MANUFACTURER OF M.S, G.I & P.V.C
PIPING SYSTEMS

THE DIFFERENCE IS QUALITY

CONTENTS

INTRODUCTION

Steelex (Pvt.) Limited established in 1979, as a modest production house for manufacturing high frequency induction welded M.S (Mild Steel) and G.I (Galvanized Iron) pipes. Confirming to B.S (British Standard) and ASTM (American Standard of Testing Material) standards.

Customer's trust have encouraged us to move ahead with the time, Steelex has now ventured into production of PVC (Poly Vinyl Chloride) piping system, with the addition of UPVC and CPVC pipes and fittings to the Steelex family. We can now rightly claim to provide highest standard piping solution for all your industrial, commercial and residential requirements.

Producing of PVC pipes and fittings has opened a new chapter for us presenting a challenging opportunity to utilize our experience for the benefit of our customers.

Over 30 years of market presence, hard work, consistent quality and thousand of satisfied customers has made Steelex a brand to trust. Steelex brand has become synonymous with highest quality standards and customer satisfaction. Years of manufacturing experience, our in depth knowledge of the industry and strict quality control has placed Steelex in a better position to lead, keeping pace with our client.

With the advent of technology it is established that plastic are fast becoming an alternative source of reliable products, keeping in view the advantages offered by plastics and changing customer requirements Steelex accepted the challenge of producing quality PVC piping system.

First class scientific management, hi-tech equipment, advance technologies and superior raw material make first class products.

2nd generation of Steelex management bring with itself more educated and scientific approach towards business.

Your choice in pertaining with us for your piping requirements will be a decision you will be proud of. We will prove our mettle!

QUALITY MANAGEMENT SYSTEM

STEELEX has established and maintained quality management system compliance with ISO 9001, 2008 standard to control all the operations like order processing, designing, production, starting with the selection of raw material till the final inspection and delivery.

The qualified and experienced personal carry out the inspection and testing at all stages of the manufacturing process for quality control & assurance to meet the customer needs and expectations.

The international and national third party inspection companies would also be organized to inspect the STEELEX product mix at various stages of production to gain the customers confidence and satisfaction.

QUALITY POLICY

"All our commitments, actions and products are geared to achieve customer satisfaction and to fulfill their requirements".

OBJECTIVES

- To produce the product of internationally recognized standards and specifications.
- To be cost effective and efficient organization.
- To minimize customer complains.
- To establish, maintain and continuously improve quality management system.

QUALITY ASSURANCE

Our facilities for full line of pipes and fittings to Hydrostatic pressure test as per the design data, to check the suitability of the product to the application.

Our laboratory is well facilitated to confirm that the products manufactured are to standard specifications. Our high performance extruders with advanced process control and monitoring system permit increased rate of production over the entire diameter ranges, adhering to the highest quality.

Our high technology moulding machines with advance automated tooling permit high volume production of fittings with exceptionally high consistency in term of dimensional accuracy, mechanical strength and surface finish.

Our sophisticated quality control and Assurance procedure and advanced manufacturing techniques work hand-in-hand to assure the highest quality and dimensional consistency in PVC piping systems.

QUALITY TEST FOR PIPES IN STEELEX LAB:

- Heat Revision and De-Lamination Tests
- Methylene Chloride Test
- Hydrostatic Test
- Impact Test
- Fracture Toughness Test
- Opacity Test
- Specific Gravity Test
- Dimension Measurement
- Visual Inspection
- Bending Test
- Hardness Test
- Stiffness Test

STEELEX PVC PIPING SYSTEM

Steelex PVC piping system offer a comprehensive range of pipes and fitting to cater to growing need of the water, sewerage, building construction industry.

STANDARDS

All PVC pipes and fittings are manufactured as per the following standards.

- UPVC Schedule 40 pipes are manufactured in strict compliance with ASTM D-1785.
- CPVC Schedule 40 pipes are manufactured in strict compliance with ASTM F-441.
- Pressure rated (SDR Series) pipes are manufactured in strict compliance with ASTM D-2241.
- All PVC pipes are produced from compound which confirms ASTM D-1784.
- All fittings for above pipes according to ASTM D-2466 & D-2665.

