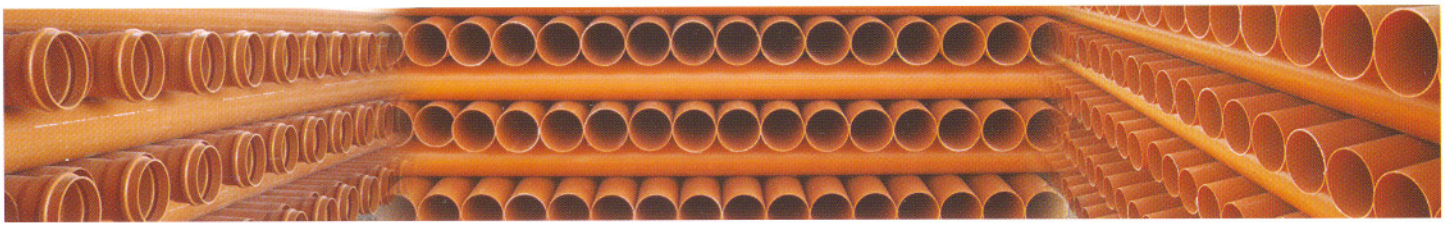
The Application Specialists

Amiantit Oman

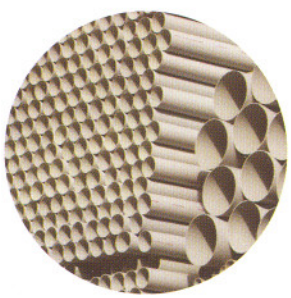
Amiantit Oman

Content Page



Introduction

Set up in 1975, Amiantit Oman has always aimed at the high quality and innovation, and achieved it. The wide spectrum of products provide ample testimony to that. The range always offers better and more efficient ways of application. Consider them for…



Water Supply

Amiantit PVC/PE pipes are made from raw material approved for toxicity requirement of WHO and can be used for transport of drinking water. They do not corrode like steel pipes… hence do not affect the quality of water and are extremely sanitary.

Drainage

Amiantit pipes are being used for underground drainage for buildings, waste lines for corrosive fluids and also as plumbing material for house drainage. They can also be used for sewer works.

Irrigation

Amiantit pipes are widely used in sprinkler and drip irrigation pipes in farms. Their versatility extends to transporting fertilizer and pesticide solutions too.

Industry

Features like corrosion-resistance, easy installation, light weight and flexibility make Amiantit pipes ideal for complicated plumbing in factories. They are ideal for corrosive chemicals.

Conduits

Amiantit pipes have been widely used as conduits for electrical and telephone cables. They can be buried in corrosive soils or in concrete for concealed plumbing. 'Caution Tapes' or 'Warning Tapes' used for identifying buried cable ducts can also also be supplied.

Oil Industry

PE pipes to line carbon steel pipes to transport oil & gases at higher pressure are available. The pipes are specially designed with a smooth surface and made easy to install. Thus gas lines can be installed at low costs. In drilling they are used as shot-hole casing as they are cheaper.

Comprehensive details of the products within each application are illustrated in the following pages...

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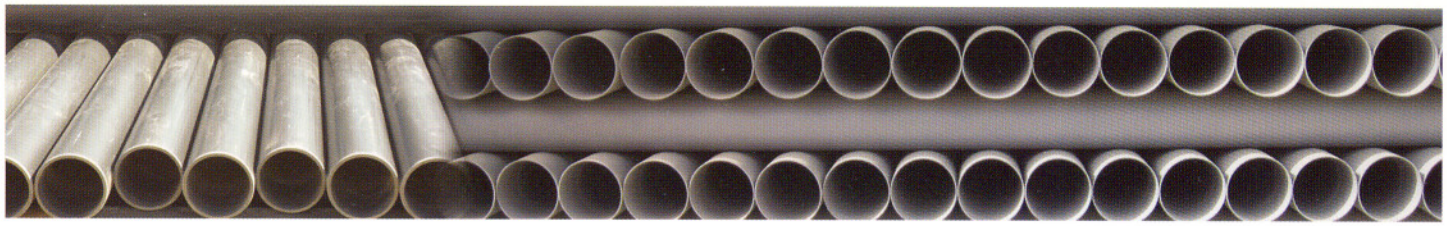

PRODUCT DESCRIPTION

Material Properties

Material	Unplasticised Polyvinyl Chloride
General Properties	
Specific Gravity	1.44
Water Absorption	<4 mg / cm^2
Flamibility	Will not support combustion
Mechanical Properties	
Tensile Strength	450-525 kgf/cm^2
Elongation at Break	Above 80%
Modulus of Elasticity	$3.2x10^4$ kgf/cm^2
Compressive Strength	620 kgf/cm^2
Impact Strength	Complies with relevant BS and OS Standards
Thermal Properties	
Vicat Softening Point (5 Kg)	82°C
Specific heat	1000 j/kg/°C
Co-efficient of thermal conductivity	1600 W/m°C
Linear expansion	0.08 mm/M/°C
Electrical properties	
Volume resistivity	10^{14} ohm/cm

PVC is a non conductor of electricity and is not subject to galvanic or electrolytic attack.
Note: Values given in the above table are approximate.

