



# UPVC PIPES & FITTINGS

For Pressure & Non Pressure Application

## Products Catalogue

An ISO 9001, 14001 & 18001



CERTIFIED COMPANY







## National Plastic Factory L.L.C

National Plastic Factory LLC. Established in the year 1992 in Muscat, Sultanate of Oman. The company is certified with ISO 9001 QMS, 14001 EMS and OHSAS 18001 standards, and having manufacturing locations in Oman / UAE-Fujairah / Egypt-6th October City, under the division of Al Hosni Group International.

The Al Hosni Group found in the year 1975 with diversified line of industries, Hospitality, Infrastructure Development and investment portfolios.

Throughout the years National Plastic Factory developed and manufacturing, FMCG, Industrial and household plastic packaging products, and HOTACE Brand uPVC pipes and fittings for pressure and non pressure applications to various industries focusing on high quality and dependability having latest updated technology of machineries and professional team of technical staff.

Our superior quality uPVC Pipes & Fittings meets the requirement of the following sectors like Residential, Commercial Buildings, Hospitals, Airports, Educational Institute Projects and Infrastructure development in GCC, Middle East & African Countries.

Our Superior HOTACE Brand uPVC Pipe & Fitting Products having following Local Government and International Authority Approvals.

1. Oman Directorate General for Standards and Metrology Department of Lab.
2. Haya Approval
3. RCA (Royal Court Affairs)
4. ROP (Royal Oman Police)
5. MOD (Ministry of Defense)
6. WRAS (Water Regulations Advisory Scheme)

We National Plastic Factory are constantly upgrading ourselves with the growing technology, experience and quality to meet the ever growing and innovative in Building materials & Construction market requirement and challenges of the local & internationally acclaimed companies in the region with stringent quality requirements.

The factory specialized in designing and developing all kind of plastic Building material products as per our customer requirement.

### HOTACE Product Range:

- uPVC Electrical Conduits & Fittings
- uPVC Drainage, Sewerage Pipes & Fittings
- uPVC Soil & Ventilation Pipes & Fittings
- uPVC High Pressure Pipes & Fittings
- PPR Pipes & Fittings
- HDPE Pipes & Fittings
- Telephone Duct Pipes & Accessories
- GI Conduit & Fittings

### THE COMPANY STRENGTH

EXPERIENCE



TECHNOLOGY



QUALITY





PROPERTIES & FEATURES



Physical Properties of uPVC

PROPERTIES	UNIT	VALUES
Density	Gr/cc	1.4-1.46
Tensile strength	MPa	45-50
Elongation	%	80-150
Compressive Strength	MPa	59
Modulus of Elasticity	MPa	3000
Specific Heat	Cal/g/°C	0.24
Thermal Conductivity	Kcal/m/h/°C	0.12
Heat Distortion Temperature at 18.5 kgf/cm <sup>2</sup>	°C	70
5Kg.Vicat Softening Point	°C	80
Linear Expansion	Mm/m/°C	0.08
Volume Resistivity	Ohm/cm	10 <sup>15</sup>
Flammability	Self Extinguishing	

Colour of uPVC Pipes and Fiitings

BS 5255 / BS EN 1329-1	White Colour
BS 4514 / BS EN 1329-1	Grey Colour
BSEN 1401-1 / BS 4660 BS 5481	Golden Brown / Terracotta
BS STD 3505 / BS 3506	Dark Grey
ASTM D 1785, Schedule 80/40	Available in both Grey and white

Applications of uPVC

With excellent features, PVC pipes have diversified applications and few of which are:

- Cold water plumbing services.
- Drainage Installation (Industrial & Domestic).
- Mining.
- Factory Supply Lines.
- Chemical Plant Installations.
- Irrigation and agriculture use.
- Tube well casing and strainer.
- Paper mill installation alum and pulp carrying.
- Vent and ducting for power & communication cables.

HOTACE uPVC pipes & Fittings Features

The following features of PVC pipes has made its successful among the other pipes being used and is steadily replacing the other costly and ineffective pipe material

- High strength to weight ratio.
- Light weight, Easy to handle and install.
- Smooth inner surface with lesser friction.
- Resistant to various alkalis, acids, other chemical and aggressive soils.
- Variety of colors.
- Fire Retardant properties.
- Corrosion and abrasion resistant.
- Insect and mouse proof.
- Low thermal conductivity.
- Shock Resistant.
- Aging Resistant.
- Pressure Resistant.
- Innocuous.
- Economical and Dependable.
- Environmental Friendly.



Manufacturing Facility







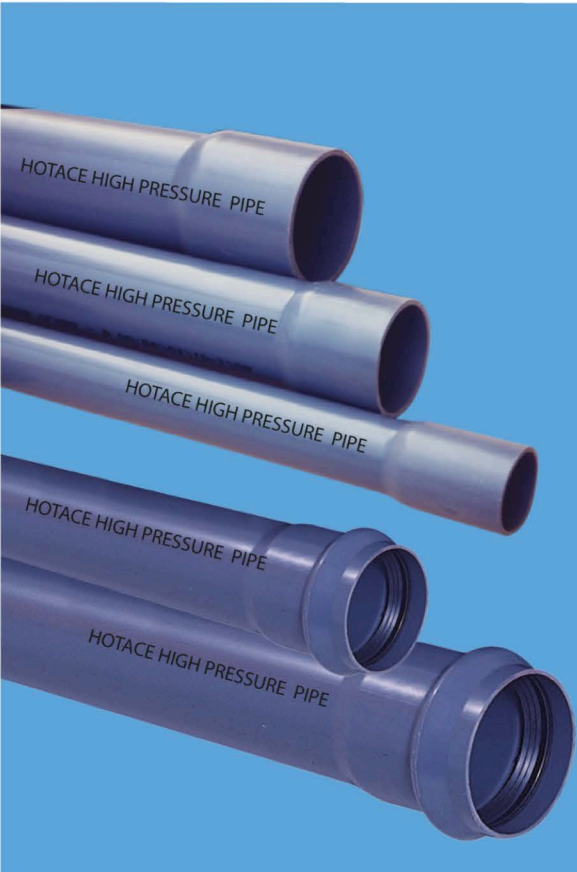
uPVC PRESSURE & NON-PRESSURE PIPES



uPVC HIGH PRESSURE PIPES

Product complies with BS STD. 3505/ Omani Standard 85

Available colour Grey & White



Nominal sizes	Outside Diameter (mm)		Wall Thickness BS 3505 / OS 85					
			CLASS-C (9.0 bar) (90m Head of water)		CLASS-D (12.0 bar) (120m Head of water)		CLASS-E (15.0 bar) (150m Head of water)	
			CLASS - 2		CLASS - 3		CLASS - 4	
Inches	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)
1/2	21.2	21.50	-	-	-	-	1.7	2.10
3/4	26.6	26.90	-	-	-	-	1.9	2.50
1	33.4	33.70	-	-	-	-	2.2	2.70
1 1/4	42.1	42.40	-	-	2.2	2.70	2.7	3.20
1 1/2	48.1	48.40	-	-	2.5	3.0	3.1	3.70
2	60.2	60.50	2.5	3.0	3.1	3.70	3.9	4.50
3	88.7	89.10	3.5	4.10	4.6	5.30	5.7	6.60
4	114.1	114.50	4.5	5.20	6.0	6.90	7.3	8.40
6	168.0	168.50	6.6	7.60	8.8	10.20	10.8	12.50
8	218.8	219.4	7.8	9.0	10.3	11.90	12.6	14.50
10	272.6	273.4	9.7	11.20	12.8	14.80	15.7	18.10
12	323.4	324.3	11.5	13.30	15.2	7.50	18.7	21.60

uPVC HIGH PRESSURE PIPES

Product complies with ASTM D 1785 Schedule 40 & 80

Available colour Grey & White

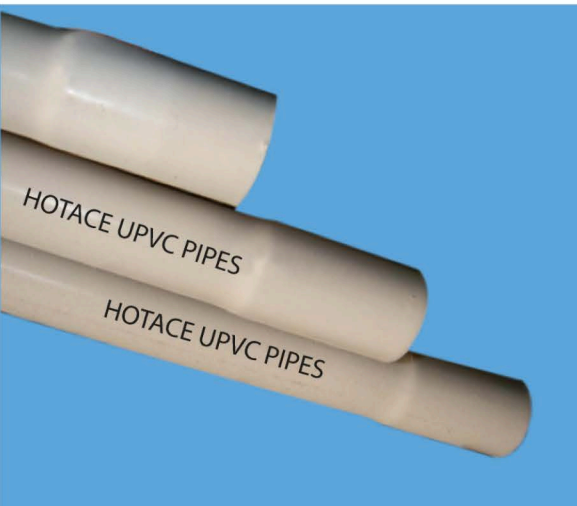


Mean Outside Diameter			ASTM 1785 Schedule 40		ASTM 1785 Schedule 80	
Nominal Size	Outside Diameter	Tolerance	Min. Wall thickness	Tolerance	Min. Wall thickness	Tolerance
Inch	mm	mm	mm	mm	mm	mm
1/2	21.34	±0.10	2.77	+0.51	3.33	+0.51
3/4	26.67	±0.10	2.87	+0.51	3.91	+0.51
1	33.40	±0.13	3.38	+0.51	4.55	+0.53
1 1/4	42.16	±0.13	3.56	+0.51	4.85	+0.58
1 1/2	48.26	±0.15	3.68	+0.51	5.08	+0.61
2	60.32	±0.15	3.91	+0.51	5.54	+0.66
2 1/2	73.02	±0.18	5.16	+0.61	7.01	+0.84
3	88.90	±0.20	5.49	+0.66	7.62	+0.91
3 1/2	101.60	±0.20	5.74	+0.68	8.08	+0.96
4	114.30	±0.23	6.02	+0.71	8.56	+1.02
5	141.30	±0.25	6.55	+0.79	9.52	+1.14
6	168.28	±0.28	7.11	+0.86	10.97	+1.32
8	219.08	±0.38	8.18	+0.99	12.70	+1.52
10	273.05	±0.38	9.27	+1.12	15.06	+1.80
12	323.85	±0.38	10.31	+1.24	17.45	+2.08

uPVC WASTE PIPES

Product complies with BS STD. 5255 / BS EN 1329 -1

Available colour Grey & White



Nominal Size		Mean Outside Diameter (mm)		WALLTHICKNESS (mm)	
				BS 5255 / BS EN 1329 -1	
Inch	mm	MIN.	MAX.	MIN.	MAX.
1 1/4"	32	36.15	36.45	1.8	2.2
1 1/2"	40	42.75	43.05	1.9	2.3
2"	50	55.75	56.05	2.0	2.4