RANGE

Steelex UPVC & CPVC Pipes & Fittings are available in following sizes:

- UPVC Pipes (Schedule 40) : ½" to 12"
- UPVC Pipes (SDR Series) : 2" ~ 8"
- CPVC Pipes (Schedule 40) : ½" ~ 1"
- PVC Electric Conduit Pipes : ½" ~ 4"

ADVANTAGES OF STEELEX PVC PIPING SYSTEM

Easy to Install	Tough, Impact-resistance and easy to install.
Corrosion Resistance	UPVC is non-corrosive and hence constant with water does not deteriorate the material.
Chemical Resistance	Excellent chemical resistance of UPVC to acids, alkalis and oxidizing.
Non-inflammable	UPVC does not support combustion and is self-extinguishing.
Non-Conductive	UPVC is a non-conductor and hence not attacked by galvanic or electrolytic action.
Weather Resistance	Specially blended UV stabilized compound offers an excellent outdoor weathering performance. High durability.
High Flow Rate	The smooth internal bore gives excellent flow properties which remain constant throughout the life of the system.

MATERIAL PROPERTIES

MATERIAL :			
Unplasticized Polyvinyl Chloride (UPVC)			
GENERAL PROPERTIES :			
Specific Gravity		1.38 - 1.43	gm /cm3
Water absorption		< 4	gm /cm2
Oxygen Index		45	
Flammability		Self Extinguishing	
Oxygen Penetration		< 1	cm^3 / m.day.bar
THERMAL PROPERTIES :			
Heat Distortion Temperature @ 4.64 Kgf / cm2		70 - 80	°C
Heat Distortion Temperature @ 18.56 Kgf / cm2		70 - 73	°C
Max. Operating Temperature		60	°C
Specific Heat		0.20 - 0.28	Cal / g. °C
Thermal Conductivity		0.12 - 0.14	Kcal / m.h. °C
Coefficient of Linear Expansion		$6.7x10^{-5}$ - $7.9x10^{-5}$	cm / cm. °C
MECHANICAL PROPERTIES :			
Tensile Strength	@ 73 °F	480 - 525	kgf/cm^2
Compressive Strength	@ 73 °F	655 - 675	kgf/cm^2
Flexural Strength	@ 73 °F	880 - 950	kgf/cm^2
Impact Strength		4 - 4.5	joules
Modulus of Elasticity	@ 73 °F	2.9×10^4 - 3.16×10^4	kgf/cm^2
Relative Hardness (Rockwell)		110 - 120	R
ELECTRICAL PROPERTIES :			
Volume Resistively		> 1×10^{14}	ohm / cm
Surface Resistively		> 1×10^{12}	ohm / cm
Power Factor (At 10 Cycles)		3.0	
UPVC is a non conductor of electricity and also non subject to galvanic or electrolytic attack. Electrical equipment should not be earthened to (UPVC) pipes.			
COLOR			
White			

MATERIAL			
Chlorinated Polyvinyl Chloride (CPVC)			
GENERAL PROPERTIES			
Specific Gravity		1.52 - 1.55	gm /cm^3
Water absorption		< 7	gm /cm^2 @ 73 °F
		5	gm /cm^2 @ 212 °F
Oxygen Index		60	
Flammability		Self Extinguishing	
Oxygen Penetration		< 1	cm^3 / m.day.bar
THERMAL PROPERTIES			
Heat Distortion Temperature @ 4.64 Kgf / cm^3		110 - 117	°C
Heat Distortion Temperature @ 18.56 Kgf / cm^3		100 - 103	°C
Max. Operating Temperature		93	°C
Specific Heat		0.2 - 0.28	Cal / g. °C
Thermal Conductivity		0.1 - 0.13	Kcal / m.h. °C
Coefficient of Linear Expansion		$8.3x10^{-5}$ - $8.9x10^{-5}$	cm / cm. °C
MECHANICAL PROPERTIES			
Tensile Strength	@ 73 °F	550 - 580	kgf/cm^2
Compressive Strength	@ 73 °F	690 - 720	kgf/cm^2
Flexural Strength	@ 73 °F	1010 - 1080	kgf/cm^2
Impact Strength		4 - 4.5	joules
Modulus of Elasticity	@ 73 °F	2.53×10^4 - 2.82×10^4	kgf/cm^2
Relative Hardness (Rockwell)		117 - 119	R
ELECTRICAL PROPERTIES			
Volume Resistively		> 1×10^{14}	ohm / cm
Surface Resistively		> 1×10^{12}	ohm / cm
Power Factor (At 10 Cycles)		3.0	
UPVC is a non conductor of electricity and also non subject to galvanic or electrolytic attack. Electrical equipment should not be earthened to (CPVC) pipes.			
COLOR			
Light Grey			

