints and prevents choking. This advanced co-moulded yellow ring enables the joints to compensate for the thermal expansion and contraction of plastic.



Yellow Ring Technology
No solvent cement is required to make joints. These are manufactured at par with international standards of co-extrusion moulding process and are strictly monitored for quality and consistency.



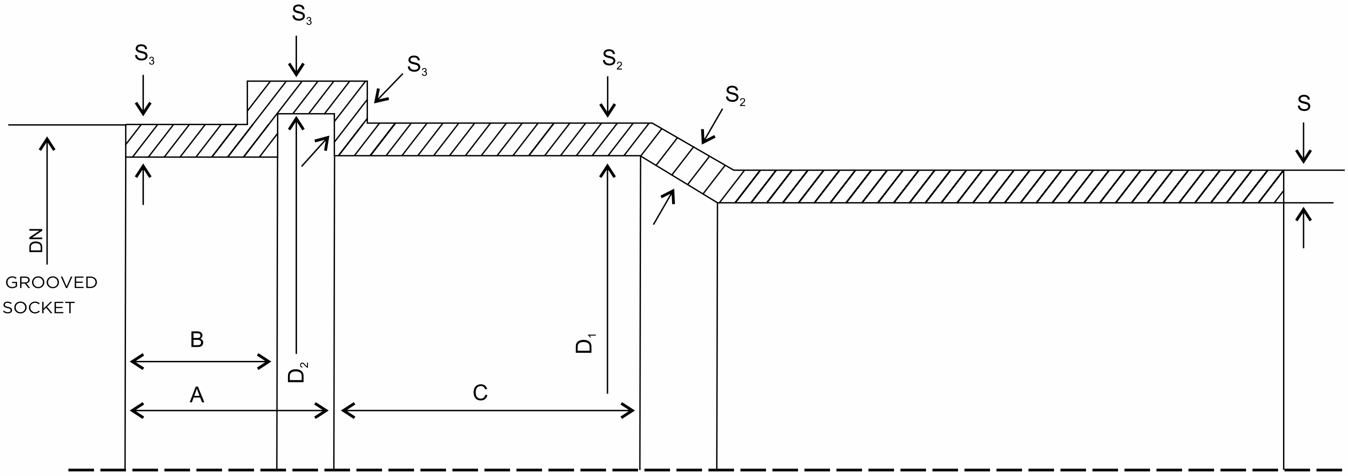
Vectus Self Fit
Vectus Self Fit (solvent cement type) pipes and fittings are joined together with solvent cement. This system is socketed on state-of-the-art online belling machines, ensuring a high degree of dimensional accuracy resulting in perfect joint each time.

Vectus Lubricant
Vectus Ring Fit pipes and fittings are fitted with the help of Vectus SWR lubricant. For faster and smoother plumbing and leak proof joints we strongly recommend the use of only Vectus lubricants.

Vectus PVC Solvent Cement
Vectus Self Fit pipes and fittings are joined with the help of Vectus PVC Solvent cement, which is single step fast setting solvent cement. The bonding takes place due to chemical fusion of the mating surfaces.

SWR Drainage System

Technical Specification



Note : Printing on pipes is done with Inkjet Printing Machines for better visibility of marking.

Dimensions of pipes

Nominal Outside Diameter DN (mm)	Mean Outside Diameter (mm)		Outside Diameter at Any Point (mm)		Wall Thickness, S Type A (mm)		Wall Thickness, S Type B (mm)	
	Min	Max	Min	Max	Min	Max	Min	Max
75	75.0	75.3	74.1	75.9	1.8	2.2	3.2	3.8
90	90.0	90.3	88.9	91.2	1.9	2.3	3.2	3.8
110	110.0	110.4	108.6	111.4	2.2	2.7	3.2	3.8
160	160.0	160.5	158	162	3.2	3.8	4	4.6

Maximum wall thickness of sockets of pipes

Nominal Outside Diameter DN (mm)	S2, Min (mm)		S3, Min (mm)	
	Type A	Type B	Type A	Type B
75	1.6	2.9	1.0	2.4
90	1.7	2.9	1.1	2.4
110	2.0	2.9	1.2	2.4
160	2.9	3.6	1.8	3.0

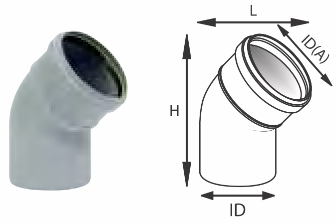
Dimensions of grooved socket

Nominal Outside Diameter DN (mm)	Inside Diameter of Socket, D1 (mm)		Inside Diameter of Beading, D2 (mm) A		Length of Beading and Neck (mm)	Neck of Socket (mm) B	Length Beyond Beading (mm) B
	Min	Max	Min	Max	Max	Min	Min
75	75.3	76.2	84.5	85.5	20	5	25
90	90.3	91.2	99.5	100.5	23	5	28
110	110.4	111.3	120.3	121.3	26	6	32
160	160.5	161.5	173.8	175	32	9	42