Above Ground uPVC SOIL AND VENTILATION PIPE

Product complies with BS STD. 4514 / BS EN 1329 -1

Available colour Grey



Nominal Sizes		Mean Outside Diameter (mm)		WALL THICKNESS (mm)	
				BS4514 /BSEN 1329-1	
Inch	mm	Min.	Max.	Min.	Max.
3"	82	82.4	82.8	3.0	3.5
4"	110	110.0	110.4	3.2	3.8
6"	160	160.0	160.6	3.2	3.8
8"	200	200.0	200.5	3.9	4.5
10"	250	250.0	250.5	4.9	5.6
12"	315	315	315.60	6.2	7.1






uPVC NON-PRESSURE PIPES




uPVC NON STANDARD DRAINAGE & SEWERAGE PIPE

Available colour Golden Brown / Terracotta

		Nominal Size		Mean Outside Diameter (mm)		Wall thickness (mm)	
		Inch	mm	MIN.	MAX.	MIN.	MAX.
		3"	82.5	82.0	82.5	1.70	1.90
		4"	110.0	110.0	110.4	1.70	1.90
		6"	160.0	160.0	160.6	1.90	2.10
		8"	200.0	200.0	200.6	2.70	2.90


uPVC UNDER GROUND DRAINAGE/ SEWERAGE PIPES

Product complies with BS STD. 4660 & BS 548 I Available colour Golden Brown / Terracotta

		Nominal Size		Mean Outside Diameter (mm)		WALLTHICKNESS (mm)			
						BS 4660		BS 548 I	
		Inch	mm	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
		4"	110	110.0	110.4	3.2	3.8	-	-
		6"	160	160.0	160.6	4.1	4.8	-	-
		8"	200	200.0	200.6	-	-	4.9	5.6


uPVC GRAVITY SEWER PIPES

Product complies with BSEN STD. 1401 - I Available colour Golden Brown / Terracotta

		Nominal Size		Mean Outside Diameter (mm)		WALLTHICKNESS (mm)					
						SN2,SDR 5 I		SN4,SDR 4 I		SN8,SDR 34	
		Inch	mm	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
		4"	110	110.0	110.3	-	-	3.2	3.8	3.2	3.8
		6"	160	160.0	160.4	3.2	3.8	4.0	4.6	4.7	5.4
		8"	200	200.0	200.5	3.9	4.5	4.9	5.6	5.9	6.7
		10"	250	250.0	251.0	4.9	5.6	6.2	7.1	7.3	8.3
		12"	315	315.0	316.0	6.2	7.1	7.7	8.7	9.2	10.4
		15"	400	400.0	401.0	7.9	8.9	9.8	11.0	11.7	13.1
Available with rubber ring & plain socket											

PIPES FOR INDUSTRIAL USES

Product complies with BS 3506 Available colour Grey

		Nominal Sizes	Outer Diameter		WALLTHICKNESS (MM)					
			Min (mm)	Max (mm)	Non Pressure CLASS - O		Industrial Use			
					CLASS - B		CLASS - C		CLASS - D	
					Min	Max	Min	Max	Min	Max
		1 ¼"	42.1	42.4	-	-	-	-	2.2	2.7
		1 ½"	48.1	48.4	1.8	2.2	-	-	-	-
		2"	60.2	60.5	1.8	2.2	-	-	2.5	3.0
		3"	88.7	89.1	1.8	2.2	2.9	3.4	3.5	4.1
		4"	114.1	114.5	2.3	2.8	3.4	4.0	4.5	5.2
		6"	168.0	168.5	3.1	3.7	4.5	5.2	6.6	7.6
		8"	218.8	219.4	3.1	3.7	5.3	6.1	7.8	9.0
		10"	272.6	273.4	3.1	3.7	6.6	7.6	9.7	11.2
		12"	323.4	324.3	3.1	3.7	7.8	9.0	11.5	13.3





# uPVC HEAVY GAUGE HIGH PRESSURE FITTINGS



Products complies with BS EN 1452-3, Class-E PN 15



## COUPLER

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	1400
3/4"	700
1"	460
1-1/4"	72
1-1/2"	234
2"	112
3"	30
4"	9
6"	6



## ELBOW 90°

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	800
3/4"	400
1"	240
1-1/4"	60
1-1/2"	116
2"	54
3"	12
4"	6
6"	4



## ELBOW 45°

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	900
3/4"	600
1"	300
1-1/4"	128
1-1/2"	130
2"	72
3"	12
4"	9
6"	4



## TEE

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	540
3/4"	300
1"	160
1-1/4"	72
1-1/2"	72
2"	44
3"	12
4"	6
6"	3



## FEMALE TEE

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	220
3/4"	168
1"	126
1-1/4"	72
1-1/2"	50
2"	32
3"	12
4"	6
6"	3



## MTA

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	1120
3/4"	800
1"	680
1-1/4"	210
1-1/2"	234
2"	144
3"	48
4"	12
6"	8



## FTA

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	1080
3/4"	800
1"	400
1-1/4"	180
1-1/2"	216
2"	112
3"	24
4"	18
6"	8



## END CAP

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	2000
3/4"	1260
1"	720
1-1/4"	252
1-1/2"	348
2"	216
3"	48
4"	36
6"	12



## FEMALE ELBOW 90°

SIZE	Std.Qty.
1/2"	340
3/4"	180
1"	196
1-1/4"	60
1-1/2"	72
2"	24
3"	24
4"	9
6"	6



## UNION

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	288
3/4"	240
1"	128
1-1/4"	72
1-1/2"	45
2"	24
3"	12
4"	12
6"	6



## REDUCER BUSH

SIZE IN INCHES

SIZE	Std.Qty.
3/4"X1/2"	1200
1" X 1/2"	540
1" X 3/4"	540
1-1/4"X1/2"	300
1-1/4"X3/4"	300
1-1/4" X 1"	315
1-1/2"X1/2"	315
1-1/2"X3/4"	315
1-1/2" X 1"	315
1-1/2"X1-1/4"	336



## REDUCER BUSH

SIZE IN INCHES

SIZE	Std.Qty.
2"X1/2"	150
2" X 3/4"	150
2" X 1"	150
2"X1-1/4"	150
2"X1-1/2"	150
3"X1-1/2"	48
3" X 2"	48
4" X 2"	36
4" X 3"	36
6" X 4"	18



## COMPACT BALL VALVE

SIZE IN INCHES

SIZE	Std.Qty.
1/2"	100
3/4"	100
1"	80
1-1/4"	80
1-1/2"	50
2"	24
3"	2



## DOUBLE UNION BALL VALVE

SIZE IN INCHES

SIZE	Std.Qty.
2"	12
3"	4
4"	1
6"	1
8"	1



## BUTTERFLY VALVE

SIZE IN INCHES

SIZE	Std.Qty.
2"	16
2-1/2"	14
3"	10
4"	8
6"	4
8"	1





# uPVC NON-PRESSURE FITTINGS



**HOTACE uPVC Non-Pressure Fittings for above ground and Under ground Drainage Application**  
**Solvent Fix Type**

**Available Colour : Golden Brown and Grey**



**ELBOW 90°**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**SKEW CROSS**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**ELBOW 45°**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**SKEW TEE**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**COUPLER**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**REDUCING DOWNSTREAM TEE**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 4"	200x110
8" x 6"	200x160



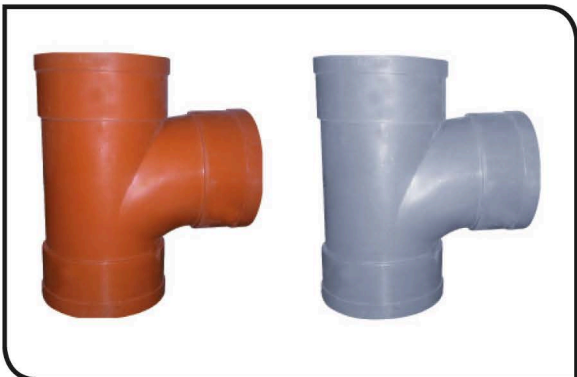
**CLEAN OUT**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**DOOR ELBOW**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**DOWNSTREAM TEE**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**DOOR TEE**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



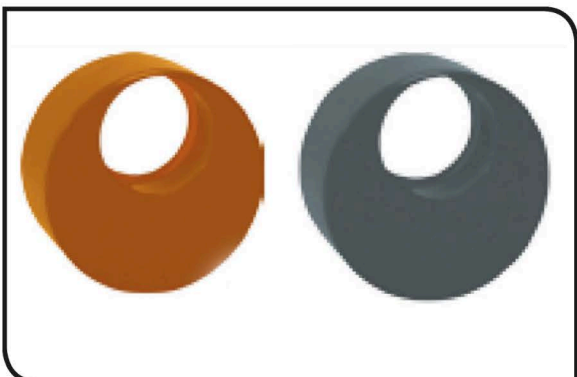
**PLAIN CROSS**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**REDUCING SKEW TEE**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