PVC CHEMICAL RESISTANCE CHART

CHEMICAL	73° F (23° C)	140° F (60° C)	CHEMICAL	73° F (23° C)	140° F (60° C)
Acetic Acid, 20%	R	R	Diesel fuels	N	N
Acetic Acid, 80%	R	C			
Acetic Acid	R	R	Disodium Phosphate	R	R
			Diglycolic Acid	R	R
Ammonia, Gas	R	R			
Ammonia, Liquid	N	N	Detergent, aq	R	R
			Dichlorobenzene	N	N
Ammonium Salts	R	R		N	N
Ammonium Fluoride, 25%	R	C	Ethers	N	N
Benzene (Benzal)	N	N	Fatty Acids	R	R
Benzene Sulfonic Acid, 10%	R	R	Ferric Salts	R	R
Benzene Sulfonic Acid	N	N	Fluorine, Dry Gas	C	N
Benzonic Acid	R	R	Fluorine, Wet Gas	C	N
			Fluoboric Acid, 25%	C	R
Bleach, 12.5% Ative Chlorine	R	R			
Bleach, 5.5% Ative Chlorine	R	R	Formic Acid	R	N
Boric Acid	R	R	Fruit Juice and Pulps	R	R
			Fuel Oil	C	N
Bromic Acid	R	R	Furfural	N	N
			Gas, Coal, Manufactured	N	N
Calcium Salts, aq	R	R	Gas, Natural, Methane	R	R
Calcium Hypochlorite	R	R			
Calcium Hydroxide	R	R	Gasolines	C	C
Carbon Dioxide	R	R	Gelatin	R	R
Carbon Dioxide, aq	R	R	Glycerin (Glycerol)	R	R
Carbon Momoxide	R	R	Glycols	R	R
Castor Oil	R	R	Glycolic Acid	R	R
Causticpotash (Potassium Hydroxide)	R	R	Gallic Acid	R	R
Caustic Soda (Sodium Hydroxide)	R	R			
			Hydrobromic Acid, 20%	R	R
Chloric Acid, 20%	R	R	Hydrochloric Acid	R	R
			Hydrogen	R	R
Chlorine, Gas, Dry	C	N	Hydrogenperoxide, 50%	R	R
Chlorine, Gas, Wet	N	N	Hydrogenperoxide, 90%	R	R
Chlorine, Liquid	N	N			
Chlorine, Water	R	R	Iodine, Alc	N	N
Chlorine, Acid	R	R	Jet Fuels, JP-4 and JP-5	R	R
Chlorosulfonic Acid	R	N	Kerosene	R	R
Chloromic Acid, 10%	R	R	Ketones	N	N
			Lastic Acid, 25%	R	R
Citric Acid, 50%	R	R			
Coconut Oil	R	R	Lead Salt	R	R
Coke Oven Gas	R	R	Linoleic Acid	R	R
			Linseed Oil	R	R
Copper Salt, aq	R	R			
Corn Oil	R	R	Lithium Salts	R	R
Corn Syrup	R	R	Lubricating Oils	R	R
Cresylic Acid, 50%	R	R	Machine Oil	R	R
Crude Oil	R	R	Magnesium Acid	R	R

R = Generally resistant
C = Less resistant than R but still suitable for some conditions
N = Not resistant
This table is meant to aid designer in decisions as to transporting / conveyance of undiluted chemicals.

