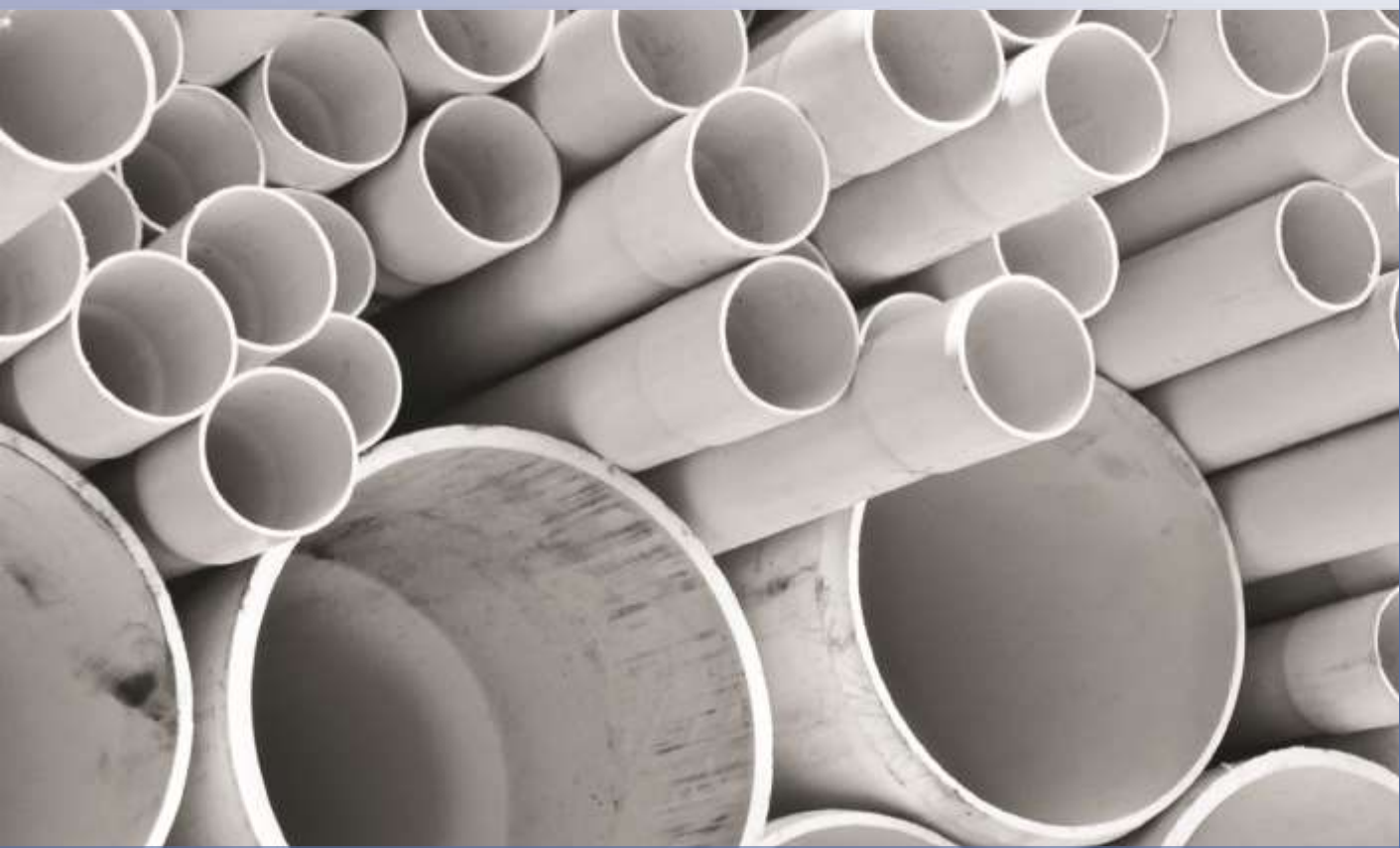




# MODERN BUILDING ACCESSORIES FACTORY



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ISO 9001 : 2008, ISO 14001:2004,  
OHSAS 18001 :2007  
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## Unplasticized Polyvinyl Chloride Pipes (uPVC)

MBA uPVC pipes are manufactured in accordance to the international standards for different types of usage mainly British and European standards (BS EN 1401, BS EN 1329, DIN 8062, BS 3505/3506, BS 6099, QCS 2010, QCS 2014). In some cases MBA are manufacturing pipes that are in accordance to the standard of telecommunication companies and contractors in the state of Qatar.

### TECHNICAL DATA OF MODERN BUILDING ACCESSORIES FACTORY uPVC Pipes

#### PHYSICAL PROPERTIES

	Properties at 20_C	Unit	Values	Method of Evaluation
1	Specific Gravity at 23_C		1.43	ASTM D 792
2	Flammability	not support		ASTM D 635
3	Resistance of burning	Sec.	< 30	BS 4607 PART 2.70
4	Softening PT. (VSP 5kgf )	_C	82	BS 2782 - 1976
5	Shore Hardness		81	ASTM D 2240 - 75
6	Thermal Conductivity	W/m-k	0.17	BS 874 - 1973
7	Specific Heat	Cal/g_C	0.25	

#### MECHANICAL PROPERTIES

	Properties at 20_C	Unit	Values	Method of Evaluation
1	Tensile Strength 20_C	Kg/cm2	481 - 550	ISO R 257
2	Modulus of Elasticity	MN/m	3000	ASTM - 1784
3	Compressive Strength	Kp/cm	668	BS 4607 PART 2:70
4	Flexural Strength	Kp/cm	950	ASTM D 790
5	Elongation at Break	%	> 80	ISO R 527
6	Yield Stress	Kp/cm	> 400	ISO R 527
7	Resistance to Heat	mm	< 2	BS 4607 PART 2:70

#### CHEMICAL PROPERTIES

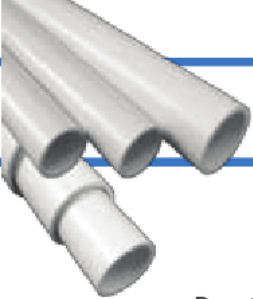
	Properties at 20_C	Unit	Values	Method of Evaluation
1	Resist to Sulphuric Acid	.g/45cm	-0.13 +3.19	
2	Resist to Methylene Chloride	%	<3	ISO 2508/81
3	Resist. Water Absortion	.mg/cm	<2.0	ISO 2508/81 & DIN 8061

#### TOXICITY

	Properties at 20_C	Unit	Values	Method of Evaluation
1	Pb Toxicity	.mg/L	<0.3	
2	Sn Toxicity	=	<0.02	
3	Zn Toxicity	=	<0.01	

#### ELECTRICAL PROPERTIES

	Properties at 20_C	Unit	Values	Method of Evaluation
1	Volume Resistivity	.mg/L	1014	
2	Surface Resistance	.ohm	1012	DIN 53482
3	Power Factor at 10 HERTZ		3	
4	Dielectric strength	V/mil	1400	BS 4607
5	Insulation Resistance	M. ohm	1.1x105	BS 4607



# MODERN BUILDING ACCESSORIES FACTORY

## Sewerage/Drainage Non-Pressure uPVC Pipes

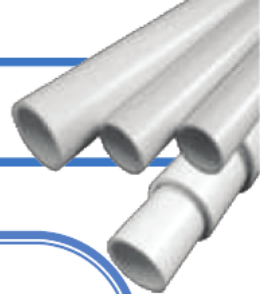
Due to in demand of supply for the sewerage/drainage non-pressure uPVC pipes in Qatar, we manufacture now this type of pipes in accordance to both British, Dutch & American standards as follows.