SWR Drainage System

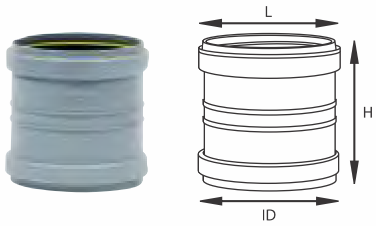
SWR Ring Fit Fittings

Bend 45°



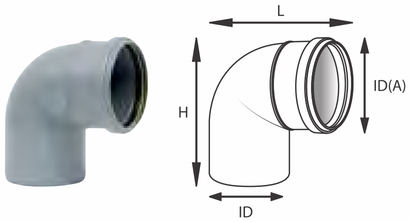
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	153	99
90	3	91.3	99.78	90.3	3.20	187	119
110	4	111.3	121.34	110.3	3.20	199	147
160	6	161.5	174.64	160.5	3.20	291	221

Coupler



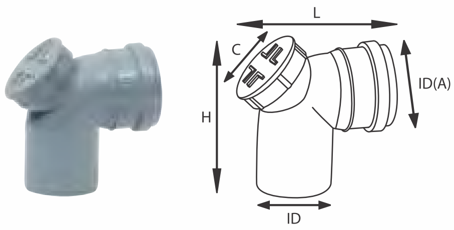
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	WT	H	L
75	2.5	76.2	85.5	3.20	97	91
90	3	91.3	99.78	3.20	117	107
110	4	111.3	121.34	3.20	122	128
160	6	161.5	174.64	3.20	198	183

Bend 87.5°



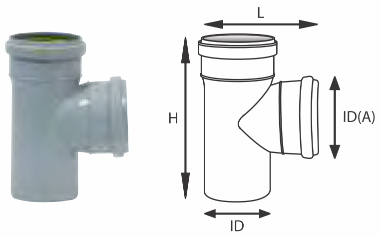
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	130	124
90	3	91.3	99.78	90.3	3.20	165	165
110	4	111.3	121.34	110.3	3.20	188	184
160	6	161.5	174.64	160.5	3.20	268	265

Door Bend 87.5°



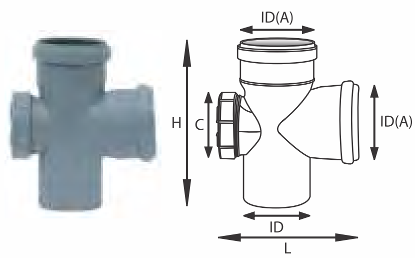
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	141	142	78	22
90	3	91.2	99.78	90.3	3.20	180	180	92.4	26
110	4	111.3	121.34	110.3	3.20	127	198	108	27
160	6	161.5	174.64	160.5	3.20	267	267	108	27

Single Tee



Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	186	134
90	3	91.3	99.78	90.3	3.20	121	155
110	4	111.3	121.34	110.3	3.20	249	185
160	6	161.5	174.64	160.5	3.20	365	271

Door Tee



Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	187	162	78	22
90	3	91.2	99.78	90.3	3.20	223	192	92.4	26
110	4	111.3	121.34	110.3	3.20	254	222	108	27
160	6	161.5	174.64	160.5	3.20	365	302	108	27

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

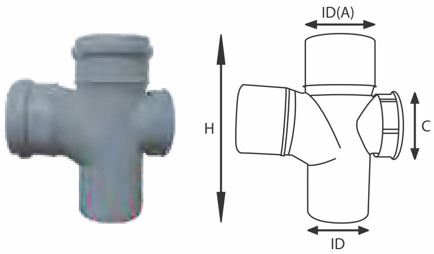
SWR Drainage System

SWR Ring Fit Fittings

Swept Tee

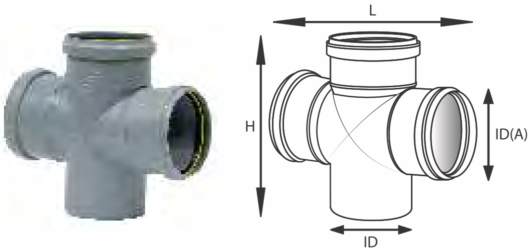
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	155	205
110	4	111.3	121.34	110.3	3.20	278	212

Swept tee with Door



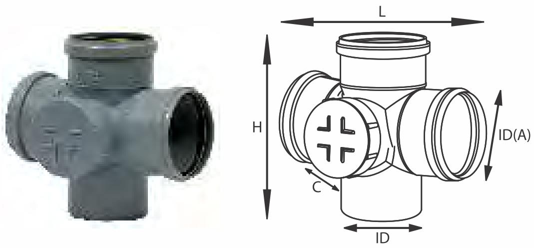
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	201	178	78	22
110	4	111.3	121.34	110.3	3.20	278	251	108	27

Cross Tee Plain



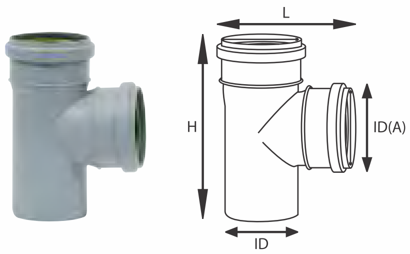
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	191	200
110	4	111.3	121.34	110.3	3.20	259	264