CHEMICAL	73° F (23° C)	140° F (60° C)	CHEMICAL	73° F (23° C)	140° F (60° C)
Mercuric Salts	R	R	Stannic Chloride	R	R
Mercury	R	R	Stannous Chloride	R	R
Metallic Soaps, aq	R	R	Starch	R	R
Methane	R	R	Stearic Acid	R	R
			Stoddard Solvent	N	N
Milk	R	R			
Mineral Oil	R	R	Sulfur	R	R
Mixed Acids (Sulfuric & Nitric)	C	N	Sugars, aq	R	R
Mixed Acids (Sulfuric & Phosphoric)	R	R	Sulfur Dioxide, Dry	R	R
			Sulfur Dioxide, Wet	R	C
Motor Oil	R	R			
			Sulfur Trioxide, Gas, Dry	R	R
Nickle Salt	R	R	Sulfur Trioxide, Wet	R	C
			Sulfuric Acid, up to 70%		
Nitric Acid, 0 to 50%	R	C	Sulfuric Acid, 70 to 90%	R	C
			Sulfuric Acid, 70 to 100%	C	N
Oil, Vegetable	R	R	Sulfurous Acid	C	N
Oils and Fats	R	R			
Oleic Acid	R	R	Tartic Acid	R	R
			Taetrachloroethance	C	C
Olive Oil	C	-	Tetraethly Lead	R	C
Oxygen, Gas	R	R	Terahydrofuran	N	N
			Thionyl Chloride	N	N
Paraffin	R	R			
Petroleum, Sour	R	R	Thread Currint Oils	R	-
Petroleum, Refined	R	R	Terpineol	C	C
			Titanium Tetrachloride	C	N
Phosphoric Acid	R	R	Tolueu	N	N
Phosphorus, Yellow	C	R	Tributyl Phosphate	N	N
Phosphorus, Red	R	R			
			Tributyl Citrate	R	-
Photographic Chemicals, aq	R	R	Tricresyl Phosphate	N	N
Picric Acid	N	N	Trichloroacetic Acid	R	R
Potassium Salts, aq	R	R	Trichlorothylene	N	N
Sea Water	R	R	Urea	R	R
Salicylic Acid	R	R	Urine	R	R
Salicyladehyde	C	C			
Selenic Acid	R	R	Vaseline	N	N
Sewage, Residential	R	R	Vegetable Oil	R	R
Slicic Acid	R	R	Vinegar	R	R
Silicone Oil	R	R			
Silver Salts	R	N	Water, Distilled	R	R
Soaps	R	R	Water, Fresh	R	R
Sodium Salts, aq, Except	R	R	Water, Mine	R	R
Sodium Chlorite	R	R	Water, Salt	R	R
Sodium Chlorite	R	C	Water, Tap	R	R
Sodium Dichromate, Acid	R	R			
Sodium Perborate	R	R	Zinc Salt	R	R

R = Generally resistant
C = Less resistant than R but still suitable for some conditions
N = Not resistant
This table is meant to aid designer in decisions as to transporting / conveyance of undiluted chemicals.

PVC PIPES PROCESS FLOW CHART

1

Raw Material Storage → PCV Compound Making → Hot & Cold Mixing → Storage → Extruder Feeding Unit → Extruding → Sizing Calibrator → Vacuum Cooling Chamber → Printing → Huall off Unit → Cutting Unit → Pilling Stand → Lab Inspection → Storage → Dispatch

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10

2 3 4

5 6 7 8

STANDARD DIMENSIONS AND WEIGHTS

Standard Dimensions and weights of UPVC Pipes according to ASTM D-1785 Schedule-40

Nominal Pipe Size	Outside Diameter (mm)	Wall Thickness (mm)		Nominal Weight kg/m	Nominal Weight 6M Length (kg)	PSI
		Min.	Max.			
1/2"	21.34	2.77	3.28	0.24	1.44	600
3/4"	26.67	2.87	3.38	0.32	1.91	480
1"	33.40	3.38	3.89	0.47	2.81	450
1-1/4"	42.16	3.56	4.07	0.63	3.80	370
1-1/2"	48.26	3.68	4.19	0.75	4.52	330
2"	60.32	3.91	4.42	1.01	6.08	280
2-1/2"	73.02	5.16	5.77	1.60	9.60	300
3"	88.90	5.49	6.15	2.10	12.57	260
4"	114.30	6.02	6.73	2.98	17.90	220
6"	168.28	7.11	7.97	5.26	31.54	180
8"	219.08	8.18	9.17	7.90	47.37	160
10"	273.05	9.27	10.39	11.21	67.25	140
12"	323.85	10.31	11.55	14.81	88.84	130

Pressure rating apply only to unthreaded pipes at 23 °C. Threading of Sch - 40 pipes is not recomended. The standard length is 6 meters.

Standard Dimensions and weights of CPVC Pipes according to ASTM F-441 Schedule - 40

Nominal Pipe Size	Outside Diameter (mm)	Wall Thickness (mm)		Nominal Weight kg/m	Nominal Weight 6M Length (kg)	PSI
		Min.	Max.			
1/2"	21.34	2.77	3.28	0.25	1.51	600
3/4"	26.67	2.87	3.38	0.34	2.05	480
1"	33.40	3.38	3.89	0.51	3.03	450

The standard length is 6 meters.