**REDUCER BUSH**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



**END CAP**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



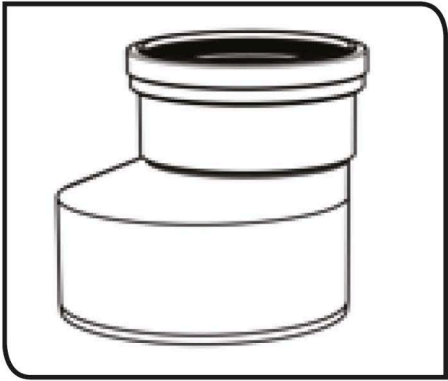


uPVC NON-PRESSURE  
RUBBER RING FITTINGS



HOTACE uPVC Non-Pressure Fittings for above ground and Under ground Drainage Application  
Push Fit Rubber Ring Type Fittings

Available Colour : Golden Brown and Grey



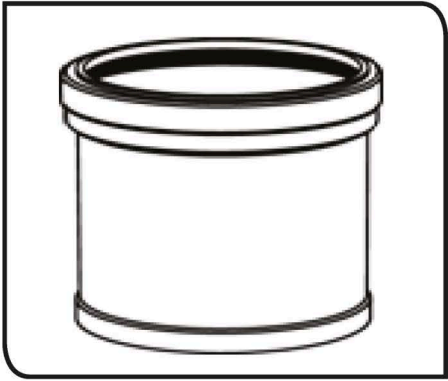
**REDUCING COUPLER  
MF - RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



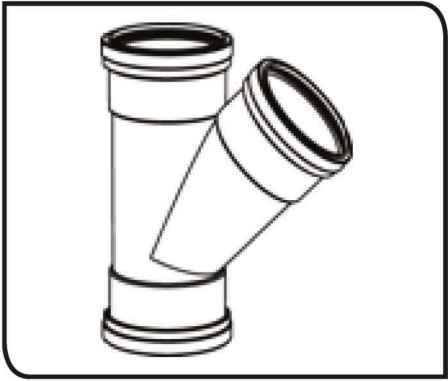
**COUPLER FF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



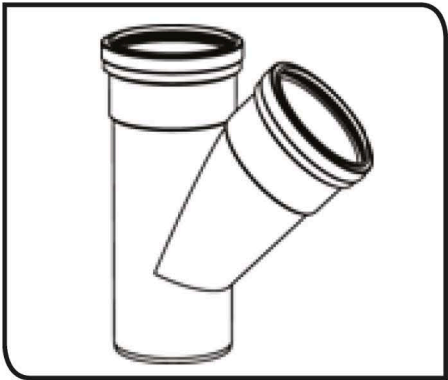
**COUPLER MF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



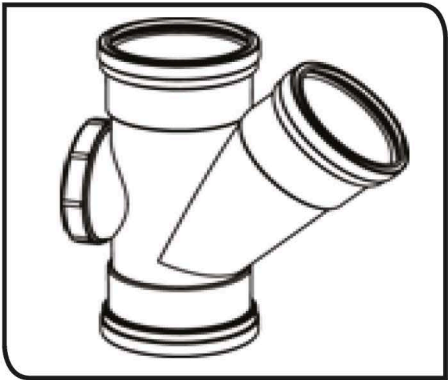
**SKEW TEE FF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



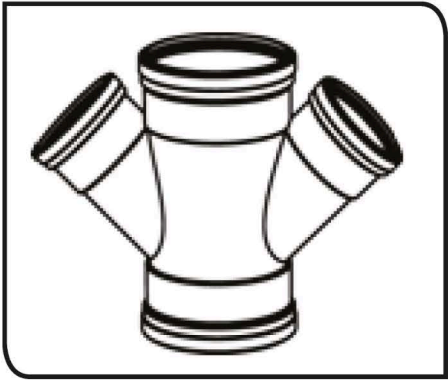
**SKEW TEE MF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



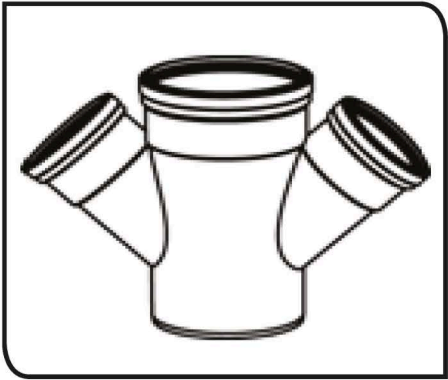
**DOOR SKEW TEE FF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



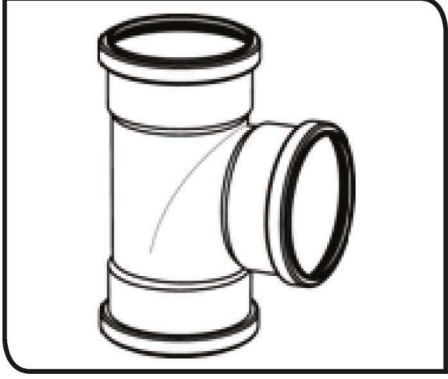
**SKEW CROSS TEE FF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**SKEW CROSS TEE MF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



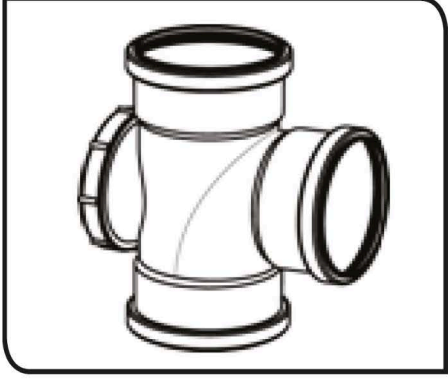
**PLAIN TEE FF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



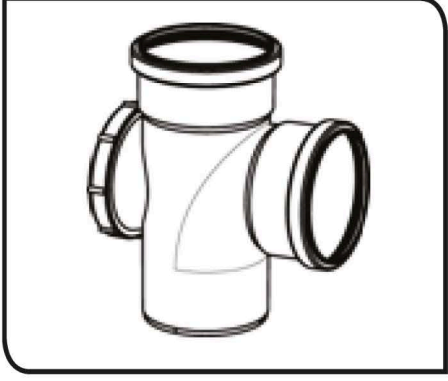
**PLAIN TEE MF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



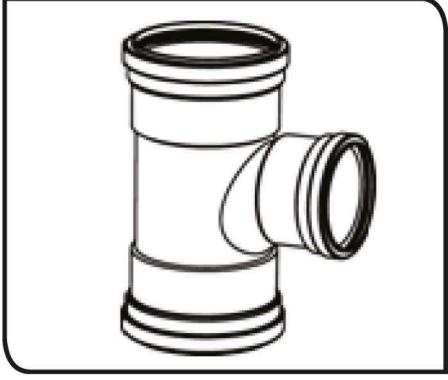
**DOOR TEE FF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**DOOR TEE MF - RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**REDUCING TEE FF - RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



**REDUCING TEE MF - RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



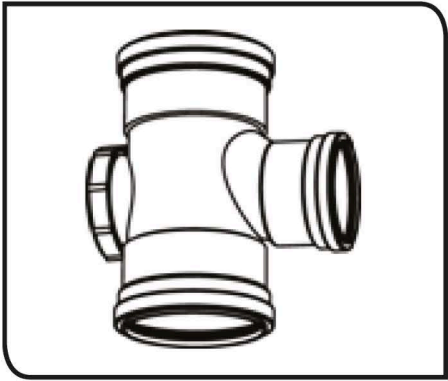


uPVC NON-PRESSURE  
RUBBER RING FITTINGS



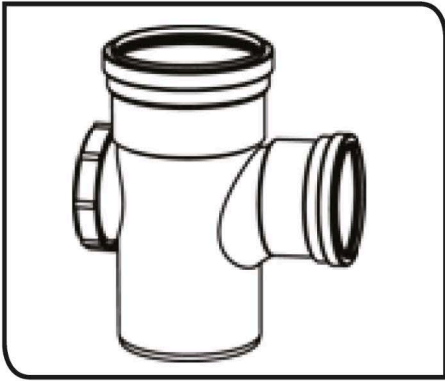
HOTACE uPVC Non-Pressure Fittings for above ground and Under ground Drainage Application  
Push Fit Rubber Ring Type Fittings

Available Colour : Golden Brown and Grey



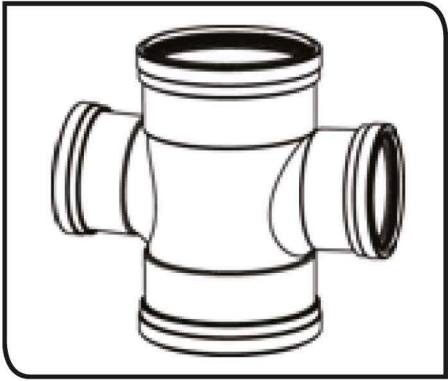
**DOOR REDUCING TEE  
FF- RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



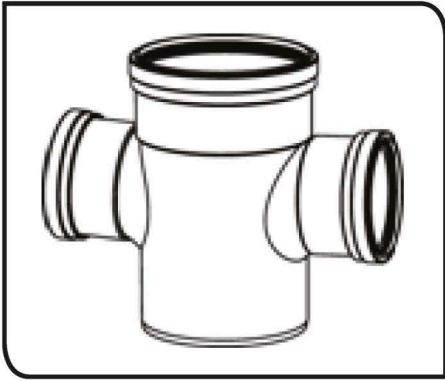
**DOOR REDUCING TEE  
MF-RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