Dimensional details of UPVC Pipes

A UPVC Pressure pipe (Dark Grey colour)
British standard specification BS : 3505 /1986

Nominal Sizes	Outside Diameter		Wall Thickness					
			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)	
	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)
½"	21.2	21.5					1.7	2.1
¾"	26.6	26.9					1.9	2.5
1"	33.4	33.7					2.2	2.8
11/4"	42.1	42.4			2.2	2.7	2.7	3.3
11/2"	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
3"	88.7	89.1	3.5	4.1	4.6	5.3	5.7	6.6
4"	114.1	114.5	4.5	5.2	6.0	6.9	7.3	8.4
6"	168.0	168.5	6.6	7.6	8.8	10.2	10.8	12.5
8"	218.8	219.4	7.8	9.0	10.3	11.9	12.6	14.5
10"	272.6	273.4	9.7	11.2	12.8	14.8	15.7	18.1
12"	323.4	324.3	11.5	13.3	15.2	17.5	18.7	21.6

Standard Length : 6 Metres
Socket type : Rubber ring / Solvent Weld

B U PVC Non Pressure Pipe (Light Grey colour)
British standard Specification BS : 3506/1986 (Class O)

Nominal Sizes	Outside Diameter		Wall Thickness	
	Min (mm)	*Max (mm)*	*Min (mm)*	*Max (mm)*
11/2"	48.1	48.4	1.8	2.2
2"	60.2	60.5	1.8	2.2
3"	88.7	89.1	1.8	2.2
4"	114.1	114.5	2.3	2.8
6"	168.0	168.5	3.1	3.7
8"	218.8	219.4	3.1	3.7
10"	272.6	273.4	3.1	3.7
12"	323.4	324.3	3.1	3.7

Standard Length : 6 Metres
Socket type : Solvent Weld

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PRODUCT DESCRIPTION

C U PVC Pipes for Industrial Uses (Dark Grey Colour Class C and Light Grey Colour class B British Standard Specification BS : 3506 /1986

			Wall Thickness			
Nominal Sizes	Outside Diameter		Class B		Class C	
	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)
2"	60.2	60.5			2.5	3.0
3"	88.7	89.1	2.9	3.4	3.5	4.1
4"	114.1	114.5	3.4	4.0	4.5	5.2
6"	168.0	168.5	4.5	5.2	6.6	7.6
8"'	218.8	219.4	5.3	6.1	7.8	9.0
10"	272.6	273.4	6.6	7.6	9.7	11.2
12"	323.4	324.3	7.8	9	11.5	13.3

Standard Length:
6 Metres
Socket type :
Rubber ring / Solvent Weld

D U PVC Telephone Duct To Omantel Standard (Light Grey Colour)

Nominal Sizes (mm)	Outside Diameter (mm)	Wall Thickness (mm)
50	50	1.8
110	110	3.2

Standard Length:
6 Metres
Socket type:
Rubber ring / Solvent Weld

E U PVC Drainage Pipe Systems (Golden Brown Colour) British Standard Specification BS : 4660 / 1973

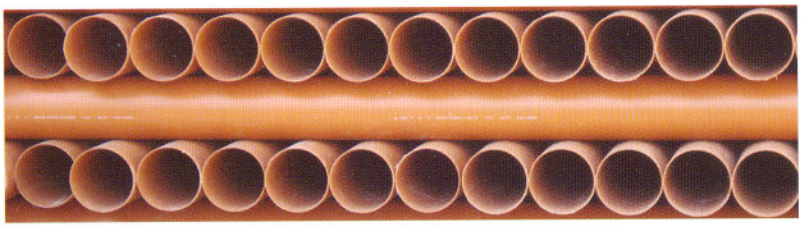
Nominal Sizes (mm)	Outside Diameter (mm)	Wall Thickness (mm)
110	110	3.2
160	160	4.1

Standard Length : 6 Metres
Socket type : Rubber ring / Solvent weld

F U PVC Sewer Pipe System (Golden Brown Colour) British Standard Specification BS :5481 / 1977

Nominal Sizes (mm)	Outside Diameter (mm)	Wall Thickness (mm)
200	200	4.9
250	250	6.1
315	315	7.7

Standard Length : 6 Metres
Socket type : Rubber ring/ Solvent weld



PRODUCT DESCRIPTION

G U PVC Pipes -BSEN 1329-1 :1999

Nominal Outside Diameter	Type –B		Type-BD	
	Min (mm)	Max (mm)	Min (mm)	Max (mm)
36	3.0	3.5		
43	3.0	3.5		
56	3.0	3.5		
82	3.0	3.5	3.0	3.5
110	3.2	3.8	3.2	3.8
160	3.2	3.8	4.0	4.6
200	3.9	4.5	4.9	5.6
250	4.9	5.6	6.2	7.1
315	6.2	7.1	7.7	8.7