Standard Dimensions and weights of UPVC Pipes according to ASTM D-2241 SDR-Series

Nominal Pipe Size	Outside Diameter (mm)	Wall Thickness (mm)		Nominal Weight kg/m	Nominal Weight 6M Length (kg)	PSI
		Min.	Max.			
2" SDR-26	60.32	2.31	2.82	0.77	4.60	160
3" SDR-32.5	88.90	2.74	3.25	1.09	6.55	125
4" SDR-41	114.30	2.79	3.30	1.67	10.00	100
6" SDR-41	168.28	4.11	4.62	3.45	20.67	100
8" SDR-41	219.08	5.34	5.98	5.99	35.94	100

The standard length is 6 meters.

Standard Dimensions of UPVC Underground Drainage Pipes according to BS 4660:1973

Nominal Pipe Size (mm)	Mean Outside Diameter (mm)		Extreme Individual Outside Diameter (mm)		Minimum Wall Thickness other than sockets (mm)
	Min.	Max.	Min.	Max.	
110.0	110.0	110.4	108.0	112.4	3.2
160.0	160.0	160.6	157.1	163.5	4.1

The standard length is 6 meters.

Standard Dimensions of Electrical Conduit Pipes according to BS 6099

Nominal Pipe Size	Mean Outside Diameter (mm)		Thickness (mm)	Minimum Wall Thickness other than sockets (mm)
	Min.	Max.		
1/2	17.0	17.3	1.04	0.086
3/4	21.2	21.5	1.25	0.125
1	26.6	26.9	1.33	0.173
1-1/4	33.4	33.7	1.51	0.245
1-1/2	42.1	42.2	1.86	0.398
2	60.2	60.5	2.04	0.612
3	89.7	89.1	1.80	0.798
4	114.1	114.5	1.90	1.032

The standard length is 6 meters.

STEELEX UPVC FITTING

Standard Weight of PVC Pipes as per PS 3051 / BS 3505

Nominal Size		Class - B			Class - C			Class - D			Class - E		
Inch	mm	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.
		(Kg/m)			(Kg/m)			(Kg/m)			(Kg/m)		
1/2	21.34							0.13	0.15	0.14	0.15	0.17	0.16
3/4	26.67							0.17	0.21	0.19	0.21	0.23	0.22
1	33.40							0.27	0.32	0.29	0.31	0.34	0.32
1-1/4	42.16							0.39	0.43	0.41	0.48	0.53	0.50
1-1/2	48.26							0.51	0.57	0.54	0.63	0.69	0.66
2	60.32				0.65	0.73	0.69	0.80	0.87	0.83	0.99	1.09	1.04
2-1/2	73.02				0.97	1.07	1.02	1.25	1.38	1.31	1.52	1.67	1.60
3	88.90	1.12	1.27	1.20	1.34	1.49	1.42	1.74	1.93	1.83	2.13	2.35	2.24
4	114.30	1.69	1.89	1.79	2.22	2.46	2.34	2.91	3.20	3.06	3.50	3.83	3.67
6	168.28	3.30	3.68	3.49	4.72	5.29	5.00	6.30	6.93	6.61	7.63	8.38	8.01
8	219.08	5.09	5.57	5.33	7.40	8.15	7.77	9.66	10.57	10.11	11.68	12.84	12.26
10	273.05	7.89	8.73	8.31	11.47	12.64	12.05	14.95	16.44	15.69	18.13	19.92	19.03
12	323.85	11.07	12.21	11.64	16.13	17.79	16.96	21.06	23.10	22.08	25.62	28.13	26.87

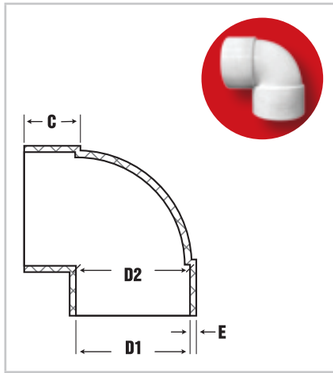
All weights are in (Kg/m)
PS 3051 (BS 3505) does not spell out any figures for weights. The pipe weights are dependent on the formulation, density and tolerances. Approximate weights for PVC Pipes for transportation and other estimation purposes are given.