**REDUCING SKEW CROSS  
FF-RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



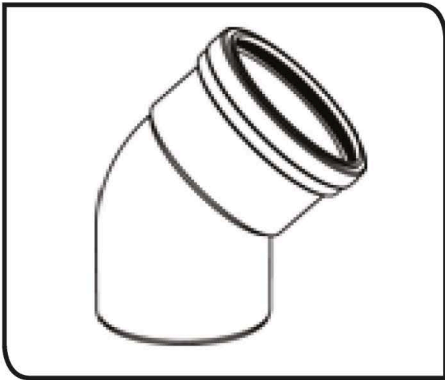
**REDUCING SKEW CROSS  
MF-RR**

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



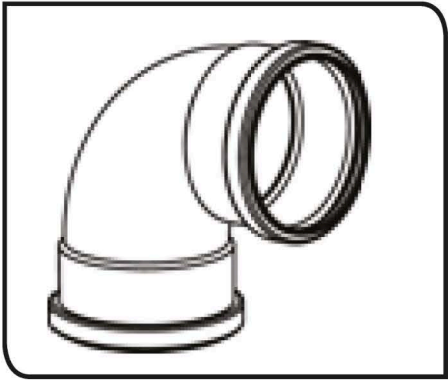
**ELBOW 45° FF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



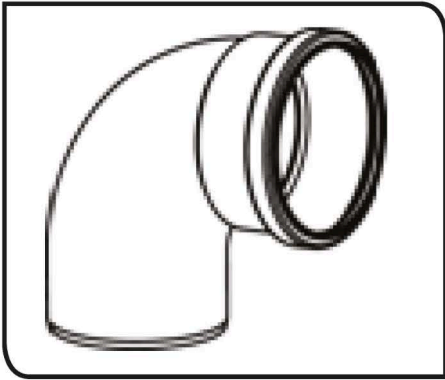
**ELBOW 45° MF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



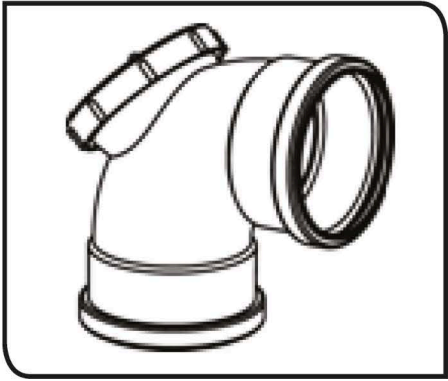
**ELBOW 90° FF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



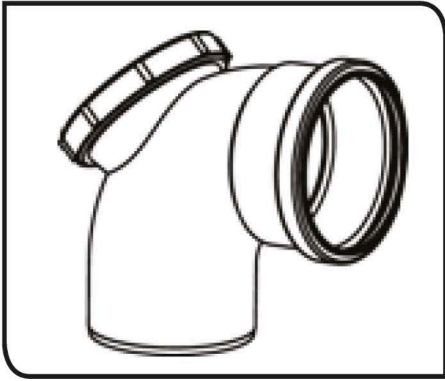
**ELBOW 90° MF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



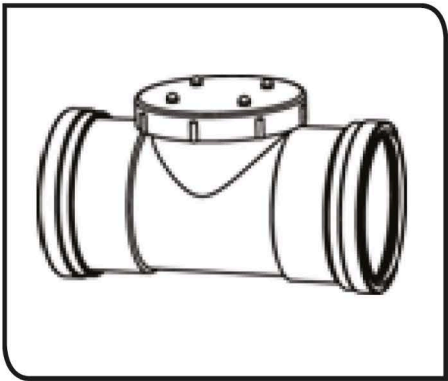
**DOOR ELBOW FF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



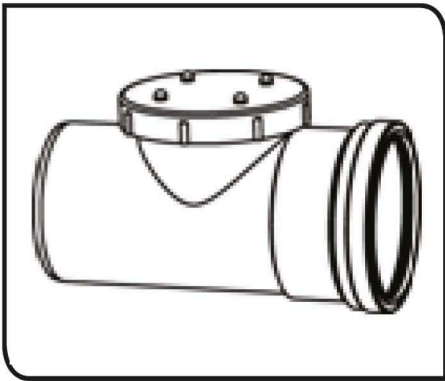
**DOOR ELBOW MF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



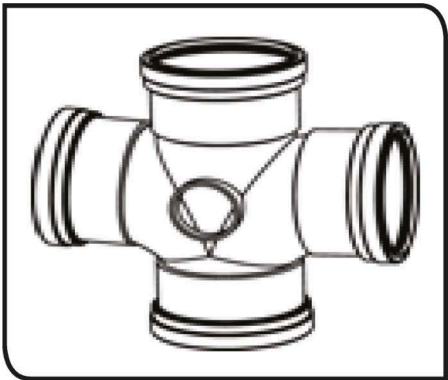
**DOOR COUPLER FF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



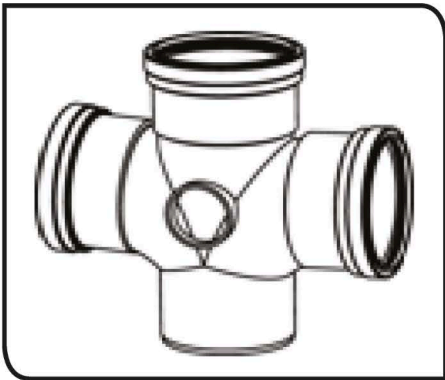
**DOOR COUPLER MF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**SKEW CROSS FF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**SKEW CROSS MF- RR**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



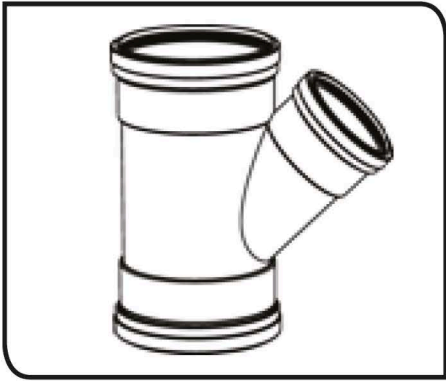


uPVC NON-PRESSURE  
FITTINGS



HOTACE uPVC Non-Pressure Fittings for above ground and Under ground Drainage Application  
Push Fit Rubber Ring Type Fittings

Available Colour : Golden Brown and Grey



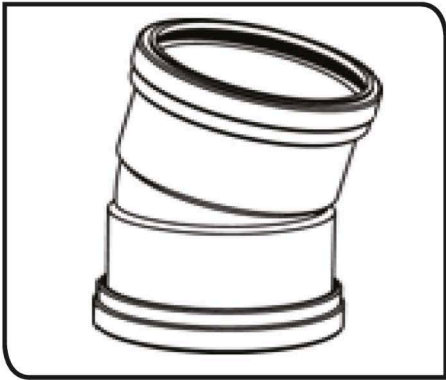
REDUCING SKEW TEE  
FF - RR

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



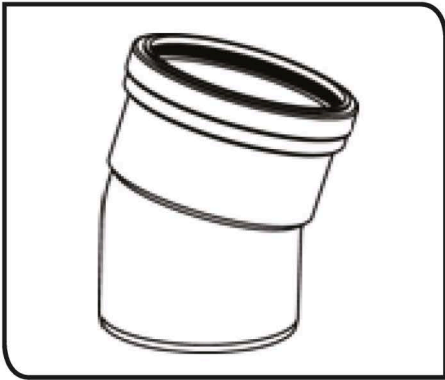
REDUCING SKEW TEE  
MF - RR

SIZE IN INCHES	SIZE IN MM
3" x 2"	82x50
4" x 3"	110x82
6" x 4"	160x110
8" x 6"	200x160



ELBOW 35° FF - RR

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



ELBOW 35° MF - RR

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200

HOTACE uPVC Non-Pressure Waste Fittings for above ground Application  
Solvent Fix Type

Available Colour : White and Grey



CLEAN OUT

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



COUPLER

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



ELBOW 45°

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



ELBOW 90°

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



FEMALE COUPLER

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



DOWN STREAM TEE

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



SKEW TEE

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



REDUCING BUSH

SIZE IN INCHES	SIZE IN MM
1-1/2"x1-1/4"	40x32
2"x1-1/2"	50x40
2"x1-1/4"	50x32



END CAP

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50



FEMALE ELBOW 90°

SIZE IN INCHES	SIZE IN MM
1 - 1/4"	32
1 - 1/2"	40
2"	50





uPVC NON-PRESSURE  
FITTINGS



HOTACE uPVC Non-Pressure Fittings for above ground and Under ground Drainage Application  
Solvent fix Type



**VENT COWL**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**FLOOR TRAP 6X4**

SIZE IN INCHES	SIZE IN MM
6 x 4	160x110



**FLOOR TRAP TYPE II**

SIZE IN INCHES	SIZE IN MM
6 x 4 x 4	160x110x110



**FLOOR TRAP**

SIZE IN INCHES	SIZE IN MM
6 x 4 x 4	160x110x110



**P TRAP**

SIZE IN INCHES	SIZE IN MM
4"	110



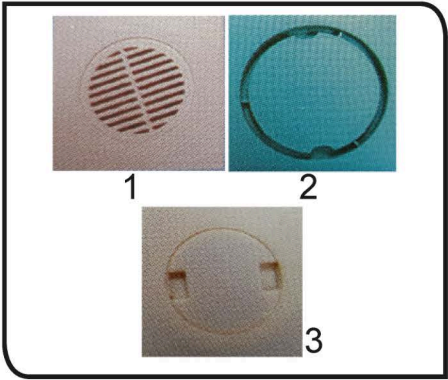
**GULLY TRAP**

SIZE IN INCHES	SIZE IN MM
4x3x2x1-1/2	110x82x50x40
4 x 3 x 2	110x82x50



**NON RETURN VALVE**

SIZE IN INCHES	SIZE IN MM
3"	82
4"	110
6"	160
8"	200



**PVC GRATING LID**

AVAILABLE SIZE - 6" x 6"
Available Types
1. Grill Type
2. Closing Type
3. Double Lid