Standard Length : 6 Metres
Socket type : Rubber ring/Solvent

H U PVC Gravity Sewer Pipes (Golden Brown Colour) BSEN 1401 -1 : 1998

Nominal Outside Diameter	SN - 2		SN - 4		SN - 8	
	SDR - 51		SDR - 41		SDR - 34	
	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)
110			3.2	3.8	3.2	3.8
160	3.2	3.8	4.0	4.6	4.7	5.4
200	3.9	4.5	4.9	5.6	5.9	6.7
250	4.9	5.6	6.2	7.1	7.3	8.3
315	6.2	7.1	7.7	8.7	9.2	10.4

Standard Length : 6 Metres
Socket type : Rubber ring/ Solvent

I Waste Pipe Systems(White Colour) British Standard Specification BS : 5255

Nominal Sizes (mm)	Outside Diameter (mm)	Wall Thickness (mm)
11/4"	36.15/36.45	1.8
11/2"	42.75/42.90	1.9
2"	55.75/56.05	2.0

Standard Length : 4 Metres
Socket type : Solvent

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PRODUCT DESCRIPTION

J UPVC soil Pipe System (Light Grey Colour) British Standard Specification BS : 4514

Nominal Sizes (mm)	Outside Diameter (mm)	Wall Thickness (mm)
3"	82.4	3.2
4"	110.0	3.2
6"	160.0	3.2

Standard Length : 4 Metres
Socket type: Solvent Weld

K UPVC Amiantit Drain (Golden Brown Colour)

Nominal Sizes (mm)	Outside Diameter (mm)	Wall Thickness (mm)
3"	82.3	2.2
4"	110	1.8
6"	160	2.5

Standard Length : 6 Metres
Socket type: Solvent Weld

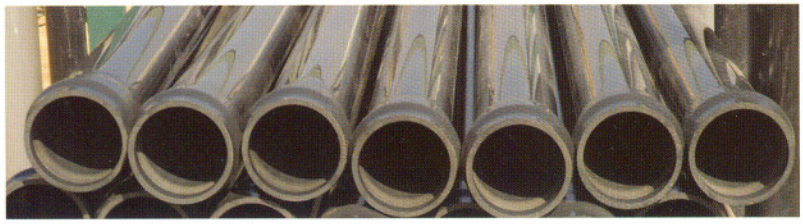
UPVC CONDUITS Omani Standard 109 / 1986 Gulf Standard 33 / 1984

Nominal Sizes (mm)	Outside Diameter (mm)		Minimum inside Dia (mm)
	Diameter	Tolerance	
16	16	+0.0	13.0
20	20	- 0.3	16.9
25	25	+0.0	21.4
32	32	-0.4	27.8

PVC – U CONDUITS BS 6099 / 1982

Size (mm)	Minimum Inside Diamater (mm)		
	Light	Medium	Heavy
16	13.7	13.0	12.2
20	17.4	16.9	15.8
25	22.1	21.4	20.6
32	28.6	27.8	26.6
40	35.8	35.4	34.4
50	45.1	44.3	43.2

Standard Length: 3 Metres
Colour : Black



PRODUCT DESCRIPTION

HIGH PRESSURE PVC - U PIPES (DARK GREY)
ASTM D 1785 Schedule 40 & 80

			ASTM 1785 Schedule		ASTM 1785 Schedule 80	
Nominal size (in)	Outside Diameter (mm)	Tolerance (mm)	Min Wall thickness (mm)	Tolerance (mm)	Min Wall thickness (mm)	Tolerance (mm)
1/8*	10.29	±0.10	1.73	+0.51	2.41	+0.51
¼	13.72	±0.10	2.24	+0.51	3.02	+0.51
3/8*	17.14	±0.10	2.31	+0.51	3.2	+0.51
1/2	21.34	±0.10	2.77	+0.51	3.73	+0.51
¾	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
11/4	42.16	±0.13	3.56	+0.51	4.85	+0.58
11/2	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
21/2*	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
31/2*	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	12.7	+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

Standard Length : 6 Metres
Socket type : Rubber ring / Solvent Weld
*These are not regular sizes and are not normally available in stock.