Cross Tee With door



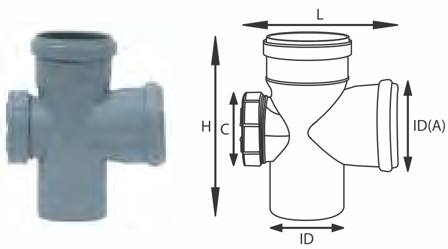
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	188	196	78	22
110	4	111.3	121.3	110.3	3.20	246	266	108	27

Reducing Tee



Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
110x75	4x2.5	111.3	121.34	110.3	3.20	250	175
		76.2	85.5	-	3.20		
110x90	4x3	111.3	121.34	110.3	3.20	250	195
		91.2	99.78	-	3.20		
160x110	6x4	161.5	174.64	160.5	3.20	365	250
		111.3	121.34	-	3.20		

Reducing Door Tee



Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
110x75	4x2.5	111.3	121.3	110.3	3.20	249	208
		76.2	85.5	110.3	3.20		
160x110	6x4	161.5	174.5	160.5	3.20	365	280
		111.3	121.3	160.5	3.20		

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

VECTUS

SWR Drainage System

SWR Ring Fit Fittings

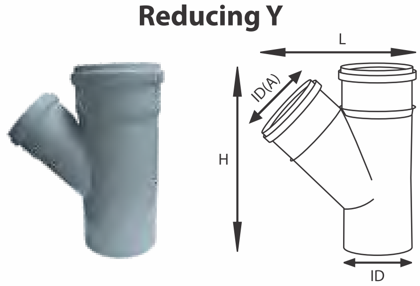
Single Y

Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	210	180
90	3	91.2	99.78	90.3	3.20	263	207
110	4	111.3	121.34	110.3	3.20	292	243
160	6	161.5	174.64	160.5	3.20	420	370

Single Y with door

Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	210	210	78	22
90	3	91.2	99.78	90.3	3.20	263	235	92.4	26
110	4	111.3	121.34	110.3	3.20	295	228	108	27
160	6	161.5	174.64	160.5	3.20	420	400	108	27

Reducing Y

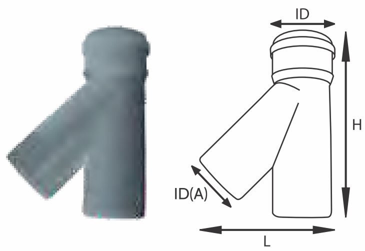


Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
110x75	4x2.5	76.2	85.5	-	3.20	264	217
		111.3	121.34	110.3	3.20		
160x110	6x4	161.5	174.64	160.5	3.20	417	314
		111.3	121.34	-	3.20		

Reducing Y with Door

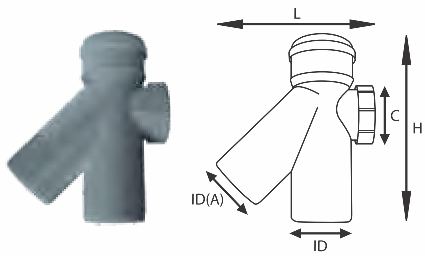
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
110x75	4x2.5	111.3	121.34	110.3	3.20	263	245
		76.2	85.5	-	3.20		
160x110	6x4	161.5	174.64	160.5	3.20	415	332
		111.3	121.34	-	3.20		

Reverse Y



Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	234	173

Reverse Y with Door



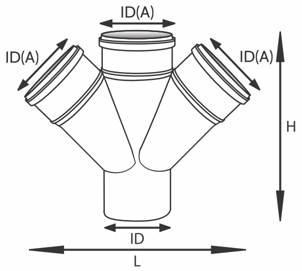
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	180	230

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

SWR Drainage System

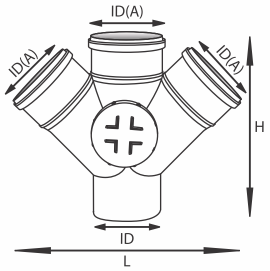
SWR Ring Fit Fittings

Double Y Plain



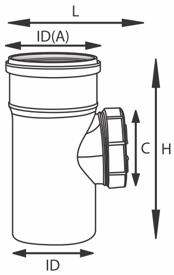
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L
75	2.5	76.2	85.5	75.3	3.20	216	221
110	4	111.3	121.3	110.3	3.20	299	366

Double Y with Door



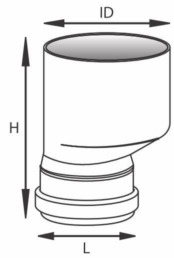
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	222	261	78	22
110	4	111.3	121.3	110.3	3.20	299	360	92.4	26

Cleaning Pipe



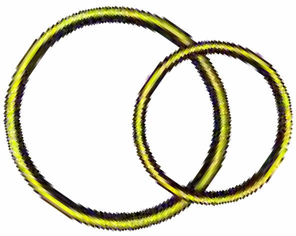
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	76.2	85.5	75.3	3.20	114	188	78	22
110	4	111.3	121.3	110.3	3.20	242	150	108	27
160	6	161.5	174.5	160.5	3.20	204	365	108	27

Reducer



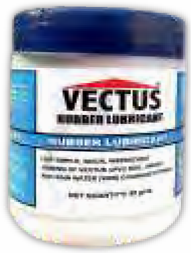
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	WT	H	L
110x75	4x2.5	76.2	85.5	3.20	152	91
		110.3	-	3.20		
160x110	6x4	111.3	121.3	3.20	201	128
		160.5	-	3.20		