**SOLVENT CEMENT  
HEAVY DUTY**

AVAILABLE SIZES
118 ML
273 ML
473 ML



**HEAVY DUTY  
CONSTRUCTION BUCKET**

AVAILABLE CAPACITY- 12 KG
Bucket with handle Available in all Colours

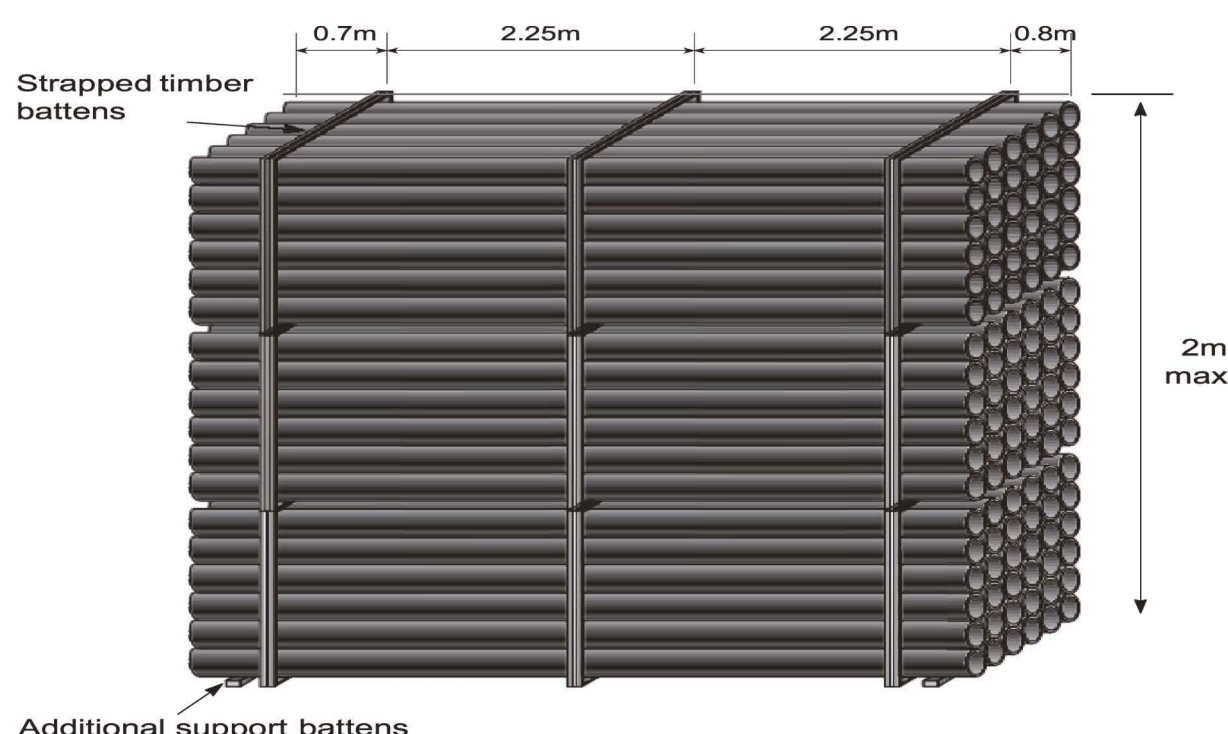




## UPVC PIPES HANDLING

### Handling and Storage

HOTACE PVC pipe is very robust, but still can be damaged by rough handling. Pipes should not be thrown from trucks or dragged over rough surfaces. Plastic piping becomes more susceptible to damage in very cold weather so extra care should be taken when the temperature is low. Since the soundness of any pipe joint depends on the condition of the spigot and the socket, special care should be taken not to allow them to come into contact with sharp edges or protruding nails or made oval by poor storage.



### Storage of PVC Pipes

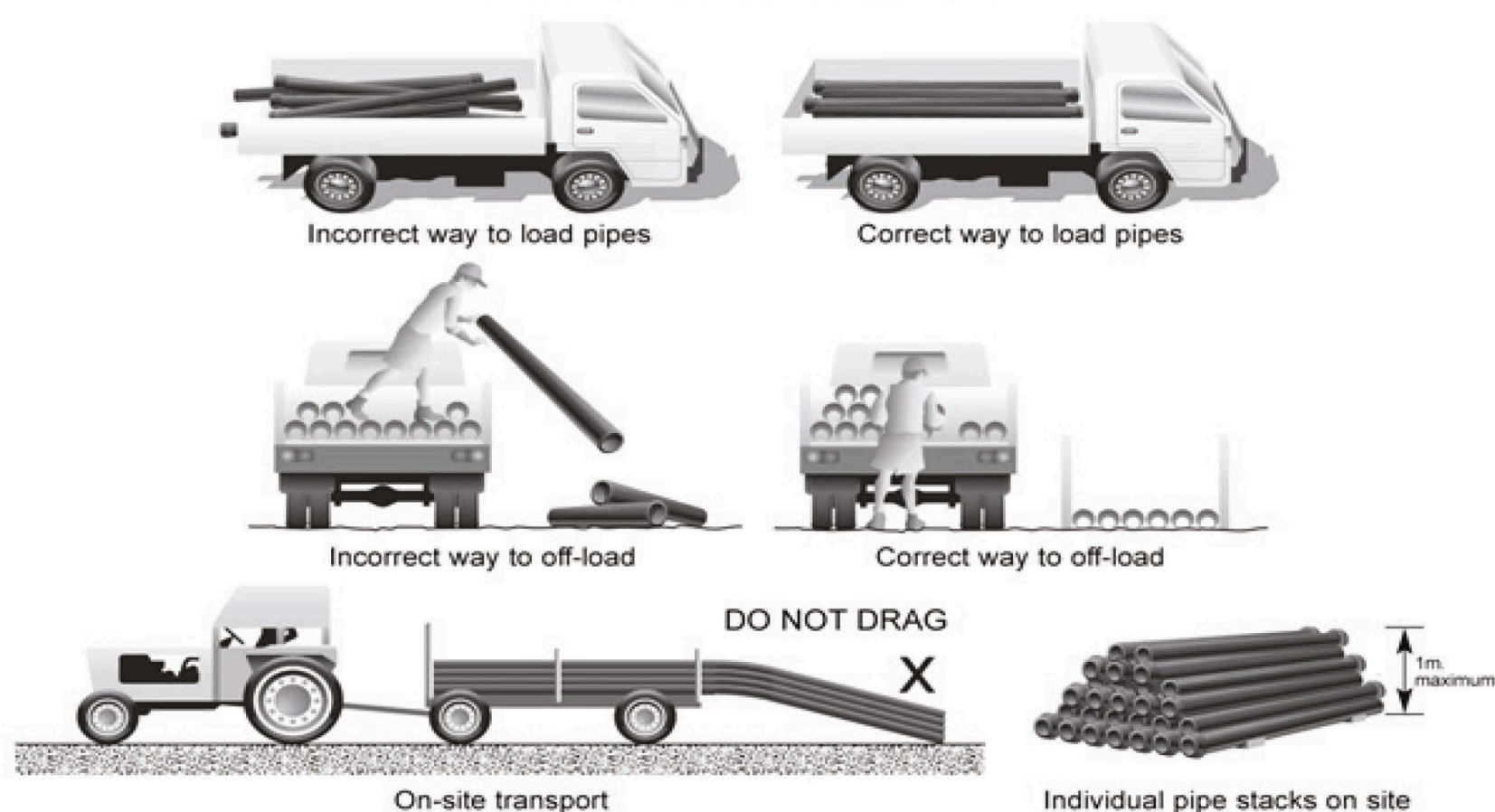
Pipes should be given adequate support at all times. Pipes should be stacked in layers with sockets placed at alternate ends of the stack and with the sockets protruding. Horizontal support of about 75 mm wide should be spaced not more than 1.0m centre-to-centre beneath the pipes to provide even support. Vertical side supports should also be provided at intervals of 2m along rectangular pipe stacks.

For long term storage (longer than 3 months) the maximum free height should not exceed 1.0m. The heaviest pipes should be on the bottom. The crates used for delivery are adequate for long term storage provided additional bearers (approx. 75mm wide) are placed under the pipes between the crate frames.

### Transportation of PVC Pipes

While in transit pipes should be well secured and supported. Chains or wire ropes may be used only if suitably padded to protect the pipe from damage. Care should be taken that the pipes are firmly tied so that the sockets cannot rub together. Pipes may be unloaded from vehicles by Forklift, care being taken to ensure that the pipes do not fall onto one another or onto any hard or uneven surface.

#### Handling and storing on site





## General Conditions

In above ground installation, pipes should be laid on broad, smooth bearing surfaces wherever possible to minimise stress concentration and to prevent physical damage e.g. cable trays.

PVC pipe should not be laid near steam lines or in proximity to other high temperature surfaces.