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PRODUCT DESCRIPTION

U PVC PRESSURE PIPE SYSTEMS (DARK GREY)
For drinking water - Omani Standard OS 85/1985

		Wall Thickness											
		B			C			D			E		
		Class 1 - 6.12 kgf/cm²			Class 2 - 9.19 kgf/cm²			Class 3 - 12.25 kgf/cm²			Class 4 - 15.30 kgf/cm²		
Nominal Outside Diameter	Toleran ce (mm)	Averaged Value	Individual Value		Averaged Value	Individual Value		Averaged Value	Individual Value		Averaged Value	Individual Value	
		Max(mm)	Min (mm)	Max (mm)	Max(mm)	Min (mm)	Max (mm)	Max(mm)	Min (mm)	Max (mm)	Max(mm)	Min (mm)	Max (mm)
	+0.3	-	-	-	-	-	-	-	-	-	1.9	1.5	1.9
21.2	+0.3	-	-	-	-	-	-	-	-	-	2.1	1.7	2.1
26.6	+0.3	-	-	-	-	-	-	-	-	-	2.5	1.9	2.5
33.4	+0.3	-	-	-	-	-	-	-	-	-	2.7	2.2	2.8
42.1	+0.3	-	-	-	-	-	-	2.7	2.2	2.2	3.2	2.7	3.3
48.1	+0.3	-	-	-	-	-	-	3.0	2.5	3.0	3.7	3.1	3.7
60.2	+0.3	-	-	-	3.0	2.5	3.0	3.7	3.1	3.7	4.5	3.9	4.5
75.0	+0.3	-	-	-	3.5	3.0	3.5	4.5	3.9	4.5	5.5	4.8	5.5
88.7	+0.4	3.4	2.9	3.4	4.1	3.5	4.1	5.3	4.6	5.3	6.5	5.7	6.6
114.1	+0.4	4.0	3.4	4.0	5.2	4.5	5.2	6.8	6.0	6.9	8.3	7.3	8.4
140.0	+0.4	4.4	3.8	4.4	6.3	5.5	6.4	8.3	7.3	8.4	10.1	9.0	10.4
168.0	+0.5	5.2	4.5	5.2	7.5	6.6	7.6	9.9	8.8	10.2	12.1	10.8	12.5
193.5	+0.5	6.0	5.2	6.0	8.7	7.7	8.9	11.4	10.1	11.7	13.9	12.4	14.3
218.8	+0.6	6.1	5.3	6.1	8.8	7.8	9.0	11.6	10.3	11.9	14.1	12.6	14.5
244.1	+0.7	6.7	5.9	6.8	9.8	8.7	10	12.9	11.5	13.3	15.8	14.1	16.3
272.6	+0.8	7.5	6.6	7.6	10.9	9.7	11.2	14.3	12.8	14.8	17.5	15.7	18.1
323.4	+0.9	8.8	7.8	9.0	12.9	11.5	13.3	17	15.2	17.5	20.8	18.7	21.6

Standard Length : 6 Metres
Socket type : Rubber ring / Solvent weld

Transport, Handling & Storage

TRANSPORT

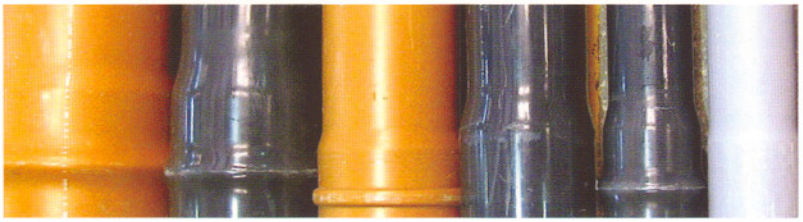
Vehicles with a flat bed are recommended for the transporting of pipes. The bed must be free of sharp projections such as nails.
Each pipe should be uniformly supported along its length .Vehicle side supports should not exceed 1.5m centres, and all pipes should be secured during transportation.
Large diameter pipes should be loaded before smaller diameter pipes. Do not allow pipes to overhang on the vehicles by more than 1m.
Spigot and socket pipes should be stacked allowing the socket to protrude and placed at alternate ends of each layer. This will reduce loading of the sockets and ensure the pipe is supported throughout its entire lengh.

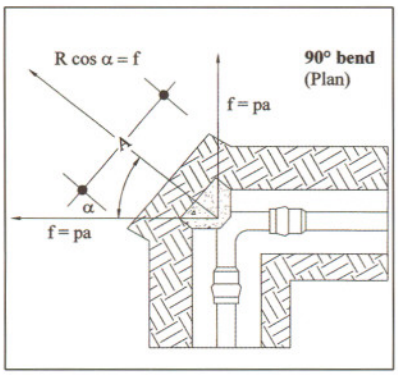
HANDLING

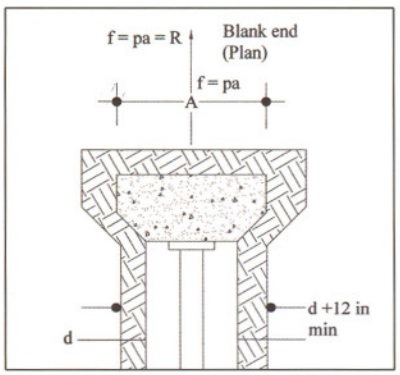
Pipes manufactured from U PVC are strong and lightweight However, care must be taken when handling to prevent damage as this could result in failure after installation.
Pipes should not be thrown, dropped or dragged along hard surfaces.
When loading or unloading by Fork Lift Truck, or similar, the use of protective slings and padded supports are recommended. Metal hooks and chains should not make direct contact with the pipe.
Impact strength of U PVC is reduced in exceptionally cold weather during which extra care should be exercised.