Yellow Rubber Ring



Size (mm)	Size (inch)
75	2.5
90	3
110	4
160	6

Rubber Lubricant



Available in gms
50, 100, 250, 500 & 1000

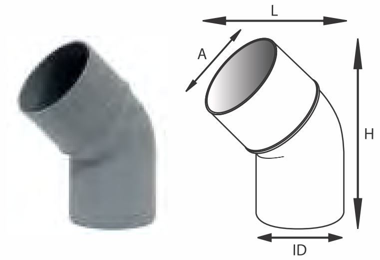
WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

VECTUS

SWR Drainage System

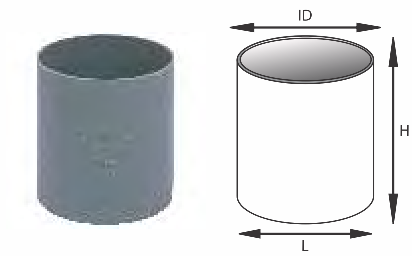
SWR Self Fit Fittings

Bend 45°



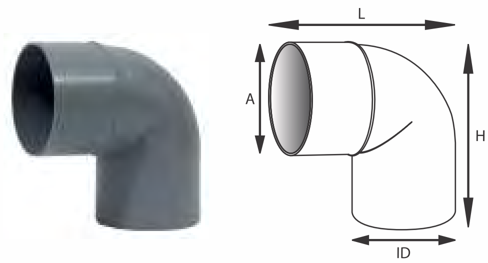
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	76.2	75.3	43	3.20	136	94
90	3	91.3	90.3	65	3.20	138	121
110	4	111.3	110.3	63	3.20	194	185
160	6	161.5	160.5	85	3.20	281	200

Coupler



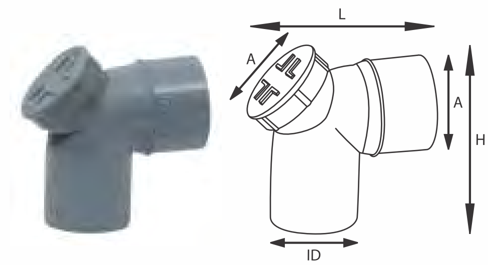
Size (mm)	Size (inch)	Socket ID	WT	H	L
75	2.5	75.3	3.20	115.5	84
90	3	90.3	3.20	124	98
110	4	110.3	3.20	119	130
160	6	160.5	3.20	168	175

Bend 87.5°



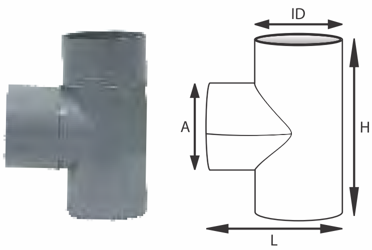
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	43	3.20	123.5	127.52
90	3	90.3	90.3	66	3.20	162	169
110	4	110.3	110.3	50	3.20	164	174
160	6	160.5	160.5	85	3.20	252	255

Door Bend 87.5°



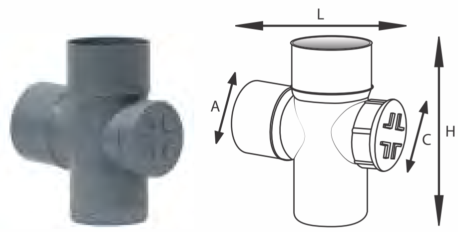
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	50	3.20	148	152
90	3	90.3	90.3	65	3.20	100	173
110	4	110.3	110.3	65	3.20	179	192
160	6	160.5	160.5	86	3.20	252	254

Single Tee



Size (mm)	Size (inch)	Socket ID	SL	WT	H	L
75	2.5	75.3	43	3.20	194	140
90	3	90.3	65	3.20	165	227
110	4	110.3	66	3.20	244.62	188.73
160	6	160.5	85	3.20	340	270

Door Tee



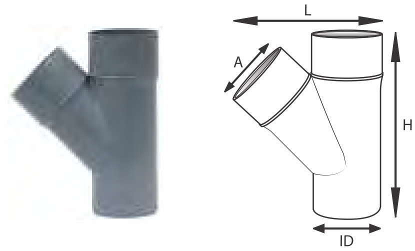
Size (mm)	Size (inch)	Socket ID	Groove ID (A)	Spigot OD	WT	H	L	CH	CL
75	2.5	75.3	75.3	42	3.20	174	161	78	22
90	3	90.3	90.3	65	3.20	227	185.72	92.4	26
110	4	110.3	110.3	66	3.20	254	222	108	27
160	6	160.5	160.5	82	3.20	341	301	108	27