### 1. British Standards:

BS EN 1329 (Formerly BS 5255) Soil & Waste (Above Ground Drainage)			
Nominal Size		Mean Outside Diameter	Wall Thickness
INCH	mm	mm	mm
1 1/4	32	36.15	2.0
1 1/2	40	42.75	2.0
2	50	55.75	2.0
The Standard Length		4.0 Meters	
The Standard Color		Light Gray in Color.	
The Socket Type		Solvent Weld Socket Type	

BS EN 1329 (Formerly BS 4514) Soil & Waste (Above Ground Drainage)			
Nominal Size		Mean Outside Diameter	Wall Thickness
INCH	mm	mm	mm
3	82	82.4	3.2
4	110	110.0	3.2
6	160	160.0	3.2
The Standard Length		3"=> 4.0 Meters, 4 & 6"=>5.8 Meters.	
The Standard Color		Light Gray in Color.	
The Socket Type		Solvent Weld Socket Type	

BS EN 1401-1 (Formerly BS 4660) Sewer & Drainage (Underground)							
Nominal Size DN/OD <sup>a</sup>	Nominal Outside Dia.	SN2 SDR 51 <sup>b</sup>		SN4 SDR 41		SN8 SDR 34	
	d <sub>n</sub>	e <sub>min</sub>	e <sub>m.max</sub>	e <sub>min</sub>	e <sub>m.max</sub>	e <sub>min</sub>	e <sub>m.max</sub>
110	110	-	-	3.2	3.8	3.2	3.8
125	125	-	-	3.2	3.8	3.7	4.3
160	160	3.2	3.8	4.0	4.6	4.7	5.4
200	200	3.9	4.5	4.9	5.6	5.9	6.7
250	250	4.9	5.6	6.2	7.1	7.3	8.3
315	315	6.2	7.1	7.7	8.7	9.2	10.4
(355)	355	7.0	7.9	8.7	9.8	10.4	11.7
400	400	7.9	8.9	9.8	11.0	11.7	13.1
(450)	450	8.8	9.9	11.0	12.3	13.2	14.8
500	500	9.8	11.0	12.3	13.8	14.6	16.3
630	630	12.3	13.8	15.4	17.2	18.4	20.5
Color golden brown or red							
Length 5.8 and 6 Meter							
Socket Rubber Ring Seal							
Solvent or plain ends							



## BS 5481 Gravity Sewerage uPVC Pipes

Nominal Size	Mean Outside Diameter	Wall Thickness
mm	mm	mm
200	200.0	4.9
250	250.0	6.1
The Standard Length	5.8 & 6.0 Meters.	
The Standard Color	Red (Golden Brown)	
The Socket Type	Solvent Weld & Rubber Ring Seal Socket Type	

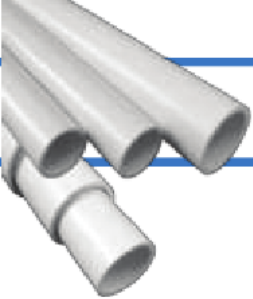
## 2. DIN Standards:

### DIN19531 Drain (Above Ground) uPVC Pipe

Nominal Size	Mean Outside Diameter	Wall Thickness
mm	mm	mm
40	40.0	1.8
50	50.0	1.8
75	75.0	1.8
110	110.0	2.2
125	125.0	2.5
160	160.0	3.2
The Standard Length	4.0, 5.8, & 6.0 Meters	
The Standard Color	Gray and Black in Color.	
The Socket Type	Solvent Weld & Rubber Ring Seal Socket Type	

### DIN19534 Sewer (Gravity) uPVC Pipe

Nominal Size	Mean Outside Diameter	Wall Thickness
mm	mm	mm
110	110.0	3.0
125	125.0	3.0
160	160.0	3.6
200	200.0	4.5
250	250.0	6.1
300	315	7.7
400	400	9.8
500	500	12.3
630	600	15.4
710	700	17.4
The Standard Length	5.0, & 6.0 Meters	
The Standard Color	Red (Golden Brown)	
The Socket Type	Solvent Weld & Rubber Ring Seal Socket Type	



# MODERN BUILDING ACCESSORIES FACTORY

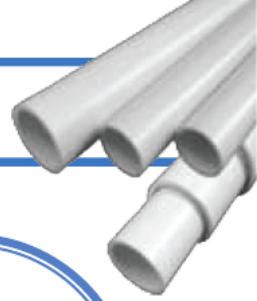
## MBA Pressure uPVC Pipes

MBA manufactures this pressure pipes for the wide used in the plumped water supply system, irrigation and industrial purposes. These pipes are manufactured in accordance to the following:

### 1. British Standards:

BS 3505/3506 MBA Pressure uPVC Pipes					
Nominal Size (inch)	Outside Diameter (mm)	Wall Thickness (mm)			
		Class B (6 BAR)	Class C (9 BAR)	Class D (12 BAR)	Class E (15 BAR)
1/2"	21.1				1.7
3/4"	26.6				1.9
1"	33.4				2.2
1 1/4"	42.1			2.2	2.7
1 1/2"	48.1			2.5	3.1
2"	60.2		2.5	3.1	3.9
2 1/2"	75.0		3.0	3.9	4.8
3"	88.7	2.9	3.5	4.6	5.7
4"	114.1	3.4	4.5	6.0	7.3
6"	168.0	4.5	6.6	8.8	10.8
8"	218.8	5.3	7.8	10.3	12.6
10"	272.6		9.7	12.8	15.7
12"	323.4		11.5	15.2	18.7
14"	355.0		12.6	16.7	20.5
16"	405.9		14.5	19.0	23.4
18"	456.7		16.3	21.4	
20"	507.5		18.1		
24"	609.1		21.7		
The Standard Length	5.0, & 6.0 Meters				
The Standard Color	Dark Gray				
The Socket Type	Solvent Weld Socket Type				
Rubber ring socket for sizes 4", 6" & 8" Class D & E.					