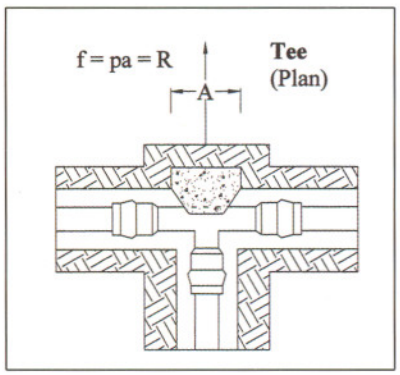
STORAGE

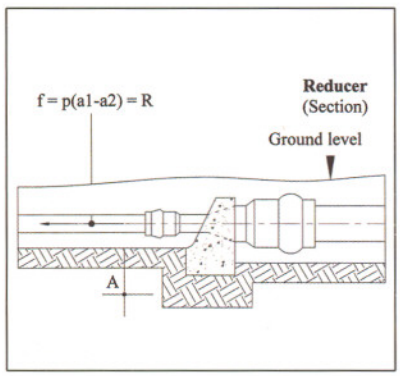
Pipes should be stacked on a flat surface free from stones and all sharp objects.
Side support should consist of 75mm wide smooth battens at 1.5m centres. Pipe stacks should not exceed 7 layers, with a maximum height of 2m.
Loose pipes should be supported along their entire length, however, if this is not practical, timber battens 75mm wide at 1m centres should be placed under the pipes.











Installation

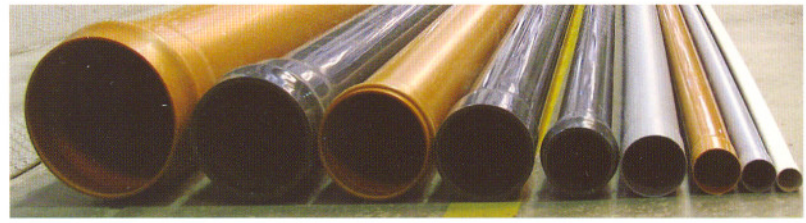
TRENCH PREPARATION

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 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 upto 6" in diameter may if necessary be joined at the trench side and thereafter 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. (For typical anchor details see the figures on the left side)
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 Amiantit Oman 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 weather, it is recommended that the temperature of the pipe be minimized by partial backfilling before making final connection and locating anchor blocks.

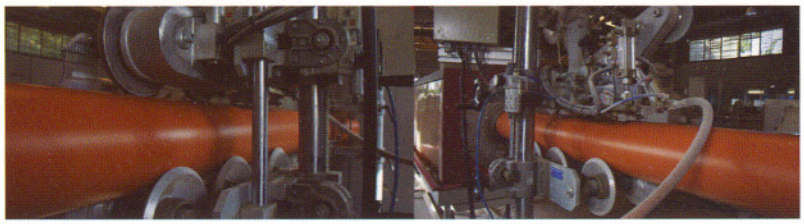
SIDE FILLING:

Before commencing to place any side fill material, all trench sheeting 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.

To ensure that the 55 maximum deflections is not exceeded the selection, placing and compaction of side fill materials is of supreme importance. 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 atleast 100 mm above the crown of the pipe.

BACKFILLING

Selected excavated material may be used for the remainder of the backfilling, 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 atleast 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 tamped 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

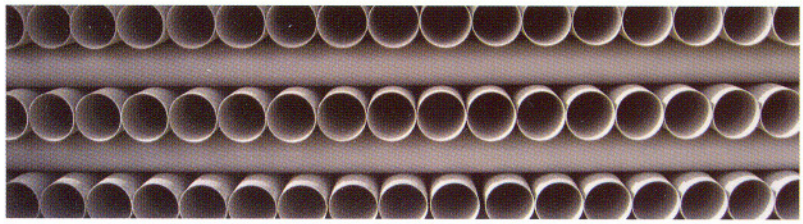
When pipe lines are laid in hot climatic conditions it is advisable to fill the pipe with cold water to bring the pipe lengths to normal contracted dimension. Check the joints to ensure that socket insertion depth is satisfactory.