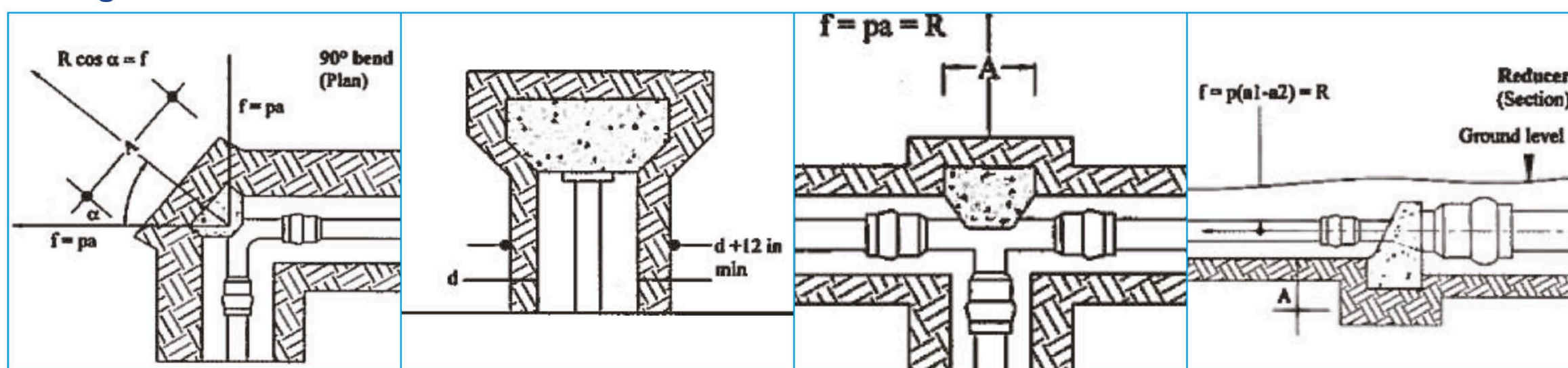
Where PVC pressure pipeline is used to supply cold water to a hot water cylinder, the last two metres of pipe should be made of copper and a nonreturn valve fitted between the PVC and copper line to prevent pipe failure.

If a pipeline is subjected to continuous vibration such as the connection with a pump, it should be connected by a flexible joint or, if possible, the system should be redesigned to eliminate the vibration.

**PVC pipe must not be used to reticulate compressed air.**

The pipe must be adequately supported in order to prevent sagging and excessive distortion. Clamp, saddle, angle, spring or other standard types of supports and hangers maybe used where necessary. Pipe hangers should not be over tightened. Metal surfaces should be insulated from the pipe by plastic coating, wrapping or other means.

## Arrangement of Thrust Block



## General installation Guide

### Trench Preparation

The width of the trench at the crown of the pipe should be as narrow as possible but should not be less than the outside diameter of the pipe plus 300 mm to allow proper compaction of the side-fill material.

The trench bottom should be carefully examined for the presence of hard projects such as flints, rocky projections etc. Ideally the prepared bedding should consist of a free-running granular material passing a 19mm sieve but with minimum of fine particles or slit which will affect the compaction.

The thickness of the prepared bedding should be at least 100 mm. It should be well compacted and brought it to an even surface so as to provide uniform support for the pipe.

### Pipe Laying

#### a) Push-Fit (R/R) socket Pipes:

uPVC pipes with integral Push-Fit (R/R) sockets should preferably be installed and joined in the trench. Pipes preferably be installed and joined in the trench. Pipes up to 6" in diameter may if necessary be joined at the trench side and there after snaked into the trench. In such cases extreme care should be taken to ensure that no separation of the joints occurs during this operation and the joints should be checked after the pipe is in position to ensure the joints are intact.

The Push-Fit (R/R) socket will not resist end thrust, hence the pipes should be laid on a prepared bedding as described above and anchored at all changes of direction, valves, reducers and blank ends.

All temporary pipe supports, leveling pegs etc must be removed from beneath the pipe prior to back filling.

The amount of expansion and contraction of buried pipes carrying cold water will normally be small and easily accommodated by the Push-Fit (R/R) socket.

#### b) Solvent Cement Socket Pipes:

In order to take the fullest advantage of the flexibility of the pipe lines made by HOTACE uPVC Pipes and jointed by solvent welding techniques, pipes should be jointed at the trench side and then snaked Into the trench. A minimum of four hours should be allowed between making the last joint and snaking a long length of pipe into the trench. It is not at all essential to adopt this technique and pipe may be jointed In the trench if preferred.



Solvent cement joints will sustain end loads created by internal fluid pressure. Anchors providing restraint against joint separation are therefore not essential. However, proper consideration should be given to the anchorage of all pipe lines. When laying pipes with solvent cemented joint in hot water, it is recommended that the temperature of the pipe be minimized by partial backfilling before making final connection and locating anchor blocks.

## SIDE Filing:

Before commencing to place any side fill material, all trench sleeting should be partially withdrawn and pipe bed checked for stones or other hard objects which may have fallen into the trench after the pipe was laid.

In order to develop reaction from the side fill which is necessary for a flexible pipe to sustain top load, some deformation of the pipe's cross section must occur. It is generally considered that the maximum vertical deflection of the pipe should be within 5% of the pipes outside diameter.

Granular material described in 'Trench Preparation' and having a compaction fraction of 0.1 or less should be placed carefully between the pipe and trench walls and thoroughly compacted by hand in layers not exceeding 75 mm. This should continue up to a level of at least 100 mm above the crown of the pipe.

## BACKFILLING

Selected excavated material may be used for the remainder of the backing, except the special consideration of its suitability may be necessary where the risk of surface subsidence is a consideration e.g. under roads. The backfill material should be compacted in 300 mm layers or in compliance with any special requirements of the specifications. Stones or any other objects larger than 150 mm should not be used. Heavy mechanical compactors should not be used until the fill has reached a depth of at least 300 mm above the crown of the pipe.

## Examples of Trench Preparation and Backfilling

Compacting Layers of Side and Backfill (Tamping in 75 mm Layers)  
Normal Filling (300 mm layers temped by non-mechanical means)

Clean Cut Trench 225 mm  
Not less than 1/3 of diameter of pipe

Not less than 100 mm

Pipe diameter plus 300 mm  
Not less than 100 mm  
Not more than 300 mm

300 mm 300 mm  
Not less than 300 mm  
Non-mechanical tamping

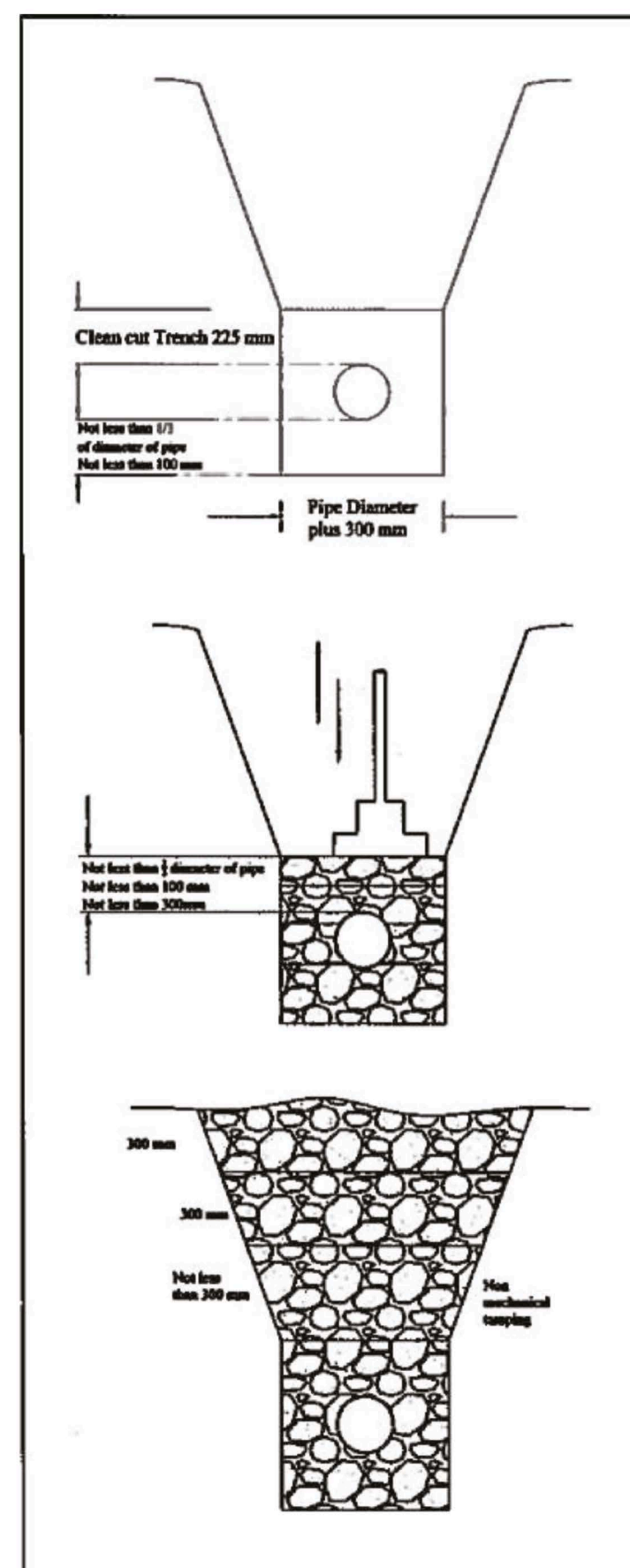
When pipe lines are laid in hot climatic conditions it is advisable to fill the pipe with cold water to bring the pipe lengths to normal contracted dimension. Check the joints to ensure that socket insertion depth is satisfactory.

## Testing at site

### SITE PRESSURE TESTING

The purpose of a site pressure test is to establish that the installed section of line under test and in particular all joints and fittings will withstand the design working pressure plus a safety margin without leakage. Generally a test pressure of 1.5 times the working pressure for the pipe installed is adequate. All site pressure testing of HOTACE PVC pressure pipes should be carried out hydrostatically and under no circumstances should compressed air be used for testing as this may result in injury or damage.