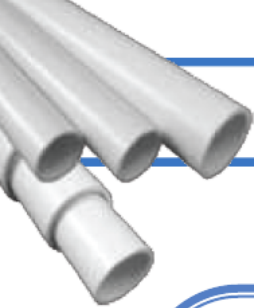




## 2. German DIN Standards:

### DIN 8062/63 MBA Pressure uPVC Pipes

Nominal Size (mm)	Outside Diameter (mm)	Wall Thickness (mm)			
		Class 2 (4 BAR)	Class 3 (6 BAR)	Class 4 (10 BAR)	Class 5 (16 BAR)
40	40		1.8	2.9	3.0
50	50		1.8	2.4	3.7
63	63		1.9	3.4	4.7
75	75	1.8	2.2	3.6	5.6
90	90	1.8	2.7	4.3	6.7
110	110	2.2	3.2	5.3	8.2
160	160	3.2	4.7	7.7	11.9
200	200	4.0	5.9	9.6	14.9
225	225	4.5	6.6	10.8	16.7
250	250	4.9	7.3	11.9	18.6
280	280	5.5	8.2	13.4	20.8
315	315	6.2	9.2	15.0	23.4
355		7.0	10.4	16.9	26.3
400		7.9	11.7	19.1	29.7
450		8.9	13.2	21.5	
500		9.8	14.6	23.9	
560		11.0	16.4	26.7	
630		12.4	18.4	30.0	
710		14.0	20.7		
800		15.7	23.3		
The Standard Length		5.0, & 6.0 Meters			
The Standard Color		Dark Gray			
The Socket Type		Solvent Weld Socket Type			

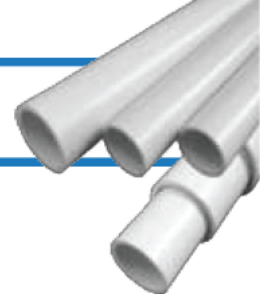


## 3. ASTM Standards

ASTM D 1785 (Schedule Series) Pressure uPVC Pipes			
Nominal Size (inch)	Outside Diameter (mm)	Wall Thickness (mm)	
		Schedule 40	Schedule 80
1/2"	21.24	2.77	3.73
3/4"	26.57	2.87	3.91
1"	33.27	3.38	4.55
1 1/4"	42.03	3.56	4.85
1 1/2"	48.11	3.68	5.08
2"	60.17	3.91	5.54
2 1/2"	72.84	5.16	7.01
3"	88.70	5.49	7.62
4"	114.07	6.02	8.56
6"	168.00	7.11	10.97
8"	218.70	8.18	12.70
The Standard Length		4.0, 5.8 & 6.0 Meters.	
The Standard Color		For SCH. 40 = White & for SCH 80 = Dark Gray.	
The Socket Type		Solvent Weld	

ASTM D 2241 (SDR - Series) Pressure uPVC Pipes							
Nominal Size (mm)	Outside Diameter (mm)	Wall Thickness (mm)					
		SDR 41	SDR 32.5	SDR 26	SDR 21	SDR 17	SDR 13.5
1/2"	21.24						1.57
3/4"	26.57				1.52	1.57	1.98
1"	33.27			1.52	1.60	1.96	2.46
1 1/4"	42.03		1.52	1.63	2.01	2.49	3.12
1 1/2"	48.11		1.52	1.85	2.29	2.84	3.58
2"	60.17		1.85	2.31	2.87	3.56	4.47
3"	88.70	2.16	2.74	3.43	4.24	5.23	6.58
4"	114.07	2.80	3.51	4.39	5.44	6.73	8.46
6"	168.0	4.11	5.18	6.48	8.03	9.91	12.47
8"	218.70	5.33	6.73	8.43	10.41	12.90	
SDR = $\frac{\text{Outside Diameter}}{\text{Wall Thickness}}$		The Standard Length		5.8 or 6.0 Meters			
		The Standard Color		White.			
		The Socket Type		Solvent Weld Socket			

ASTM 2279 (PVC) SEWER PIPES		
Normal Size	Outside Diameter (mm)	Wall Thickness (mm)
2"	57.15	1.80
3"	72.55	1.80
4"	107.6	1.90
6"	159.39	2.60
The Standard Length		5.8 Meters
The Standard Color		Grey
The Socket Type		Solvent Weld



## uPVC Pipes According to DIN Standards (DIN8062, ISO/DIN 4422)

Nominal	Tolerance	Class 1 (2.5 Bar)		Class 2 (4.0 Bar)		Class 3 (6 Bar)		Class 4 (10 Bar)		Class 5 (16 Bar)	
OD mm	on O.D.	Wall mm	Wt Kg/m	Wall mm	Wt Kg/m	Wall mm	Wt Kg/m	Wall mm	Wt Kg/m	Wall mm	Wt Kg/m
180	(+) 0.4	1.8	1.57	3.6	3.02	5.3	4.37	8.6	6.88	13.4	10.4
200	(+) 0.4	1.8	1.74	4	3.7	5.9	5.37	9.6	8.51	14.9	12.8
225	(+) 0.5	1.8	1.96	4.5	4.7	6.6	6.76	10.8	10.8	16.7	16.1
250	(+) 0.5	2	2.4	4.9	5.65	7.3	8.31	11.9	13.2	18.6	19.9
280	(+) 0.5	2.3	3.11	5.5	7.11	8.2	10.4	13.4	16.6	20.8	24.9
315	(+) 0.6	2.5	3.78	6.2	9.02	9.2	13.2	15	20.9	23.4	31.5
355	(+) 0.7	2.9	4.88	7	11.4	10.4	16.7	16.9	26.5	26.3	39.9
400	(+) 0.7	3.2	6.1	7.9	14.5	11.7	21.1	19.1	33.7	29.7	50.8
450	(+) 0.8	3.6	7.65	8.9	18.3	13.2	26.8	21.5	42.7	-	-
500	(+) 0.9	4	9.38	9.8	22.4	14.6	32.9	23.9	52.6	-	-
560	(+) 1.0	4.2	11.8	11	28.1	16.4	41.4	26.7	65.8	-	-
630	(+) 1.1	2	14.6	12.4	35.7	18.4	52.2	30	83.2	-	-





# MODERN BUILDING ACCESSORIES FACTORY

## MBA uPVC Electrical Conduit & Cable Ducts

MBA has a variety of electrical conduits and cable ducts which are manufactured in accordance to British Standards, European Standards, Qatar Telecommunication (QTEL), Electricity (Kahrama) and Water Service Company.

BS EN 50086 & BS 6099/2 uPVC Electrical Conduit						
Nominal Size (mm)	Inside Diameter			Wall Thickness (mm)		
	Light	Medium	Heavy	Light	Medium	Heavy
20	17.4	16.9	15.8	1.4	1.6	1.8
25	22.1	21.9	20.6	1.6	1.8	1.9
32	28.6	27.8	26.6	1.7	2.1	2.5
38	34.8	33.6	33.0	1.6	2.3	2.5
50	45.1	44.3	43.2	2.45	2.85	3.2
<b>Standard Length :</b> All conduits are 2.9 meters in Length						
<b>Standard Color :</b> All conduits are White or Black in color.						

### Electric Conduit Pipes

Modern Building Accessories Factory manufactured combustion-proof PVC cable trunk and conduit are certified by quality inspection organization, fire prevention department and other relevant departments. Combustion-proof of PVC cable trunk and conduit are marked with MBA brand, specifications, temperature of long service time, manufacturer, and fire prevention production license. The certificate of quality bears specification, quantity, and production date and inspector code.

The standard length of pipe is 2.9m; custom-made length is available upon request. MBA insulated conduit pipe and fittings for construction application conform to BS EN 61386-21 and BS EN 500086-2-1 (Formerly BS 6099).