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

SWR Drainage System

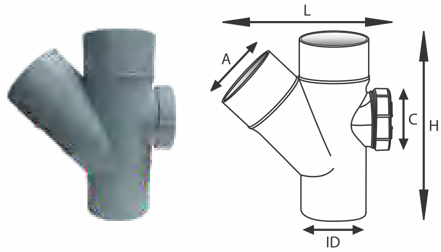
SWR Self Fit Fittings

Single Y



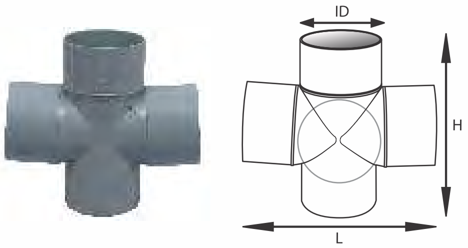
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	64	3.20	176	226
90	3	90.3	90.3	68	3.20	268	211
110	4	110.3	110.3	68	3.20	301	246

Single Y with Door



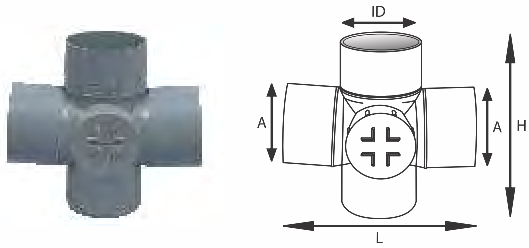
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
90	3	90.3	90.3	63	3.2	267	247	92.4	26
160	6	160.5	160.5	80	3.2	411	390	108	27

Cross Tee Plain



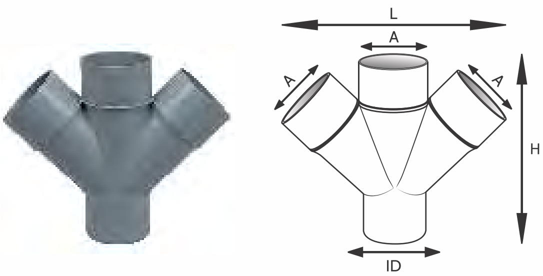
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	64	3.20	191	200
110	4	110.3	110.3	65	3.20	272	271

Cross Tee with Door



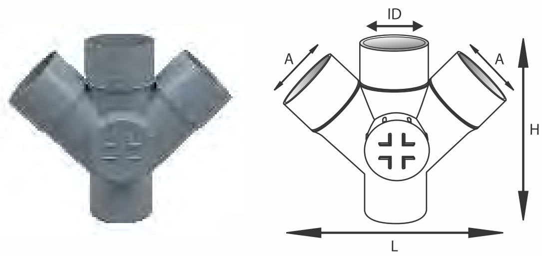
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
75	2.5	75.3	75.3	49	3.20	191	200	78	22
110	4	110.3	110.3	63	3.20	246	266	108	27

Double Y Plain



Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	51	3.20	274	265
110	4	110.3	110.3	65	3.20	300	300

Double Y with Door



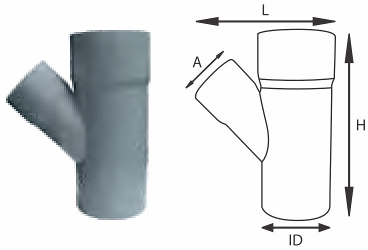
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
75	2.5	75.3	75.3	50	3.20	216	221	78	22
110	4	110.3	110.3	65	3.20	299	366	108	27

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

SWR Drainage System

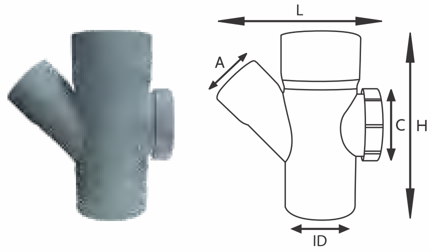
SWR Self Fit Fittings

Reducing Y



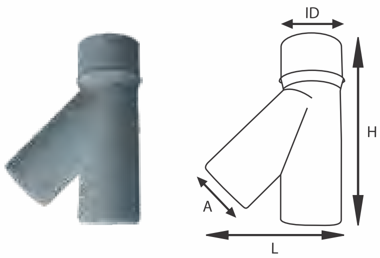
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
110x75	4x2.5	110.3	110.3	46	3.20	265.72	225.5
		75.3	-	51	3.20		
160x110	6x4	111.3	160.5	58.8	3.20	318	420
		161.5	-	48	3.20		

Reducing Y with Door



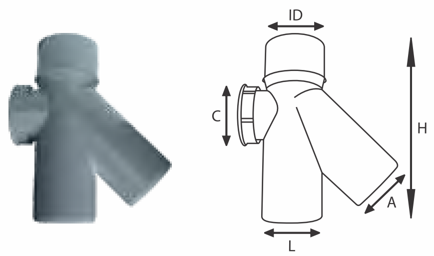
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
110x75	4x2.5	110.3	110.3	46	3.20	264	240	108	27
		75.3							
160x110	6x4	160.5	160.5	58.8	3.20	417	335	108	27
		110.3							

Reverse Y



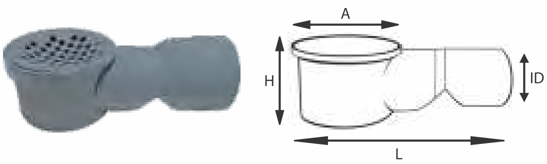
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	50	3.20	234.1	173.6