Standard Dimensions of PVC Pipes as per PS 3051 / BS 3505

Nominal Size inches	Mean Outside Dia Meter in (mm)		Wall Thickness							
			Class B 6-0 Bar		Class C 9-0 Bar		Class D 12-0 Bar		Class E 15-0 Bar	
			Individual Value (mm)		Individual Value (mm)		Individual Value (mm)		Individual Value (mm)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/2	21.2	21.5							1.7	2.1
3/4	26.6	26.9							1.9	2.5
1	33.4	33.7							2.2	2.7
1-1/4	42.1	42.4					2.2	2.7	2.7	3.2
1-1/2	48.1	48.4					2.5	3.0	3.1	3.7
2	60.2	60.5			2.5	3.0	3.1	3.7	3.9	4.5
2-1/2	75.0	75.3			3.0	3.5	3.9	4.5	4.8	5.5
3	88.7	89.1	2.9	3.4	3.5	4.1	4.6	5.3	5.7	6.6
4	114.1	114.5	3.4	4.0	4.5	5.2	6.0	6.9	7.3	8.4
6	168.0	168.5	4.5	5.2	6.6	7.6	8.8	10.2	10.8	12.5
8	218.8	219.4	5.3	6.1	7.8	9.0	10.3	11.9	12.6	14.5
10	272.6	273.4	6.6	7.6	9.7	11.2	12.8	14.8	15.7	18.1
12	323.4	324.3	7.8	9.0	11.5	13.3	15.2	17.5	18.7	21.6

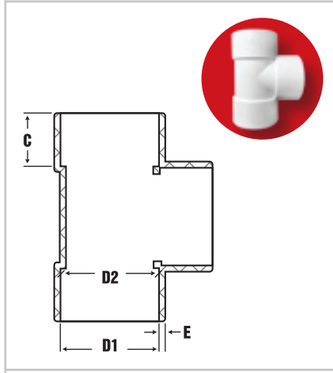
1. Pipes upto 6" sizes are normally available from stock.
2. Standard length is 6 meters, others lengths can be manufactured.
3. Pipes of nominal Dia or above 6" are normally socketed at one end (to suit either rubber ring or solvent cement joint)

According to ASTM D-2665 SCH.40



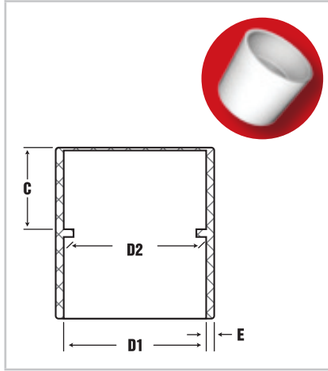
ELBOW 90°

Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	5.15
4"	114.80	115.05	114.10	114.33	51.00	5.50



TEE

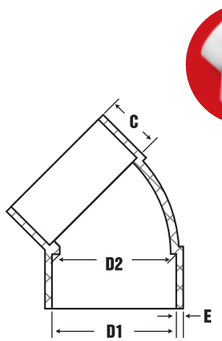
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	5.00
4"	114.80	115.05	114.10	114.33	56.50	5.50



SOCKET

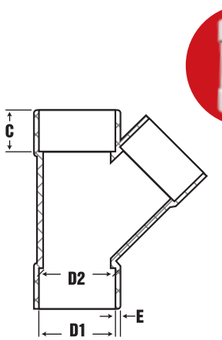
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	5.00
4"	114.80	115.05	114.10	114.33	51.50	5.50

According to ASTM D-2665 SCH.40



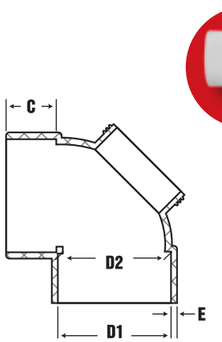
ELBOW 45°

Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	5.00
4"	114.80	115.05	114.10	114.33	51.00	5.50



Y TEE

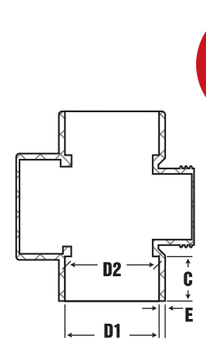
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	5.20
4"	114.80	115.05	114.10	114.33	51.00	5.50