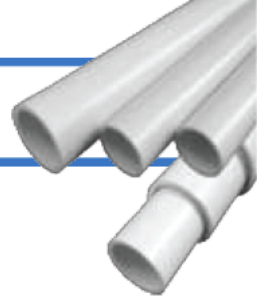
### Why conduit pipes?

1. Good Insulation -our product has good insulation property, high anti-current punctures strength, can resist 25kV, therefore no risk once leakage of voltage occurs.
2. Great Impact Resistance – can be buried in concrete, resist compression and impact.
3. Good fire-proofing – our product has high oxygen index, good combustion resistance, self extinguishing.
4. Moisture Proof – resistant to acids, alkalis. No rust occurs like metal pipe.
5. Biotic Resistance – no smell attracting rodent thus it will not suffer from biotic attack.



### Characteristic

1. Easy to install and remove – Unique jointing method, very easy to open and assemble.
2. Good Screw fixing – no cracks occurs due to screwing.
3. Attracting Appearance – color in good appearance and it is also recommended for indoor installation.



## Qatar Telecommunication (Ooredoo) Standard

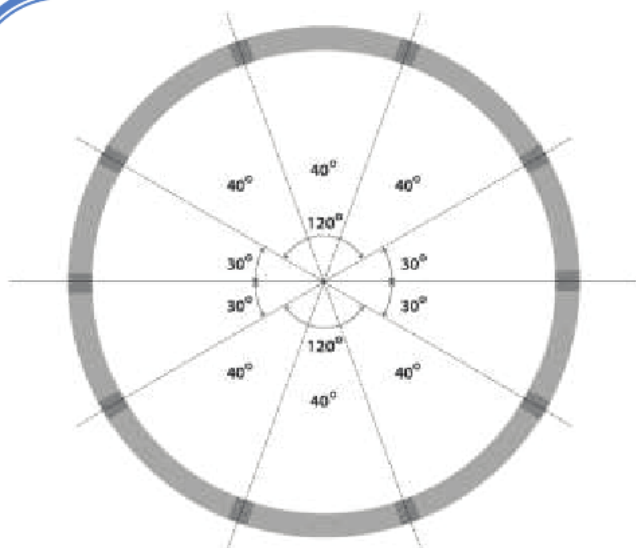
Duct No.	Outside Diameter (mm)	Inside Diameter (mm)	Socket Length (mm)	Duct Length	Wall Thickness
54D	96.5	90.0	100.0	5.9	3.25
56D	56.5	50.0	70.0	3.90	3.25
<b>Standard Color</b>	All ducts & bends are black				
<b>Socket Type</b>	All ducts & bends are solvent weld type				

## MBA DUCTS (According to QCS 2010 and 2014)

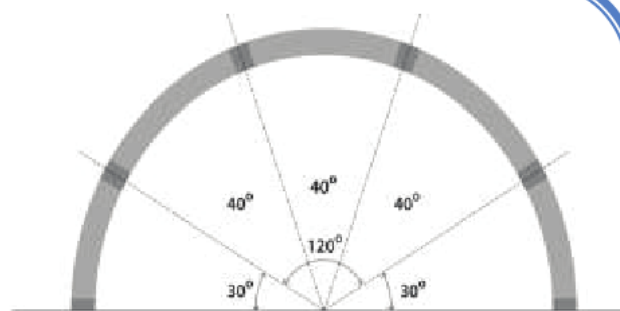
Nominal Size (Inch)	Outside Diameter (mm)	Wall Thickness (mm)	Standard Length (meters)
2"	55.75	2.0	4.0
3"	82.4	2.2	4.0
4"	110.0	2.4	5.8
6"	160.0	2.6	5.8
4"	110.0	3.2	5.8
6"	160.0	4.7	5.8
6"	160.0	3.6	5.8
8"	200.0	4.0	5.8
8"	200.0	4.9	5.8
10"	250.0	4.9	5.8
10"	250.0	6.1	5.8
12"	315.0	7.7	5.8
12"	315.0	9.2	5.8
<b>Standard Color</b>	Red, Grey and Black		
<b>Socket Type</b>	All pipes are solvent or rubber socket.		



## Perforated Piping Systems



**Fully Perforated Pipe**

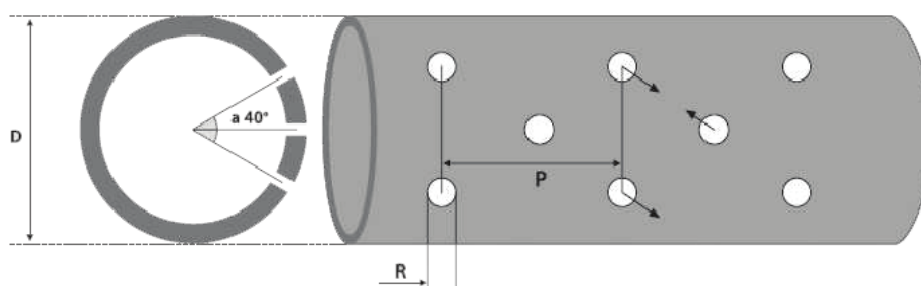


**Half Perforated Pipe**

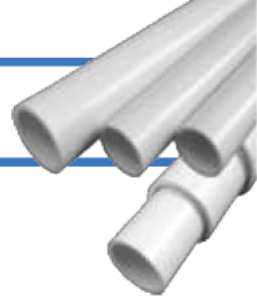
Code	Outside Diameter (mm)	Wall Thickness (mm)	Joint Type
MBA-PRF-110	110	3.2	SCI
MBA-PRF-160	160	4.1	SCI
MBA-PRF-200	200	4.9	SCJ or RS
MBA-PRF-250	250	6.1	SCJ or RS
MBA-PRF-315	315	7.7	SCJ or RS

### PERFORATED PIPE DATA

Hole Size (R)	8mm or as required
Hole Spacing (P)	200mm or 250mm along piping axis
Number of Rows	1 to 4 as mentioned in the drawing
Raw Spacing	40° separation between adjacent rows
	120° between outside raw if all four rows are used
Color	Red or grey



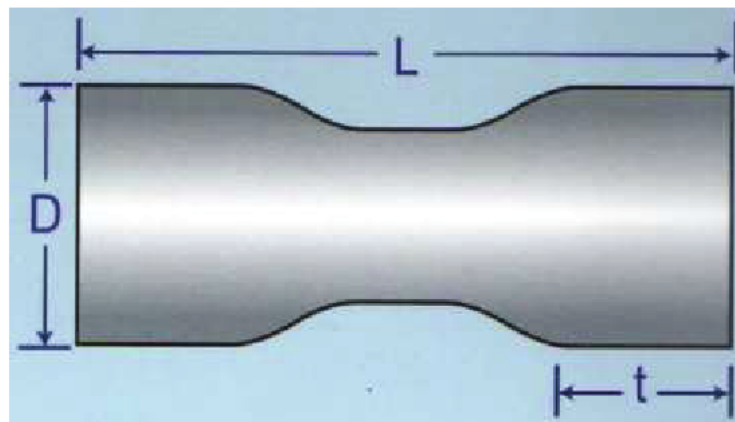
**Staged Rows**



## DOUBLE COUPLING

Size	Length	"ID"
90	190mm	90mm
110	1 mtr.	110mm
160	1 mtr.	168mm

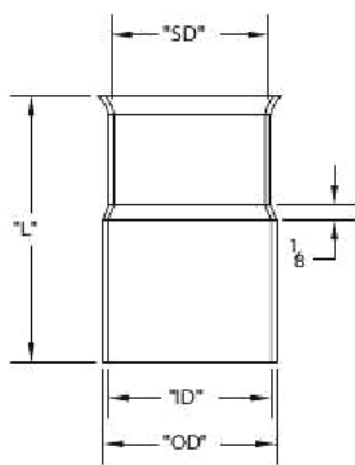
It is used to connect two spigot ended ducts straight through