Reverse Y with Door



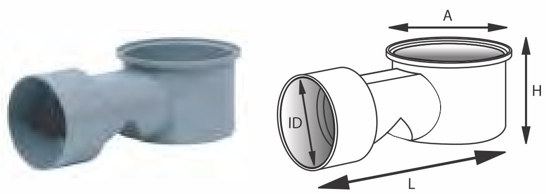
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
75	2.5	75.3	75.3	50	3.20	233	201	78	22

N Trap with Jali



Size (mm)	Size (inch)	Spigot OD	SL	WT	H	L
110x63	4 x 2	63.3	44	3.20	128	252
110x75	4 x 2.5	75.3	50	3.20	128	250
110x90	4 x 3	90.3	54	3.20	128	254
110x110	4 x 4	110.3	49	3.20	128	250

N Trap without Jali



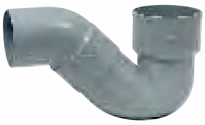
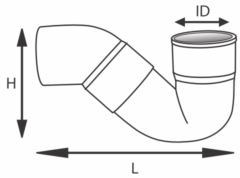
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
110x63	4x2	-	63.3	75	3.20	86	253
110x75	4x2.5	-	75.3	50	3.20	88	252
110x90	4x3	90.3	-	50	3.20	95	250
110x110	4x4	110.3	-	49	3.20	116	252

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

SWR Drainage System

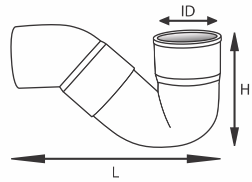
SWR Self Fit Fittings

P Trap Small

Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
110x110	4x4	110.3	110.3	63	3.20	205	352
125x110	4.5x4	125.3	110.3	71	3.20	132	360

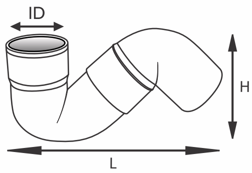
P Trap

Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
110x110*	4x4	110.3	110.3	63	3.20	208	352
125x110*	4.5x4	125.4	110.3	71	3.20	210	360

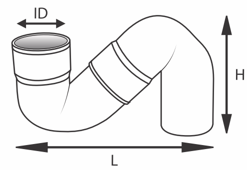
*The fitting also available with **Lip Ring**.

Q Trap

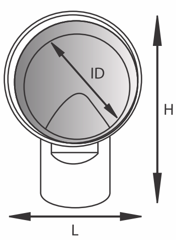
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
110x110	4x4	110.3	110.3	63	3.20	193	313.5
125x110	4.5x4	125.4	110.3	70	3.20	203	313.5

S Trap

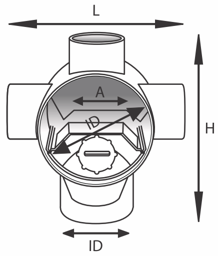
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
110x110	4x4	110.3	110.3	63	3.20	193	350
125x110	4.5x4	125.3	110.3	71	3.20	204	441

Balcony Trap

Size (mm)	Size (inch)	Socket ID	WT	H	L
110x63	4x2	63.3	3.20	171	121

Multi Floor Trap

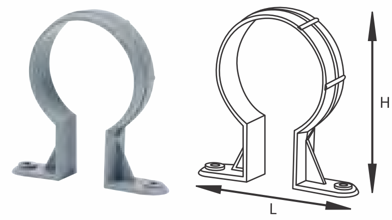
Size (mm)	Size (inch)	Socket ID	Depth (inch)	SL	WT	H	L
110x75x40	4x2.5x1.5	75.3	7	65	3.2	208	177
110x75x50	4x2.5x2	75.3	4	43	3.2	187	178

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

SWR Drainage System

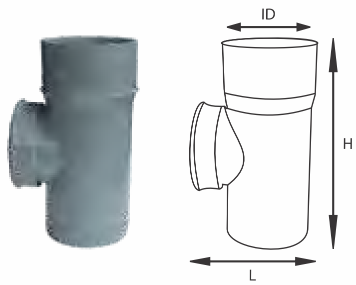
SWR Self Fit Fittings

Pipe Clip



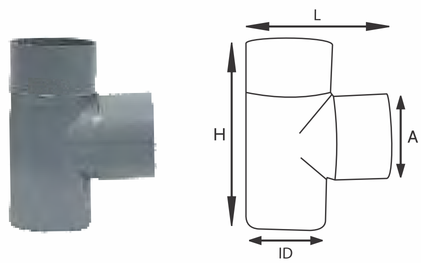
Size (mm)	Size (inch)	Socket ID	WT	H	L
75	2.5	75.3	3.20	114	130
110	4	110.3	3.20	152	157

Cleaning pipe



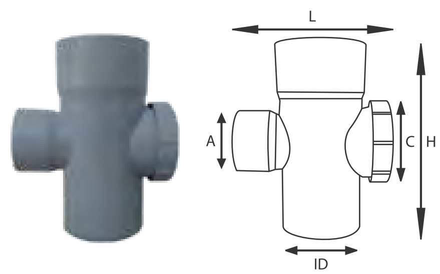
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
75	2.5	75.3	75.3	48	3.20	205	113	78	22
110	4	110.3	110.3	56	3.20	244	142	108	27