PLUG ELBOW

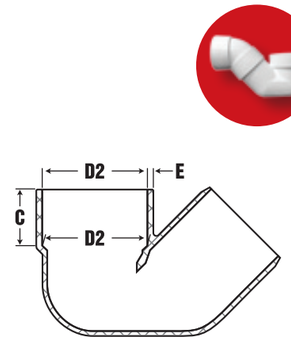
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	41.50	5.00
4"	114.80	115.05	114.10	114.33	51.00	5.50

According to ASTM D-2665 SCH.40



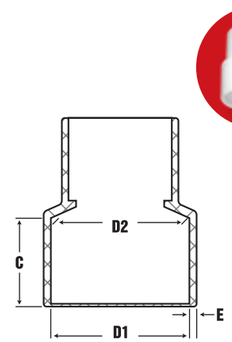
PLUG TEE

Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	41.50	5.00
4"	114.80	115.05	114.10	114.33	51.00	5.50



PTRAP / SYPHAN (TWO PIECE)

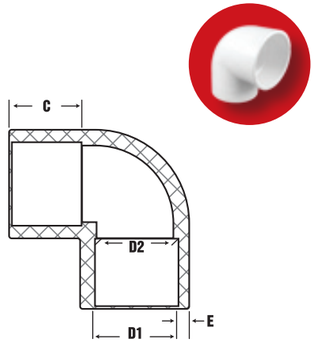
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	5.00
4"	114.80	115.05	114.10	114.33	44.50	5.50



REDUCER

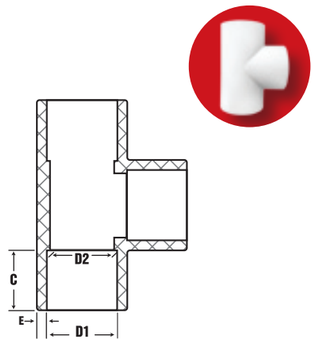
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
3"	89.41	89.66	88.70	88.90	47.80	4.8
4"	114.80	115.05	114.10	114.33	51.50	5.10

According to ASTM D-2466 SCH.40



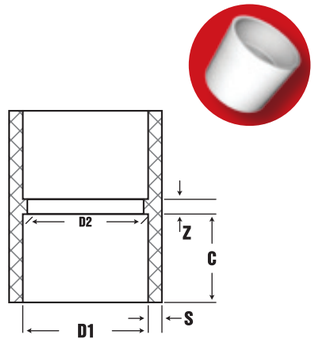
ELBOW 90°

Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
1/2"	21.53	21.63	21.23	21.33	18.30	2.90
3/4"	26.87	26.97	26.56	26.66	18.80	3.00
1"	33.65	33.77	33.27	33.39	23.10	3.60
1-1/4"	42.41	42.53	42.03	42.15	25.00	3.70
1-1/2"	48.56	48.71	48.10	48.25	29.40	3.80
2"	60.63	60.78	60.17	60.32	31.00	4.00



TEE

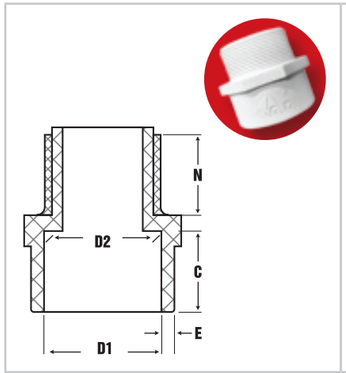
Size (Inch)	D1		D2		C	E
	Min.	Max.	Min.	Max.	Min.	Min.
1/2"	21.53	21.63	21.23	21.33	18.30	2.90
3/4"	26.87	26.97	26.56	26.66	18.80	3.00
1"	33.65	33.77	33.27	33.39	23.10	3.60
1-1/4"	42.41	42.53	42.03	42.15	25.00	3.70
1-1/2"	48.56	48.71	48.10	48.25	29.40	3.80
2"	60.63	60.78	60.17	60.32	31.00	4.00



SOCKET

Size (Inch)	D1		D2		C	S	N
	Min.	Max.	Min.	Max.	Min.	Min.	Min.
1/2"	21.53	21.63	21.23	21.33	18.30	2.90	3.00
3/4"	26.87	26.97	26.56	26.66	19.20	3.00	3.00
1"	33.65	33.77	33.27	33.39	23.10	3.60	3.20
1-1/4"	42.41	42.53	42.03	42.15	25.00	3.70	3.20
1-1/2"	48.56	48.71	48.10	48.25	29.40	3.80	3.20
2"	60.63	60.78	60.17	60.32	31.00	4.00	3.20