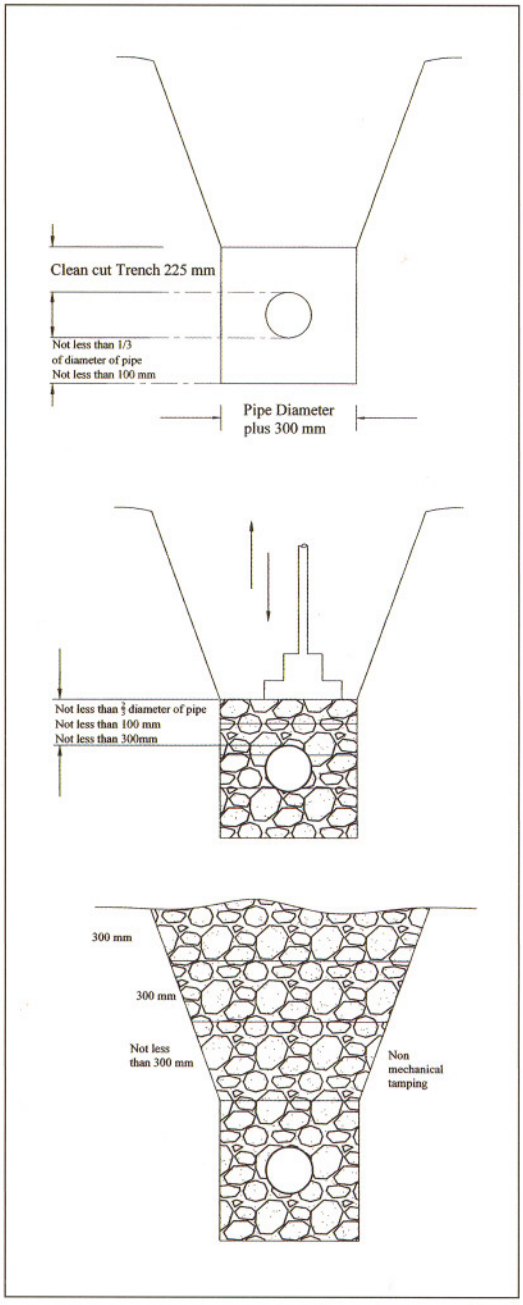
SITE PRESSURE TESTING

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 Amiantit Oman 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. The method described below is one in common use and intended as a guide only.

Test Procedure

1. Slowly fill the pipe with water taking care to evacuate all entrapped air in the process.
2. Gradually raise the pressure in the system to the specified test pressure. From the timing point of view, the test can be said to have started when the test pressure is reached and the input to the system from the pump is disconnected.
3. The system remains under pressure for a specified period.





4. Should there be a drop in pressure at the end of the specified period, then a measured quantity of water is pumped into the system until the original test pressure is reached.
5. The pipe shall be judged to have passed the test satisfactorily if the quantity of water required to restore the test pressure does not exceed the amount calculated by the formula: 4.5 litres /1.6 KM of pipe/25 mm of nominal bore/30 m head of test pressure 24 hrs.

Because of the elastic characteristics and relatively high thermal expansion and contraction of uPVC, it is advisable to do a preliminary test for a duration of 12 hrs at 1.5 times the working pressure followed by the main test at 1.3 times the working pressure for a duration of 3 hours upto 6" diameter and 6 hours for above 6" diameter pipes. By doing the preliminary testing any changes in volume of the pipeline caused by the internal pressure, time and temperature factors can be avoided, so that the reading obtained in the main test will provide unambiguous evidence on the soundness of the test section.

Variations of above nature are more marked in the case of exposed pipes under free end conditions than in the case of backfilled pipes. A convenient and acceptable practice is to backfill the pipe trench prior to testing taking care to leave all pipe joints, fittings, connections etc., exposed until the test is done and judged satisfactory.
Where pressure tests are carried out on lines not completely filled with water, surge pressure of sufficient magnitude to cause bursts may occur. Care should be taken to ensure that all air is evacuated from the line through bleed valves sited in the line at points of maximum elevation. Where possible the lines should be filled from a lowest point. One method of ensuring that the line is completely free of air is for a foam swab to be forced through the line under the pressure of the incoming water.

Chemical Resistance of PVC Pipes(1)