Reducing Tee



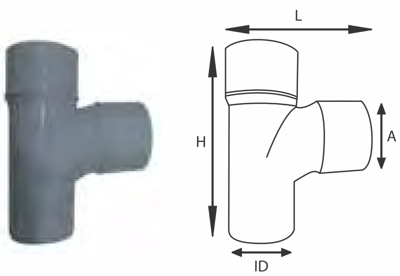
Size (mm)	Size (inch)	Socket ID	Socket ID-2	Spigot OD	SL	WT	H	L
110x75	4x2.5	110.3	75.3	110.3	42	3.20	243	162
160x110	6x4	160.5	110.3	160.5	75	3.20	330.5	254

Reducing Door Tee



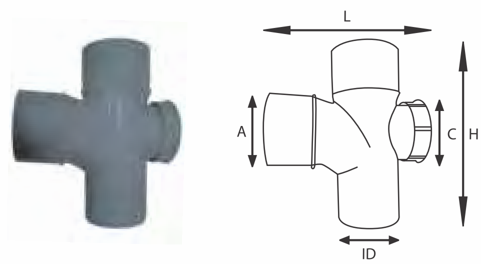
Size (mm)	Size (inch)	Socket ID	Socket ID-2	Spigot OD	SL	WT	H	L
110x75	4x2.5	110.3	75.3	110.3	42	3.20	243	201
160x110	6x4	160.5	110.3	160.5	75	3.20	340	290

Swept Tee



Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L
75	2.5	75.3	75.3	50	3.20	205	155
110	4	110.3	110.3	56	3.20	282	221

Swept tee with Door



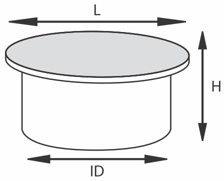
Size (mm)	Size (inch)	Socket ID	Spigot OD	SL	WT	H	L	CH	CL
75	2.5	75.30	75.30	50	3.20	205	186	78	22
110	4	110.3	110.3	56	3.20	282	252	108	27

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

SWR Drainage System

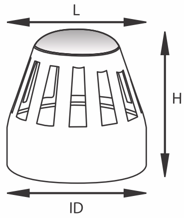
SWR Self Fit Fittings

Socket Plug



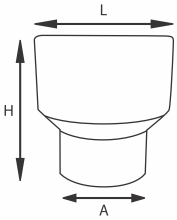
Size (mm)	Size (inch)	Spigot OD	WT	H	L
75	2.5	75.3	3.20	42	94
110	4	110.3	3.20	52	131

Vent Cowl



Size (mm)	Size (inch)	Socket ID	SL	WT	H	L
75	2.5	75.3	42	3.20	78	81
90	3	90.3	65	3.20	81	94
110	4	110.3	66	3.20	91	158
160	6	160.5	82	3.20	140	165

Reducer



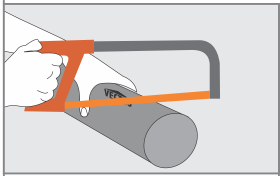
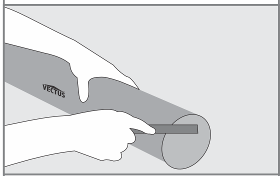
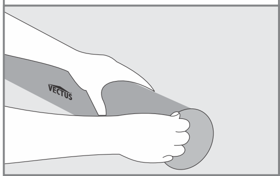
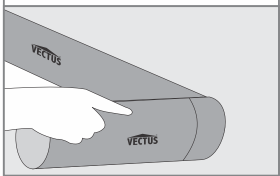
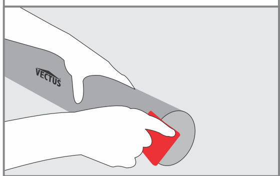
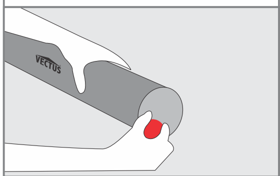
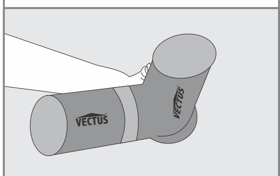
Size (mm)	Size (inch)	Socket ID	SL	WT	H	L
160x110	6x4	160.5	588	3.20	195	112.2
		110.3	82	3.20		

PVC Solvent Cement

Available in ml
100, 250, 500 & 1000

WT– Wall Thickness, H– Height, L- Length, CH– Cap Height, CL– Cap Length, SL– Socket Length