According to ASTM D-2466 SCH.40



MALE ADAPTER

Size (Inch)	D1		D2		C	E	N
	Min.	Max.	Min.	Max.	Min.	Min.	Inch
1/2"	21.53	21.63	21.23	21.33	18.30	2.90	14
3/4"	26.87	26.97	26.56	26.66	19.20	3.00	14
1"	33.65	33.77	33.27	33.39	23.10	3.60	11
1-1/4"	42.41	42.53	42.03	42.15	25.00	3.70	11
1-1/2"	48.56	48.71	48.10	48.25	29.40	3.80	11
2"	60.63	60.78	60.17	60.32	31.00	4.00	11

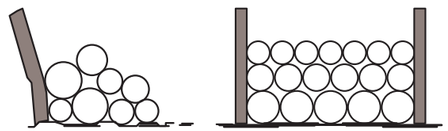
STORAGE & HANDLING

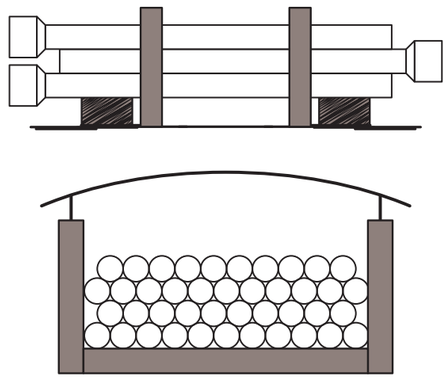
STORAGE

- The pipes should be kept on a flat surface or on level ground free from stones and sharp objects.
- The maximum stack should be 7 layers high under normal conditions and 6 layers high in hot condition.
- Ideally a stack should contain pipes of the same diameter. If this is not possible nesting of smaller pipes inside the large pipes may be done. The large diameter pipes should always be kept at the bottom of the stack.
- Direct exposure to sunlight can affect the pipes and fittings, causing decolouration and deterioration in the seal ring.
- It is recommended that the pipes should not exposed to direct sunlight and kept in open for longer periods of direct sunlight, it should be covered by opaque sheets.
- While storing socketed pipes, it is recommended that alternate layers should have the sockets in the opposite direction.

Incorrect way to stack pipes

Correct way to stack pipes



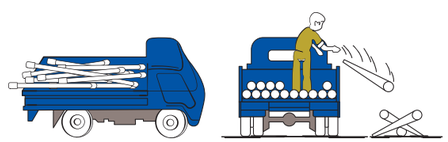


HANDLING

- Responsible care should be taken while handling of pipes. During unloading from vehicles, pipes should not be dropped/ mishandled from the vehicle.
- Pipe should never be dragged along hard surfaces. In case of mechanical lifting, avoid using metal chains and hooks in direct contact with the pipes. It is recommended to provide protected sings and pads supports.

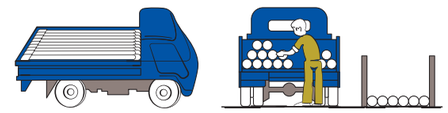
Incorrect way to load pipes

Incorrect way to off-load pipes



Correct way to load pipes

Correct way to off-load pipes



INSTALLATION PROCEDURES

Solvent Cement Jointing

All burrs from the internal and external surfaces should be removed.

The spigot should be marked with a pencil line at a distance equivalent to the socket depth. Clean the surface within the marked area.

Apply uniform coat of solvent cement on the external surface of the pipe and a lighter coat on the internal surface of the fitting.

Insert the pipe end into the socket of the fitting and push it in upto the mark.

Remove the excess solvent cement and hold the joint firmly in position for 30 seconds to dry.

Rubber Ring Jointing

Chamfer the end of the pipe. Remove all burns, dust and dirt.

Apply lubricant on the external surface of the chamfered end of the pipe and on the rubber gasket.

Check that the ring seal is in position in the housing.

Push the pipe fully into the socket and mark the pipe depth in the socket with marker.

Withdraw the pipe until the mark is 12 mm away from the socket before fixing. This gap between the pipe end and the socket register is very essential for thermal expansion/contraction.


STEELEX KARACHI C-PVC
STEELEX KARACHI C-PVC 1/2"
03-09-2013 03:35
03-09-2013 04:03
03:37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SIZE
TYPE
MATERIAL
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