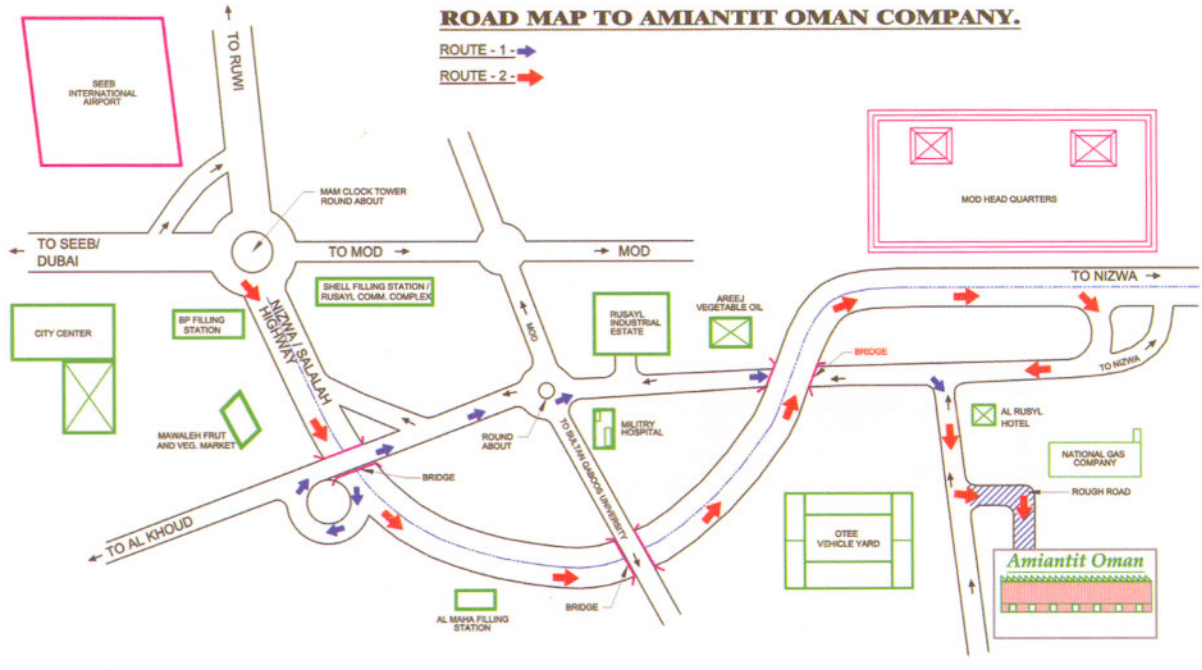
CHEMICAL AGENTS	PE °C 20	PE °C 60	UPVC °C 20	UPVC °C 60	CHEMICAL AGENTS	PE °C 20	PE °C 60	UPVC °C 20	UPVC °C 60
Acetic acid (60%aqua. Solution)	R	R	R	S	Caster Oil	R	R	R	R
Acetic anhydride	R	S	X	X	Chloracetic Acid (60% Aqu. solution)	R	R	R	R
Acetone ,Acetophenone	R	S	X	X	Chloric Acid (20% Aqu. solution)	R	R	R	R
Adipicacide	R	R	R	S	Chlorin dry gas (Traces)	-	-	R	R
Alcohol (allyl)	R	S	S	S	Chlorin trifluride, Chlorobenzene	-	-	X	X
Alcohol (amyl)	R	S	R	R	Chloroform	S	X	X	X
Alcohol (benzyl)	R	R	X	X	Chrome	R	R	R	R
Alcohol (butyl, ethyl)	R	S	R	S	Chromic Acid (50% Aqu. solution)	X	X	R	R
Alcohol (hexyl, isopropy, methyl)	R	R	R	R	Citric acid (Saturated Aqu. solution)	R	R	R	R
Alcohol (nonyl, octyl, propargy)	R	R	R	R	Copper (Chloride, Fluride, Nitrate)	R	R	R	R
Aromatic Hydrocarbons	S	S	X	X	Creosote, Cresols	X	X	X	X
Aluminium (acetate, nitrate, sulphate)	R	R	R	R	Dextrin, Dextrose	R	R	X	X
Ammonia (Dry gas)	R	R	R	R	Diamyl Ether	X	X	X	X
Ammonia (Liquid)	R	R	X	X	Dibutyle phthalate	X	X	X	X
Ammonium (bicarbonate)	R	R	R	R	Dichlorethylene, dichlorobenzene	X	X	X	X
Carbonate (chloride , sulphate)	R	R	R	R	Diethyle (Ether, Ketone)	X	X	X	X
Amyl (Acetate, chloride)	R	S	X	X	Dioctyl phthalate	X	X	X	X
Aniline (hydrochloride, sulphate)	S	S	X	X	Dioxane	X	X	X	X
Antimony (chloride, trichloride)	R	R	R	R	Disodium phosphate	R	R	R	R
Aqua regia (25% aqu.solution)	x	X	R	X	Ethane	X	X	R	R
Arsenic acid (concentrated)	R	R	R	S	Ehter	X	X	X	X
Barium(chloride, hydroxide)	R	R	R	R	Ethyl sulphate	-	-	R	S
Beer	R	R	R	S	Flourine	S	X	X	X
Benzene, Benzaldihyde, Benzol	R	R	X	X	Formic Acid (50% Aqu. solution)	R	R	R	S
Benzonic acid	R	R	S	X	Fruit juices	R	R	R	R
Benzyl (acetate, alcohol)	R	S	X	X	Furfuroil, Farfuryl Alcohol	S	S	X	X
Bismuth, Borax, Boric acid	R	R	R	R	Glucose, Glycerine	R	R	R	R
Brine	R	R	R	R	Glycerol monobenzyl ether	X	X	X	X
Bromine (Gas or Liquid)	X	X	X	X	Glycolic Acid (Saturated Aqu. Solution)	R	R	R	R
Butadlene, Butane	R	R	R	R	Grape Sugar	R	R	R	R
Butyl (acetate, chloride)	X	X	X	X	Heptane, Hexane	R	R	R	R
Butyraldehyde	X	X	X	X	Hydrobomic Acid (50% Aqu. Solution)	R	R	R	R
Butryric Acid (20% aqu. Solution)	R	R	R	R	Hydrochloric Acid (Concentrated)	R	R	R	R
Calcium (chlorate, chloride, hydr-	R	R	R	R	Hydrocyanic Acid	R	R	R	R
oxide,nitrate, phosphate)	R	R	R	R	Hydrofluride Acid (40% Aqu. Solution)	R	R	R	R
Carbon dioxide	R	R	R	R	Hydrogen	R	R	R	R
Carbon disulphide	S	R	X	X	Hydrogen (Bromide)	R	R	R	R
Carbon acid (monoxide)	R	R	R	R	Iodine, Isophorone	X	X	X	X
Carbon tetrachloride	X	X	X	X	Lactic Acid (10% Aqu. Solution)	R	R	R	R