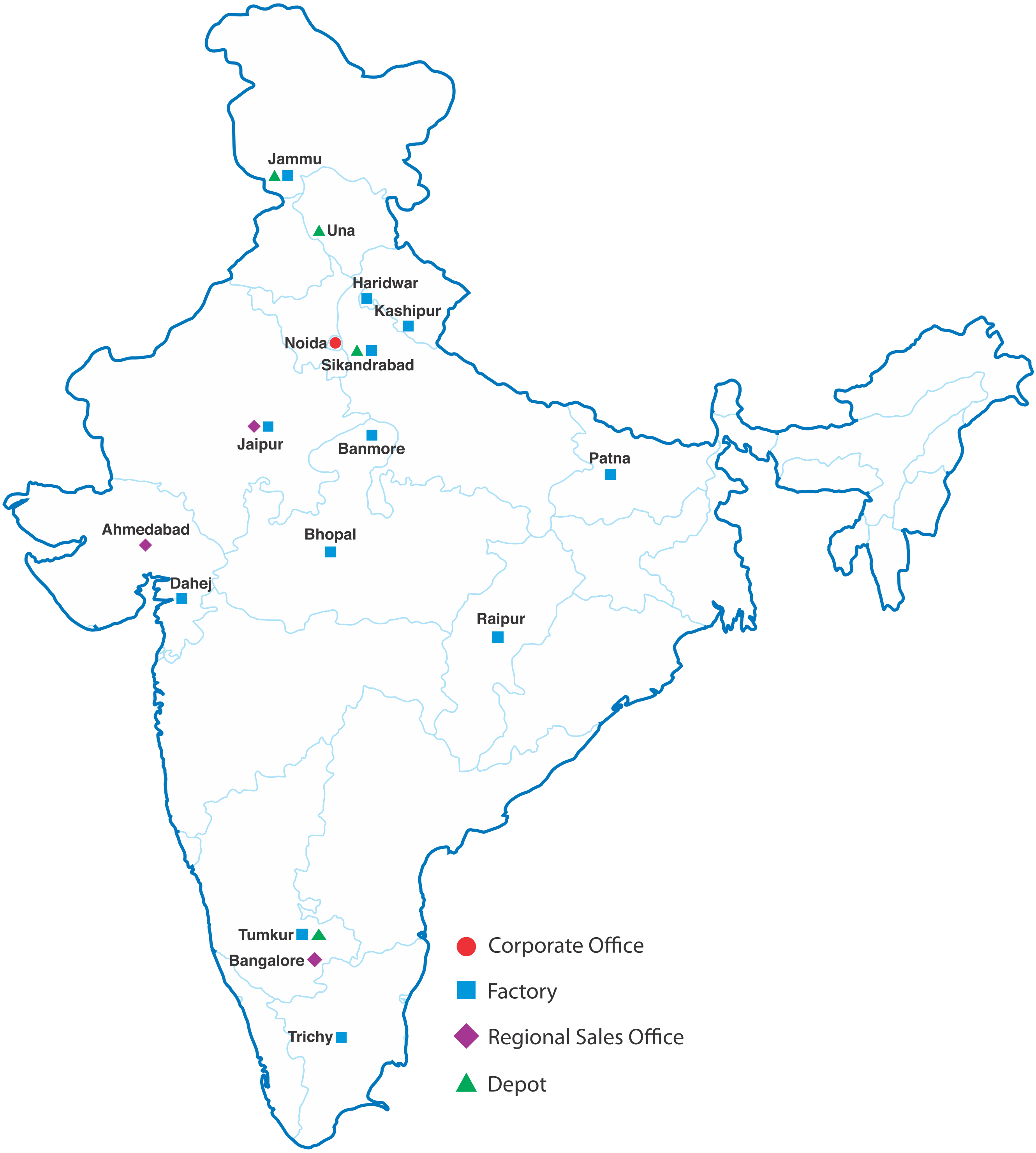
SWR Drainage System

	DO'S	DONT'S
	**CUTTING** It is imperative to mark the pipe from all sides so that pipe is cut with the help of a Hand Saw. It should be a right angle cut from all the sides. The cut piece should not be with burr on edges.	**CUTTING** Do not cut slant/unevenly.
	**CHAMFERING** This step is required when pipe cutting is done from 3 mtr. pipe to any required length during installation. After cutting, the pipe needs to be chamfered from the outer sides. It is advisable to provide an approximately 2 mm wide with slight chamfer on spigot end.	**CHAMFERING** Do not proceed with installation of pipe without chamfering.
	**DEBURRING AND RIDGE REMOVAL** Remove all the burrs and ridges accumulated on the inner as well as the outer edges of the pipe with the help of a deburring knife, file or abrasive paper.	**DEBURRING AND RIDGE REMOVAL** Do not proceed with installation of pipe without deburring.
	**DRYFIT TEST** Before applying solvent cement, insert the pipe end into the socket of the next pipe or fitting to check that interference occurs at about 1/3 to 2/3 of the socket depth.	**DRYFIT TEST** Do not apply solvent cement without dryfit test.
	**CLEANING** Thoroughly clean the pipe with dry cloth where the solvent cement is going to be applied to avoid dust, dirt, oil, moisture and other foreign material during the installation process.	**CLEANING** Do not join the pipes without cleaning the pipe ends.
	**APPLICATION OF SOLVENT CEMENT** Mark the pipe length to be inserted for jointing. Apply a liberal coat of solvent cement with the help of the brush on the marked surface.	**APPLICATION OF SOLVENT CEMENT** Do not apply excess solvent cement on the pipe and do not use solvent cement by hand.
	**JOINTING** Push the pipe inside the fitting/pipe so that it goes inside equally from all the sides. Wipe off excess solvent cement that comes out of the edges. Hold the joint for one to two minutes so that the jointing is perfect.	**JOINTING** Do not use a hammer or half push the pipes.

INSTALLATION AND COMMISSIONING

- Pipe line should be installed in proper alignment & along with necessary clamps.
- Pressure testing to be done before concealing work.
- Pressure testing may be carried out after a curing period of 24 hrs and should not be done before that.

OUR SALES AND SUPPORT NETWORK



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