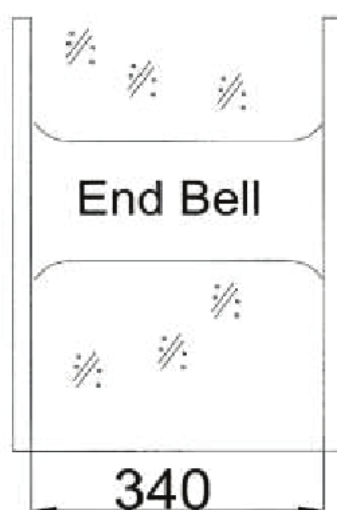
## BELL MOUTH FABRICATED

Trade Size	Length	"OD"	Thickness
2	300mm	50mm	2.5mm
4	300mm	110mm	2.4mm
6	300mm	160mm	3.6mm
8	300mm	200mm	4.0mm
10	300mm	250mm	4.9mm

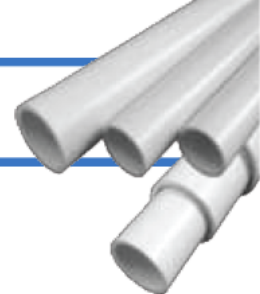


## BELL TO BELL END FABRICATED

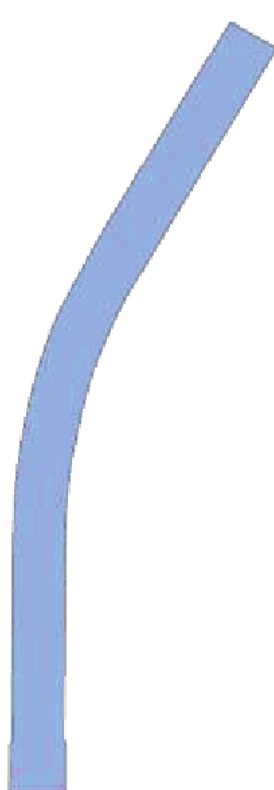
Trade Size	Length	"OD"	Thickness
2	340mm	50mm	2.5mm
4	340mm	110mm	2.4mm
6	340mm	160mm	3.6mm
8	340mm	200mm	4.0mm
10	340mm	250mm	4.9mm



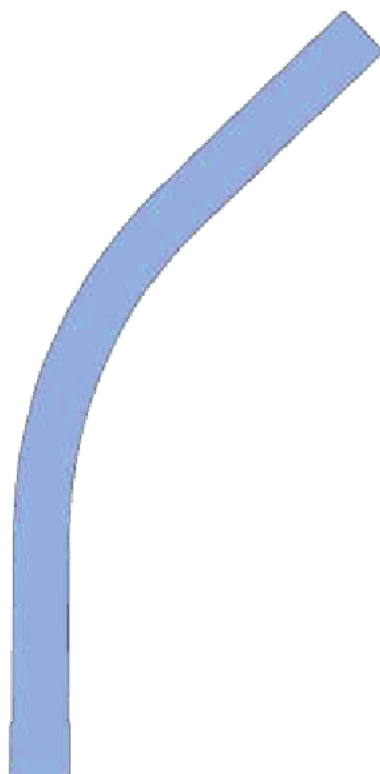
❖ Note: Also available with various sizes in case of request by contractor.



## MBA uPVC Bends and Collars



**Bend 30°**



**Bend 45°**



**Bend 90°**



**Collar**

DIA	Wall Thickness	Bend 30°	Bend 45°	Bend 90°	Collar
75 mm	3.6 mm	✓	✓	✓	✓
110 mm	2.4 mm	✓	✓	✓	✓
160 mm	2.6 mm	✓	✓	✓	✓
160 mm	3.6 mm	✓	✓	✓	✓
56.5 mm	3.25 mm	✓	✓	✓	✓
96.5 mm	3.25 mm	✓	✓	✓	✓





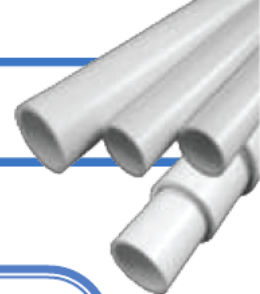
## Technical Specifications and installation instructions

MBA Conduit and trunkings are light weight, user friendly, easy to handle and does not call for on-site handling equipment due to its versatile design and features. MBA cable management products are non-conductive, non-corrosive, complies with relevant specifications, codes of practice and regulations for Electrical Equipment Buildings (IEE publication).

Installation should be undertaken by proficient personnel with due for safety and environment interests to achieve optimum benefits of cable management. Following instructions are intended to be a guide for the installation of MBA products.