Chemical Resistance of PVC Pipes(2)

CHEMICAL AGENTS	PE °C 20	PE °C 60	UPVC °C 20	UPVC °C 60
Lanoline	R	R	R	S
Lead (Acetate, Nitrate, Tetrarthyl)	R	S	X	X
Linseed Oil	R	S	X	X
Magnesium (Chloride, Nitrate)	R	R	R	S
Magnesium Sulphate	R	S	S	S
Malic Acid (25% Aqu. Solution)	R	S	R	R
Malic Acid (saturated Aqu. Solution)	R	R	X	X
Manganese sulphate	R	S	R	S
Mercuric chloride	R	R	R	R
Mercuric (caunide, nitrate)	R	R	R	R
Mercury	S	S	X	X
Methane gas	R	R	R	R
Methyl (acetate)	R	R	R	R
Methyl cyclohexanone	R	R	X	X
Methyl ethyl ketone	R	R	R	R
Methyl isobutyl ketone	R	R	R	R
Methyl methacrylate	R	S	X	X
Methyl sulphate	S	S	X	X
Methylene chloride	R	R	R	R
Milk	x	X	R	X
Naphtha, Naphthalene	R	R	R	S
Nickel (chloride)	R	R	R	R
Nicotine, Nicotinic acid	R	R	R	S
Nitric Acid (50% Aqu. Solution)	R	R	X	X
Nitrobenzene	R	R	S	X
Oelic acid	R	S	X	X
Oxalic acid	R	R	R	R
Oxygen	R	R	R	R
Ozone	X	X	X	X
Oils and Fats vegetables	R	R	R	R
Oils mineral	X	X	X	X
Oils crude	X	X	X	X
Oils (heating fuel)	R	R	R	R
Paraffin oil	R	R	R	R
Petrol, benzene mixture 80/20	R	R	R	R
Phenol	R	R	R	R
Phenyl hydrazine	S	R	X	X
Phosphoric acid (95% Aqu. Solution)	R	R	R	R
Photographic Developers	X	X	X	X
Phosphurous pentoxide				

CHEMICAL AGENTS	PE °C 20	PE °C 60	UPVC °C 20	UPVC °C 60
(1% in water)	R	R	R	S
Potassium (cynide, dichromate,	R	S	X	X
hypochlorite, permanganage,	R	S	X	X
phosphate, sulphate, sulphide)	R	R	R	S
Potassium thiosulphate	R	S	S	S
Propylene glycol	R	S	R	R
Salioylic acid (saturated)	R	R	X	X
Sea water	R	S	R	S
Silver (nitrate)	R	R	R	R
Sodium (acetate, aluminate,	R	R	R	R
bicarbonate, carbonate, chlorate,	S	S	X	X
cyanide, hydroxide, hyposulphate,	R	R	R	R
nitrite, sulphide, sulphite)	R	R	R	R
Soap solutions	R	R	X	X
Soft drinks (concentrated)	R	R	R	R
Starch soluble	R	R	R	R
Stearic acid	R	S	X	X
Sulphur (colloidal)	S	S	X	X
Sulphur dioxide (dry)	R	R	R	R
Sulphur dioxide (liquid)	x	X	R	X
Sulphuiric acid (80% Aqu. Solution)	R	R	R	S
Sulphourous Acid (10% Aqu. Solu)	R	R	R	R
Synthetic detergents	R	R	R	S
Taanic acid	R	R	X	X
Tartaric acid	R	R	S	X
Tolene	R	S	X	X
Transformer oil (nonaromatic)	R	R	R	R
Trichloroethane	R	R	R	R
Trichlorobenzene	X	X	X	X
Turpentine	R	R	R	R
Urea	X	X	X	X
Vinegar	X	X	X	X
Water (chlorinated, dieonized, salt)	R	R	R	R
Weak organic acid	R	R	R	R
Wines and spirits	R	R	R	R
Xylene	R	R	R	R
Zinc chloride	S	R	X	X

ROAD MAP TO AMIANTIT OMAN COMPANY.



NOTES

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