Several acceptable specifications exist for applying hydrostatic pressure tests to pipe lines.





# APPROVALS & TEST CERTIFICATES



Sultanate of Oman  
Ministry of Commerce and Industry  
Directorate General for Standards and Metrology  
Department of Laboratories  
Muscat



سلطنة عمان  
وزارة التجارة والصناعة  
الهيئة العامة للمواصفات والمقاييس  
إدارة المختبرات  
مسقط

## TEST REPORT FOR PVC-U PIPES AS PER BS EN 1329 - 1 / BS 4514

Laboratory No: 74739	Date report : 24/06/2018
Ref No: 10827	
Size of pipe & fitting : 3" (82.5mm) BS EN 1329 - 1 / BS 4514	
Testing as per : BS EN 1329 - 1 / BS 4514	Date of test : 21/06/2018
Analyst : YAQOUB & IBRAHIM	Description : UPVC - Pipes For non pressure Above ground soil and venting.
	Raw Materials: uPVC
	Brand : HOTACE

Note: All these test are carried out in National plastic Factory LLC Laboratory and were scrutinized by physical laboratory staff of the Directorate General for Standards and Metrology, Ministry of Commerce & Industry.

Sr. No	Parameter	Requirements	Test results	Remarks
01	Outside Diameter	82.40 - 82.80	82.42 - 82.62	Complies
02	Wall Thickness	3.20 - 3.80	3.20 - 3.32	Complies
03	Length	6 Mtrs	6 Mtrs	Complies
04	Inner and outer Surfaces	Smooth, clean and free from grooves, blistering, impurities and pores. Pipes end shall be cleanly cut	Complies	Complies
05	Colour		Light Grey - Complies	Complies
06	Longitudinal reversion (in 150°C for 15min)	≤ 5% max	3.8 %	Complies
07	Vicat Softening Temperature (VST)	≥ 79°C	82°C	Complies
08	Resistance to Dichloromethane (in 15°C for 30min)	No Attack	No Scale appeared	Complies
09	Impact at 0° c, Mass 1.000kg, 2mtrs height. 3 strike per sample (in 0°C for 2hrs)	As per BS EN 1329 - 1	No of Strikes- 3 No of Failures- 0	Complies
10	Marking	As per BS 4514	Complies	Complies

Remarks: The above test results that submitted for non pressure Above ground soil and venting pipe sample as tested comply with BS EN 1329 - 1 / BS 4514 for tested parameters.

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مسقط

## TEST REPORT FOR PVC-U PIPES AS PER BS EN 1401 - 1 / BS 4660

Laboratory No: 74737	Date report : 24/06/2018
Ref No: 10827	
Size of pipe & fitting : 4" (110mm) BS EN 1401 - 1 (SDR - 41)/BS 4660	
Testing as per : BS EN 1401 - 1 / BS 4660	Date of test : 21/06/2018
Analyst : YAQOUB & IBRAHIM	Description : UPVC - Pipes For non pressure underground drainage and sewerage
	Raw Materials: uPVC
	Brand : HOTACE

Note: All these test are carried out in National plastic Factory LLC Laboratory and were scrutinized by physical laboratory staff of the Directorate General for Standards and Metrology, Ministry of Commerce & Industry.

Sr. No	Parameter	Requirements	Test results	Remarks
01	Outside Diameter	110.00 - 110.40	110.20 - 110.30	Complies
02	Wall Thickness	3.20 - 3.80	3.22 - 3.40	Complies
03	Length	6 Mtrs	6 Mtrs	Complies
04	Inner and outer Surfaces	Smooth, clean and free from grooves, blistering, impurities and pores. Pipes end shall be cleanly cut	Complies	Complies
05	Colour		Golden brown - Complies	Complies
06	Longitudinal reversion (in 150°C for 15min)	≤ 5% max	3.5 %	Complies
07	Vicat Softening Temperature (VST)	≥ 79°C	80°C	Complies
08	Resistance to Dichloromethane (in 15°C for 30min)	No Attack	No Scale appeared	Complies
09	Impact at 0° c, Mass 1.000kg, 2mtrs height. 4 strike per sample (in 0°C for 2hrs)	As per BS EN 1401 - 1	No of Strikes- 4 No of Failures- 0	Complies
10	Marking	As per BS 1401 - 1	Complies	Complies

Remarks: The above test results that submitted for non pressure underground drainage and sewerage pipe sample as tested comply with BS EN 1401 - 1 / BS 4660 for tested parameters.

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إدارة المختبرات  
مسقط

## TEST REPORT FOR PVC-U PIPES AS PER BS EN 1401 - 1 / BS 4660

Laboratory No: 74738	Date report : 24/06/2018
Ref No: 10827	
Size of pipe & fitting : 6" (160mm) BS EN 1401 - 1 (SDR - 41)/BS 4660	
Testing as per : BS EN 1401 - 1 / BS 4660	Date of test : 21/06/2018
Analyst : YAQOUB & IBRAHIM	Description : UPVC - Pipes For non pressure underground drainage and sewerage
	Raw Materials: uPVC
	Brand : HOTACE

Note: All these test are carried out in National plastic Factory LLC Laboratory and were scrutinized by physical laboratory staff of the Directorate General for Standards and Metrology, Ministry of Commerce & Industry.

Sr. No	Parameter	Requirements	Test results	Remarks
01	Outside Diameter	160.00 - 160.40	160.08 - 160.15	Complies
02	Wall Thickness	4.00 - 4.60	4.20 - 4.30	Complies
03	Length	6 Mtrs	6 Mtrs	Complies
04	Inner and outer Surfaces	Smooth, clean and free from grooves, blistering, impurities and pores. Pipes end shall be cleanly cut	Complies	Complies
05	Colour		Golden brown - Complies	Complies
06	Longitudinal reversion (in 150°C for 15min)	≤ 5% max	2.27 %	Complies
07	Vicat Softening Temperature (VST)	≥ 79°C	82°C	Complies
08	Resistance to Dichloromethane (in 15°C for 30min)	No Attack	No Scale appeared	Complies
09	Impact at 0° c, Mass 1.600kg, 2mtrs height. 8 strike per sample (in 0°C for 2hrs)	As per BS EN 1401 - 1	No of Strikes- 8 No of Failures- 0	Complies
10	Marking	As per BS 1401 - 1	Complies	Complies

Remarks: The above test results that submitted for non pressure underground drainage and sewerage pipe sample as tested comply with BS EN 1401 - 1 / BS 4660 for tested parameters.

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إدارة المختبرات  
مسقط

Our Ref: GH/M130484  
Test Report: M 105436/B

11<sup>th</sup> March 2013

National Plastic Factory  
P O Box 371  
PC 114  
Muttrah  
Muscat  
Sultanate of Oman

## WATER REGULATIONS ADVISORY SCHEME (WRAS)

### MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS 6920-1:2000 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

POLYVINYLCHLORIDE (PVC, PVC-U & CPVC) - COMPONENTS

5300

Hotace fitting. Grey coloured, injection moulded PVC fitting. For use with water up to 23°C.

APPROVAL NUMBER: 1302525

APPROVAL HOLDER: NATIONAL PLASTIC FACTORY

The Scheme reserves the right to review approval. This approval is valid between FEBRUARY 2013 and FEBRUARY 2018.

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, 'Materials which have passed full tests of effect on water quality'.

The Directory may be found at: [www.wrass.co.uk/directory](http://www.wrass.co.uk/directory)

Yours faithfully

Jason Furnival  
Approvals & Enquiries Manager  
Water Regulations Advisory Scheme

Water Regulations Advisory Scheme Ltd.  
20 Park Court, Park Road, Bournemouth, Dorset, B15 1AA  
Tel: +44 (0) 1202 377 600 Fax: +44 (0) 1202 377 601  
Email: [info@wrass.co.uk](mailto:info@wrass.co.uk) Website: [www.wrass.co.uk](http://www.wrass.co.uk)

## Vendor Registration Notification

Reference Number	VRE NO 967	Date of issue	22/04/2018
Subject	Vendor Registration Notification		
Vendor Name	National Plastic Factory L.L.C	Principal Name	National Plastic Factory L.L.C
Address	PO BOX 371, PC 114, Muttrah, Muscat, Sultanate of Oman	Office Address	PO BOX 371, PC 114, Muttrah, Muscat, Sultanate of Oman
		Factory Address	PLOT NO 77, Banka Industrial Area, Behind Banka Poultry Farm, Sultanate of Oman.
Vendor Type	<input checked="" type="checkbox"/> SME <input type="checkbox"/> Large Enterprise <input type="checkbox"/> Others	Business Type	<input checked="" type="checkbox"/> Manufacturer <input type="checkbox"/> Technology Provider <input type="checkbox"/> Others
Vendor Code	100005	Validity Period	3 years from date of issue

We are pleased to inform you that on the basis of information provided by you in the vendor registration form, we have registered your company with Haya Water with effect from date of issue of this letter for the following category as shown in the attachment. In this regard, please note that this is only a confirmation for vendor registration with Haya Water and subject to the following conditions:

- Haya Water reserves the right to conduct Factory Acceptance Test (FAT) / Field Trial / Product Testing / Product Suitability Review / Specific Design Review / Material Approval Sheet (MAS) Review against each Letter of Award / Purchase Order / Project during Tender / Bidding Stage for all goods/services for which your company is registered with Haya Water as shown in the attachment.
- This registration does not guarantee for purchase of goods/services or award of any contract from your company, but you will have the opportunity along with other registered vendors to participate and respond to Mailing of enquiries/Request for Proposals/Request for Quotation/Tenders issued by Haya Water.
- Non-participation by your company for three consecutive Mailing of enquiries/Requests for Proposals/Request for Quotation/Tenders may result in delisting of the items registered with Haya Water as shown in the attachment.
- Any changes to key information provided for this registration (Design/Drawing/Bill of Material/Specification/Company name change/Mailing/Factory address/Agreement change/renewal between Principal and Agent/Distributor/Supplier etc., expiry of commercial registration documents) should promptly be communicated to Haya Water for updating the information.
- This registration can be revoked at any time by Haya Water at its sole discretion without prejudice to any parties involved.