## Conduit Systems

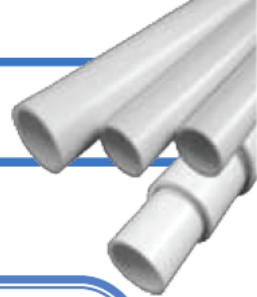
Choice of Conduits and Installation	Joint and Couplers	Method of Bending	Cable Carrying Capacity
<p>The choice of conduit and fittings is subject to kind of work being executed and the specifications required. Appropriate gauge conduit is selected for surface fixing and suitable conduit is chosen for concealed installations. Conduit used in surface installations should be secured using saddles/spacer bar saddles. Distancing between supports shall be 1.5 meters for horizontal run and 1.75 meters for vertical run for the conduit sizes of 20 and 25mm diameter. For 32 and 38mm diameter conduits, saddle support shall be 1.75 horizontal and 2.0 meter vertical is recommended. 2.0 meter horizontal and vertical distancing is suggested for 50mm diameter conduit. In surface fixing, whenever mounting boxes/bends are used, conduit shall be secured with spacer bar saddle within 20cms on either side of fitting to give a firm support for installation. Where conduits are to be embedded in concrete, securing of conduits with reinforcing/formwork is desired to avert displacing of conduits while read-mix concrete pouring and subsequent vibrating of concrete mix.</p>	<p>Conduits have a tendency for expansion/contraction at changing ambient temperature. For facilitating this phenomenon, it's recommended for using expansion couplers for every 6-meter run avert conduit kinking and buckling. Expansion couplers are installed with the solvent cement applied on short spout of expansion coupler and pushing conduit firmly into notching. Use appropriate water resistant lubricating sealant on the other end and position conduit at midpoint of long spout for aiding expansion and contraction in the saddles. Joining of conduit into various fittings viz., couplings, adaptors, junction boxes, bends and mounting boxes are easily joined by using Comat solvent welding cement. Due care need to be taken for proper surface preparation of components. Cut conduit to required length using fine toothed hacksaw or pipe cutter and remove all burrs and loose dust. Apply evenly a layer of solvent cement to the pipe and fitting with a quarter turn to evenly spread the solvent cement wiping off any excess cement from the components.</p>	<p>All MBA conduits of different gauges under 25mm OD size can be easily bent cold by using designated bending spring. Ensure using of correct size and gauge. Insert the spring into desired position, grip the conduit on either sides and exert force by hand or place the conduit across the knee and continue bending slowly but progressively until bend is slightly beyond the angle required. Now, allow the conduit to recover back to the desired position. To remove the spring from conduit, twist it in anti-clockwise direction while rotating the conduit clockwise simultaneously pulling them slowly apart. Bending of conduits above 25mm size shall be carried out with hot bending technique. Insert proper size of spring into the conduit as explained above and immerse bending portion in boiling water or use a radiant heat source. When the conduit softens, used a suitable former and continue holding until bend is set to required angle.</p>	<p>Size of the conduit is explicitly governed by IEE publication to ensure accommodating maximum number of cables of the same size, or different sizes for complying with the requirement of regulations. This is necessitated to make certain the number of cables drawn into conduit or a wiring system shall be such that no damages caused to the cables and conduits while carrying out the installation</p>



Above Ground Drainage Waste BS 5255 Fittings			
Product Code	Description	Size	Photos
MBA-E90-1.5	Elbow 90	1 ½"	
MBA-E90-5	Elbow 90	2"	
MBA-E45-1.5	Elbow 45	1 ½"	
MBA-E45-2	Elbow 45	2"	
MBA-B90-1.5	Branch 90	1 ½"	
MBA-B90-2	Branch 90	2"	
MBA-B45-1.5	Branch 45	1 ½"	
MBA-B45-2	Branch 45	2"	
MBA-SOC-1.5	Socket	1 ½"	
MBA-SOC-2	Socket	2"	



Above Ground Drainage Soil BS 4514 Fittings			
Product Code	Description	Size	Photos
MBA-E90-3	Elbow 90	3"	
MBA-E90-4	Elbow 90	4"	
MBA-E90-6	Elbow 90	6"	
MBA-E45-3	Elbow 45	3"	
MBA-E45-4	Elbow 45	4"	
MBA-E45-6	Elbow 45	6"	
MBA-B90-3	Branch 90	3"	
MBA-B90-4	Branch 90	4"	
MBA-B90-6	Branch 90	6"	
MBA-B45-3	Branch 45	3"	
MBA-B45-4	Branch 45	4"	
MBA-B45-6	Branch 45	6"	
MBA-SOC-3	Socket	3"	
MBA-SOC-4	Socket	4"	
MBA-SOC-6	Socket	6"	
MBA-TFG-4	Trapped Floor Gully	4"	
MBA-ECAP-4 MBA-ECAP-6	End Cap End Cap	4" 6"	



Underground Drainage System BS 4660 Fittings			
Product Code	Description	Size	Photos
MBA-E90-4UD	Elbow 90	4"	
MBA-E90-6UD	Elbow 90	6"	
MBA-B90-4UD	Branch 90	4"	
MBA-B90-6UD	Branch 90	6"	
MBA-B45-4UD	Branch 45	4"	
MBA-B45-6UD	Branch 45	6"	
MBA-E45-4UD	Elbow 45	4"	
MBA-E45-6UD	Elbow 45	6"	
MBA-TFG-4UD	P Trapped Gully	4"	
MBA-ECAP-4UD	End Cap	4"	

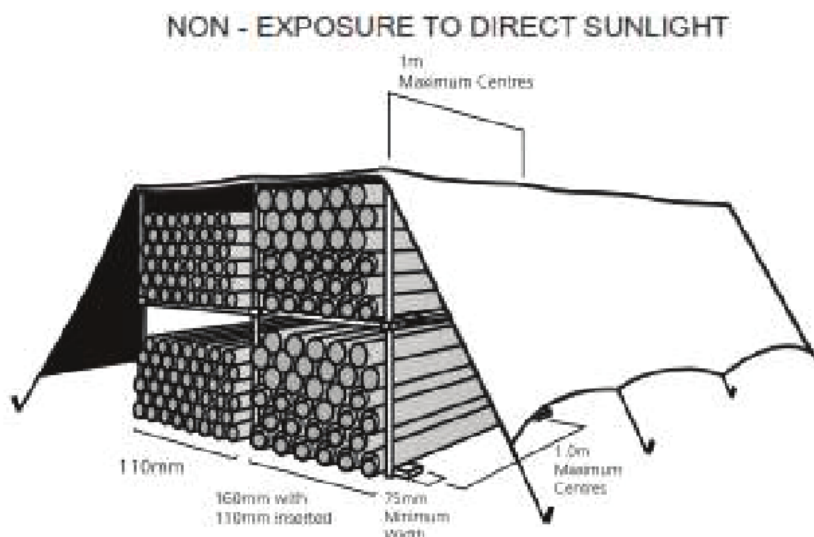


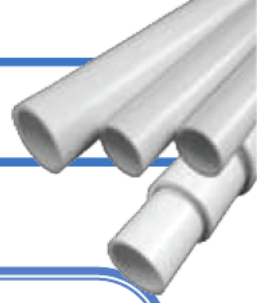


## Modern Building Accessories Factory U P.V.C Pipes Transport Handling and Storage

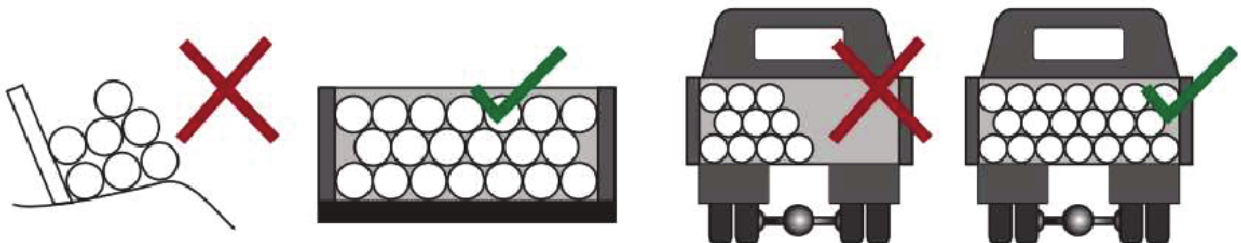
### Our factory shown that:

1. Un plasticized u P.V.C pipes are strong but light,
2. Its specific gravity being approximately one- fifth that cast iron.
3. As a result, these pipes are more easily handled than their metal counterparts.
4. Reasonable care, however should be exercised at all times, and when of loading, pipes should be lowered, not dropped to the ground.
5. Pipe should be given adequate support at all times.
6. Pipes should not be stacked in large piles especially in warm temperature conditions, as the lower layers may distort: resulting in difficulties when joining and for pipe alignment.
7. Any pipe with ends prepared for joining (socket and spigot joints, RR joints, etc.) should be stacked in layers with the socket, placed at alternate ends of the stack and with sockets protruding to avoid lop-sided stacks and the Imparting of permanent set to pipes.
8. Particularly in the case of Ring pipe, rubber rings should not be exposed to solar radiation for any length of time if they are not coated.
9. It is recommended to stock them in a cool and shady place.
10. Rubber rings should not come in touch with chemicals, grease, oil and to be stored for too long a time.
11. For long-term storage, pipe racks should provide continuous support, but if this is not possible, timber of at least 75 mm bearing width at spacing not greater than 1 m centers for pipe sizes 150 mm and above, should be placed beneath the pipes and at 2 m centers at the side, if the stacks are rectangular.
12. These spacing apply to pipe size 160 mm and above.
13. Closer supports will be required for sizes below 160 mm.
14. In such pipe racks, pipes may be stored not more than seven layers or 1.5 m high, whichever is the lesser, but if different classes of pipe are kept in the same racks, then the thickest classes must always be at the bottom.





15. For temporary storage in the field, where racks are not provided, the ground should be level and free from coarse stones.
16. Pipes stored thus should not exceed three layers high and should be staked to prevent movement.
17. Stack heights should be reduced if pipes are nested; i. e. pipes stored inside pipes of larger diameters.
18. Reductions in height should be proportional to the weight of the nested pipe compared to the weight of the pipes normally contained in such stowage's.
19. Since the soundness of any joint depends on the condition of the spigot and the socket, special care must be taken in transit, handling and storage to avoid damage to the ends.
20. When loading pipes on the vehicles, care must be taken to avoid their coming into contact with any sharp corners such as cope irons, loose nail-heads, etc., as pipes may be damaged by being rubbed against these during transit whilst in transit pipes shall be well secured over their entire length and not allowed to project unsecured over the tailboard of the lorry.
21. Pipes may be off loaded from lorries and or by rolling them gently down timbers, care being taken to ensure that pipes do not fall one upon another nor on any hard or uneven surfaces.
22. Fork-lift trucks will have to be used for bundles and large unit loads.







## **EXCAVATION**

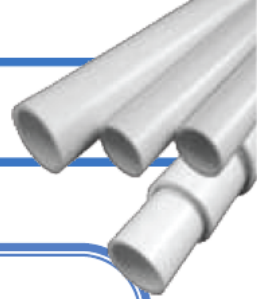
1. The width of the trench excavation should be kept to a minimum, allowing just sufficient working area for jointing and initial compaction around the pipe. For most purposes, a trench 300mm wider than the diameter of the pipe allows enough room for jointing.
2. It is important that the trench is not excavated too far in advance of the pipe laying operation, especially in situations where the trench walls are unstable.

## **BEDDING**

1. The quality of the bedding material and its compaction, together with the nature of the undisturbed material of the trench walls are all relevant to the ultimate performance of Duroflo and Ultraflo pressure pipes once installed.
2. The trench bed must be free from all stones or sharp projections which are likely to cause damage to the pipe.
3. The bottom of the trench should be backslid to a depth of 100mm, with selected bedding material such as free draining coarse sand, gravel or soil of a friable nature.
4. The size of soil particles in the bedding material should not exceed 20mm.
5. The bedding, onto which the pipe is laid, should be thoroughly compacted to the specified density.
6. Reference should be made to SANS 2001 for bedding specifications.

## **ANCHORING**

1. When an internal hydrostatic pressure is applied to the pipe, unbalanced forces develop at all changes of size and direction in a pipeline.
2. Thrust blocks prevent the movement of fittings and must be placed at all changes of direction, valves, stop ends and reducers. Concrete thrust blocks are most commonly used at all anchor points.
3. The dimensions of the thrust blocks must be calculated to suit the pipe diameter, pressure and the load bearing capacity of the soil.

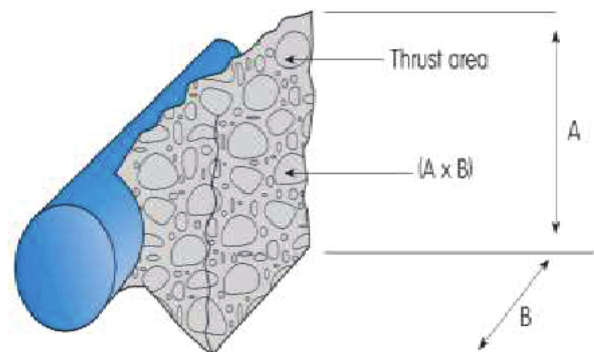
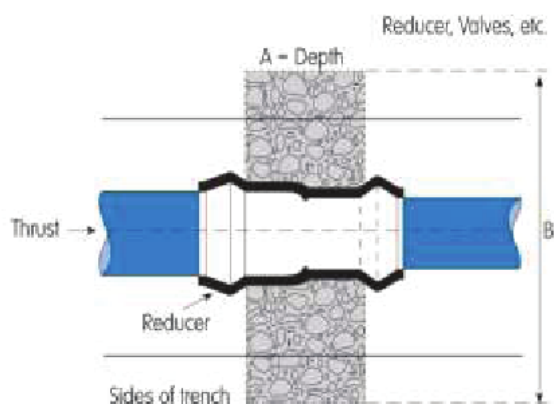
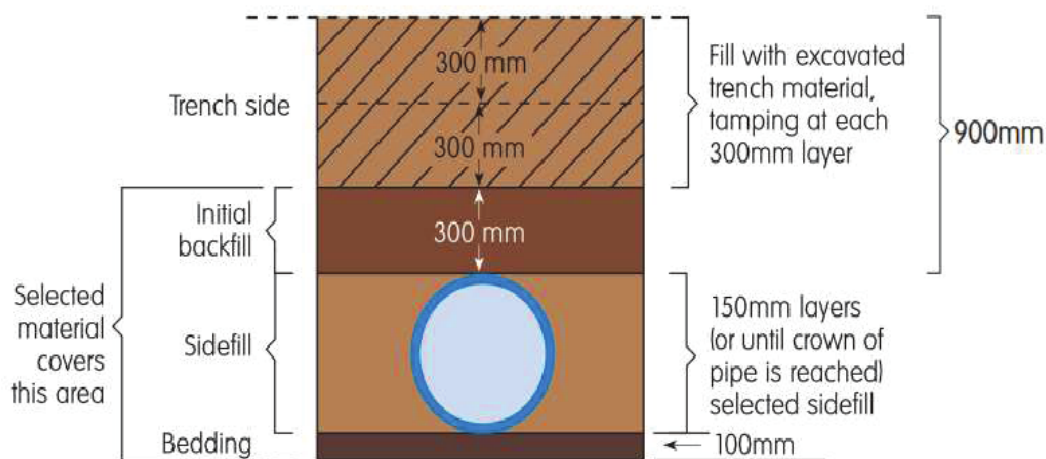