Disclaimer: This notification letter is issued by Haya Water for information purpose only and Haya Water makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness which extend beyond the description contained herein. Haya Water may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information about this letter.

Thanking you,

Haya Water,

General Manager - Corporate Support Division

PO BOX 10487, PC 113, Al Khodh, Muscat, Sultanate of Oman  
Haya Water is a registered subsidiary of Oman Water Services Company S.A.O.C.

Our Ref: GH/M130484  
Test Report: M 105436/B

11<sup>th</sup> March 2013

National Plastic Factory  
P O Box 371  
PC 114  
Muttrah  
Muscat  
Sultanate of Oman

## WATER REGULATIONS ADVISORY SCHEME (WRAS)

### MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS 6920-1:2000 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

POLYVINYLCHLORIDE (PVC, PVC-U & CPVC) - COMPONENTS

5300

Hotace pipe. Grey coloured, extruded PVC pipe. For use with water up to 23°C.

APPROVAL NUMBER: 1302526

APPROVAL HOLDER: NATIONAL PLASTIC FACTORY

The Scheme reserves the right to review approval. This approval is valid between FEBRUARY 2013 and FEBRUARY 2018.

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, 'Materials which have passed full tests of effect on water quality'.

The Directory may be found at: [www.wrass.co.uk/directory](http://www.wrass.co.uk/directory)

Yours faithfully

Jason Furnival  
Approvals & Enquiries Manager  
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Sultanate of Oman  
Ministry of Commerce and Industry  
Directorate General for Standards and Metrology  
Department of Laboratories  
Muscat



سلطنة عمان  
وزارة التجارة والصناعة  
الهيئة العامة للمواصفات والمقاييس  
إدارة المختبرات  
مسقط

## TEST REPORT FOR PVC-U PIPES AS PER BS 3505:1986

Laboratory No: 74435	Date report : 27/03/2018
Ref No: 10418	
Size of pipe & fitting : 1/2" CLASS - E (26.60mm)	
Testing as per : BS 3505:1986	Date of test : 13/03/2018
Analyst : YAQOUB, IBRAHIM & HAMOUD	Description : UPVC - Pipes For Drinking Water
	Raw Materials: uPVC
	Brand : HOTACE

Note: All these test are carried out in National plastic Factory LLC Laboratory and were scrutinized by physical laboratory staff of the Directorate General for Specification & Measurements, Ministry of Commerce & Industry.

Sr. No	Parameter	Requirements	Test results	Remarks
01	Outside Diameter	26.60 - 26.90	26.82	Complies
02	Wall Thickness	1.90 - 2.50	2.26	Complies
03	Length	6Mtrs	6Mtrs	Complies
04	Inner and outer Surfaces	Smooth, clean and free from grooves, cracks, furrows with sharp edges, holes, or any other defects or foreign matter.	Complies	Complies
05	Colour		Dark Grey - complies	Complies
06	Heat reversion	5% max	2.4	Complies
07	Opacity Test	<0.2%	0%	Complies
08	Resistance to Acetone	No scale shall appear	No scale appeared	Complies
09	Impact at 20° c, Mass 1.000kg, 2mtrs height. 1 strike per sample	As per BS 3505:1986	No of strikes: 14 No of failure: 0	Complies
10	Hydrostatic short term at 20° at bar 1hr.	Shall not burst or rupture	Did not burst or rupture	Complies
11	Sulphuric acid test (Sample immersed for 14 days)	Weight of the specimen shall not increase by 0.32 or shall not decrease by 0.013.	Weight Loss: 0.01gms	Complies
12	Water Absorption Test (Sample immersed for 24 h in boiling water)	4mg/cm <sup>2</sup>	0.02 mg/cm <sup>2</sup>	Complies
13	Marking	As per BS 3505:1986	Complies	Complies

Remarks: The above test result that submitted pressure pipe sample as tested complies with BS 3505:1986 for tested parameter.

Yaqoub M. Al-Borwani  
Physical & Const. Mat. Lab  
Deputy Director of Laboratories  
سلطنة عمان  
وزارة التجارة والصناعة  
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## TEST REPORT FOR PVC-U PIPES AS PER BS 3505:1986

Laboratory No: 74494	Date report : 27/03/2018
Ref No: 10435	
Size of pipe & fitting : 1" CLASS - E	
Testing as per : BS 3505:1986	Date of test : 13/03/2018
Analyst : YAQOUB, IBRAHIM & HAMOUD	Description : UPVC - Pipes For Drinking Water
	Raw Materials: uPVC
	Brand : HOTACE

Note: All these test are carried out in National plastic Factory LLC Laboratory and were scrutinized by physical laboratory staff of the Directorate General for Specification & Measurements, Ministry of Commerce & Industry.

Sr. No	Parameter	Requirements	Test results	Remarks
01	Outside Diameter	33.40 - 33.70	33.45	Complies
02	Wall Thickness	2.20 - 2.70	2.41	Complies
03	Length	6Mtrs	6Mtrs	Complies
04	Inner and outer Surfaces	Smooth, clean and free from grooves, cracks, furrows with sharp edges, holes, or any other defects or foreign matter.	Complies	Complies
05	Colour		Dark Grey - complies	Complies
06	Heat reversion	5% max	4.7	Complies
07	Opacity Test	<0.2%	0%	Complies
08	Resistance to Acetone	No scale shall appear	No scale appeared	Complies
09	Impact at 20° c, Mass 1.750kg, 2mtrs height. 3 strike per sample	As per BS 3505:1986	No of strikes: 14 No of failure: 0	Complies
10	Hydrostatic short term at 20° at bar 1hr.	Shall not burst or rupture	Did not burst or rupture	Complies
11	Sulphuric acid test (Sample immersed for 14 days)	Weight of the specimen shall not increase by 0.32 or shall not decrease by 0.013.	Weight Loss: 0.02gms	Complies
12	Water Absorption Test (Sample immersed for 24 h in boiling water)	4mg/cm <sup>2</sup>	0.3 mg/cm <sup>2</sup>	Complies
13	Marking	As per BS 3505:1986	Complies	Complies

Remarks: The above test results that submitted Pressure pipe sample as tested comply with BS 3505:1986 for tested parameter.

Yaqoub M. Al-Borwani  
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## TEST REPORT FOR PVC-U PIPES AS PER BS 3505:1986

Laboratory No: 74434	Date report : 27/03/2018
Ref No: 10418	
Size of pipe & fitting : 1 1/2" CLASS - D (48.25 mm)	
Testing as per : BS 3505:1986	Date of test : 13/03/2018
Analyst : YAQOUB, IBRAHIM & HAMOUD	Description : UPVC - Pipes For Drinking Water
	Raw Materials: uPVC
	Brand : HOTACE

Note: All these test are carried out in National plastic Factory LLC Laboratory and were scrutinized by physical laboratory staff of the Directorate General for Specification & Measurements, Ministry of Commerce & Industry.

Sr. No	Parameter	Requirements	Test results	Remarks
01	Outside Diameter	48.10 - 48.40	48.25	Complies
02	Wall Thickness	2.50 - 3.00	2.55	Complies
03	Length	6Mtrs	6Mtrs	Complies
04	Inner and outer Surfaces	Smooth, clean and free from grooves, cracks, furrows with sharp edges, holes, or any other defects or foreign matter.	Complies	Complies
05	Colour		Dark Grey - complies	Complies
06	Heat reversion	5% max	3.6	Complies
07	Opacity Test	<0.2%	0%	Complies
08	Resistance to Acetone	No scale shall appear	No scale appeared	Complies
09	Impact at 20° c, Mass 1.750kg, 2mtrs height. 3 strike per sample	As per BS 3505:1986	No of strikes: 14 No of failure: 0	Complies
10	Hydrostatic short term at 20° at bar 1hr.	Shall not burst or rupture	Did not burst or rupture	Complies
11	Sulphuric acid test (Sample immersed for 14 days)	Weight of the specimen shall not increase by 0.32 or shall not decrease by 0.013.	Weight Loss: 0.01gms	Complies
12	Water Absorption Test (Sample immersed for 24 h in boiling water)	4mg/cm <sup>2</sup>	0.2 mg/cm <sup>2</sup>	Complies
13	Marking	As per BS 3505:1986	Complies	Complies

Remarks: The above test result that submitted pressure pipe sample as tested complies with BS 3505:1986 for tested parameter.

Yaqoub M. Al-Borwani  
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An ISO 9001/QMS, 14001/EMS & OHSAS 18001



CERTIFIED COMPANY



## Manufacturer & Supplier of 'HOTACE' Brand product ranges :

- uPVC Drainage, Sewerage Pipes & Fittings
- uPVC Soil & Ventilation Pipes & Fittings
- PPR Pipes & Fittings
- GI Conduit & Accessories
- uPVC Electrical Conduit & Accessories
- uPVC High Pressure Pipes & Fittings
- HDPE Pipes & Fittings
- Plastic Packaging for FMCG, Industrial & House Hold Products

**The above products are approved all local government authorities & internationally reputed institutions as well as meeting international standards like Omani STD, Gulf STD, BSEN, ASTM, DIN etc.**

H.O. / Works  
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