## Typical Thrust Block Sizes

(Final dimensions must be specified by the consulting engineer)

Pipe Size (mm)	90° Bends A x B (m)	45° Bends A x B (m)	Tees A x B (m)	End Caps, Valves, Reducers A x B (m)
110	0.30 x 0.30	0.30 x 0.25	0.30 x 0.30	0.30 x 0.60
200	0.45 x 0.70	0.30 x 0.70	0.45 x 0.60	0.45 x 0.80
315	0.60 x 1.30	0.60 x 0.90	0.60 x 0.90	0.60 x 1.00
400	1.00 x 1.60	1.00 x 1.20	0.80 x 1.50	0.80 x 1.50

## Drilling sector



## INSTALLATION METHODS

The following information is intended to assist Engineers and Contractors to take full advantages of the Physical and mechanical properties of uPVC pipes and to achieve the desired results:

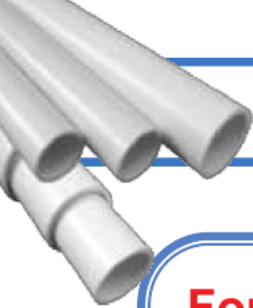
### A) Method for rubber ring joint installation:

1. Ensure that the mating areas of spigot and socket are thoroughly clean.
2. Setting the rubber ring in grove.
3. Assess the full socket depth by simple measurement and mark spigot accordingly.
4. Apply lubricant to the spigot side and to the inside of the joint on rubber.
5. Accurate axial alignment of the spigot and socket prior to joining is important, hand feed spigot into rubber joint until resistance from the inner sealing section is felt.
6. Bar and block assembly is recommended because a worker is able feel the amount of force being used and whether the joint goes together smoothly.
7. If undue resistance to pipe insertion is encountered, disassemble the joint and check the position of the rubber ring.

### Rubber Ring Jointing







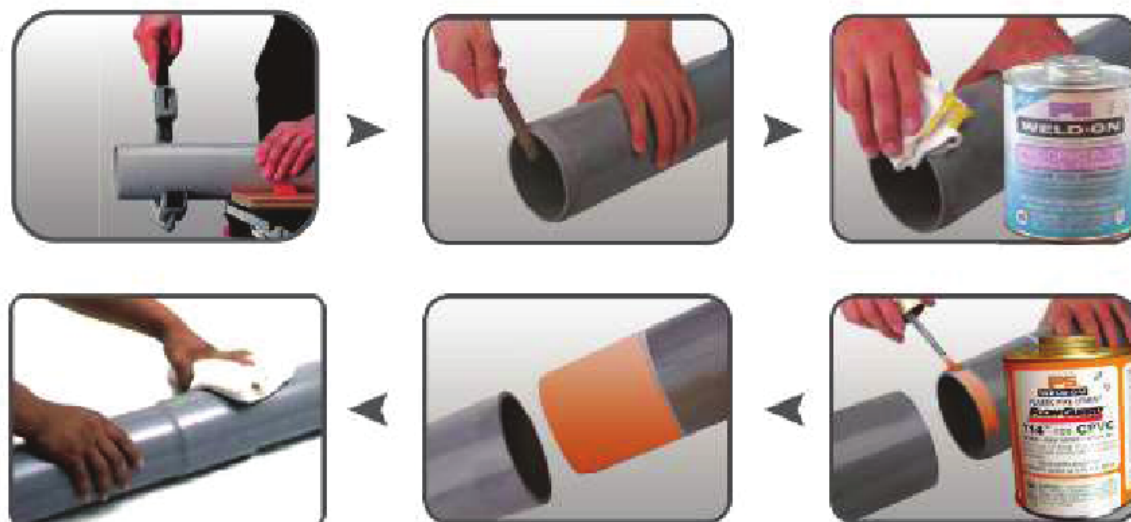
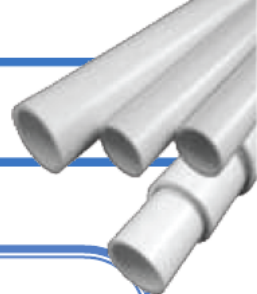
## For 100 Joints use the following amounts of lubricant :

Pipe outside Diameter DN	Dia. / mm	Kg. Of Lubricant
DN 50	63	0,5
DN 80	90	0,85
DN 100	110	1,10
DN 125	140	1,35
DN 150	160	1,80
DN 200	225	2,40
DN 250	280	3,15
DN 300	315	3,85
DN 400	400	5
DN 450	450	6
DN 500	500	7



### **A) Method of solvent welded joint installation:**

1. Joint Preparation - Cut Pipe square with the axis, using a one - tooth saw with a Miter box or guide. Remove all burrs and break the sharp lead edges.
2. Cleaning & Priming-Surface to be joined must be cleaned and free of dirt , Moisture , Oil ,and other FOREIGN material applying Weld-On primer.
3. Mark on spigot the full length of the socket side to make sure that the spigot will exactly the socket length.
4. Application of solvent cement - PVC solvent cement is fast drying and should be applied as quickly as possible, consistent with good workmanship, Follow up the manufacturer's recommendation to both spigot and socket side with an adequate quantity of cement.
5. Joint Assembly - While both the inside socket surface and the outside surface of the spigot of the pipe are WET with solvent cement, forcefully bottom the spigot in the socket. Turn the pipe or fittings 1/4 turn during assembly (but not after the pipe is bottomed) to distribute the cement evenly. Hold for a while until handling strength is developed. Assembly should be completed within 30 seconds after the last application of solvent cement.
6. After Assembly -Wipe excess cement from the pipe at the end of the socket. Gaps in the cement bead around the pipe perimeter may indicate a defective assembly. Handle the newly assembled joints carefully after 1 hour.



## Importance Points of Pipe Installation with Solvent Cement Joints

1. The joining surfaces must be clean and dry
2. Sufficient cement must be applied to fill the gap between male and female ends.
3. The Assembly must be made while the surfaces are still wet and fluid.
4. Completed joints should not be disturbed until they have cured sufficiently to withstand handling.
5. Keep the solvent cement closed and shaded when not actually in use. Discard the solvent cement when a noticeable change in viscosity occurs, when the cement does not flow freely from the brush, or when the cement appears lumpy and stringy.

## FOR 100 JOINTS USE THE FOLLOWING AMOUNTS OF ADHESIVE AND CLEANSER.

Pipe Outside Diameter DN	O.D Dia / mm	Cleaner kg	Adhesive kg
25	32	Approx. 0.5	Approx.08
32	40	Approx 0.7	Approx 1.1
40	50	Approx 0.9	Approx 1.6
50	63	Approx 1.7	Approx 1.7
60	75	Approx. 1.3	Approx 2.2
80	90	Approx 1.4	Approx 4.0
100	110	Approx 1.7	Approx 8.0
125	140	Approx 2.1	Approx 13.0
150	180	Approx 2.5	Approx 19.0
200	225	Approx 4.5	Approx 26.0
250	290	Approx 6.5	Approx 38.0
300	315	Approx 10.2	Approx 52.0