



شركة قطر للأنابيب والوصلات ذ.م.م.

**Qatar Pipeline & Fittings Co.**

Part of Qatar Plastic Additives & Industries Group (QADDCO)

**QPF**

## PLASTIC PRODUCTS CATALOGUE

[www.qaddcoqatar.com](http://www.qaddcoqatar.com)



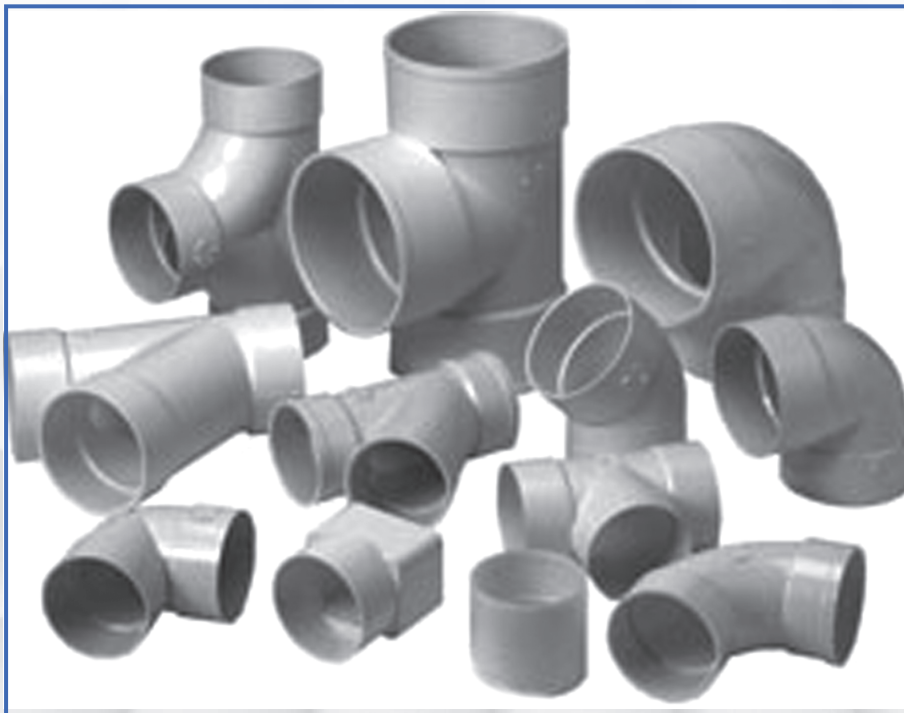
**COMER**



ISO 9001

BUREAU VERITAS  
Certification





## Company Profile

Qatar Pipeline & Fittings Co. (QPF) one part of QADDCO Group is an ISO 9001:2008 certified company which was established on year 1997, with vision to provide the State of Qatar & the Gulf region with highly developed, international specified & best quality of plastic products.



We are proud that we have reached to be one of the leading manufacturers in all three production fields that we are currently been specialized in.

The trust in our capabilities & our quality made us the choice of the leading petrochemical & contracting companies with proud reference to the major projects in the state of Qatar.

We have currently three production factories:

1. **Plastic Pipes factory:** this factory is supervised, certified & licensed by highly reputed and well-known European plastic pipes & fittings manufacturers to produce plastic pipes in accordance to the main international, regional & Qatari standards.
2. **Plastic Fittings Factory:** We are proud to be the first Qatari injection factory that produces PVC fittings to different piping systems & with full range that fulfill the need of the construction fields in the state of Qatar.
3. **Plastic Additives and master batches:** We are proud that we are the pioneers in the introduction of this highly technical manufacturing to the Qatari industry.

In addition of the above production factories we are also the sole agents to four European plastic fittings systems that are been produced in accordance to the international regional and Qatari standards.



# QPF PLASTIC PIPES

(QPF) is one of the leading manufacturers of the plastic pipes due to the concept of introducing a Qatari made pipe with license from international pipes manufacturers along with the completion of the pipes with the fittings that makes those pipes as a full system easy & trusted to install in any of the major projects. with the brand name QADDCO

No doubt that the plastic pipes provide today an advance world significant benefit as it's considered to be one of the man made thermoplastic construction materials. In practical sense, it can be considered nearly inert when exposed to chemical agents including most acids, alkalies, fuels & corrosive materials with further consideration of plastics light weight, high strength to weight ration, exceptional durability, great resiliency & unique thermoplastic properties.



Today PVC, PP & PE pipes have become the most significant factor in the piping market of construction & mechanical installations as throughout the world many organizations have recognized the benefits of such piping systems& have established standards to them (BS, ASTM & EN). In general all the plastic pipes have been able to offer a reliable & durable option to the people involved in using them, engineers, contractors, designers & end users.

## TYPES OF QPF PLASTIC PIPES:

1. PVC (Polyvinyl Chloride) Pipes: in this QPF has three Major types as follow:
  - a. **PVC Soil, Waste (above ground), PVC Sewer and Drainage (under ground) Pipes:** These types of non pressure pipes are manufactured in cooperation & with license from MARLEY – UK.
  - b. **High Pressure Pipes:** are manufactured in cooperation with COMER – ITALY for the water supply, Irrigation & industrial water & gas pressure systems.
  - c. **PVC Telecom, Electrical Ducts and Conduits:** all are manufactured with accordance to the international standards for electrical ducting & with accordance to KAHRAMA & QTEL standards.



d. **PVC Fabricated Fittings:** in addition to the pipes QPF also fabricate the necessary long bends, puddle flange, bell mouth collars & perforated pipes which are essential to the above systems.

## 2. **PPRC (Polypropylene Random Co-Polymer Pipes**

This type of pipes is manufactured in co-operation with COES company - Italy, for the hot and cold potable water systems also for the Gas & all types of liquids due to the high resistance of this type of materials to acids and alkalies.

3. **PE (Polyethylene) Pipes:** these types of pipes are manufactured in co-operation with UNIDELTA – ITALY with three different types as follows:

- a. HDPE (High Density Polyethylene) Pipes.
- b. MDPE (Medium Density Polyethylene) Pipes.
- c. LDPE (Low Density Polyethylene) Pipes.



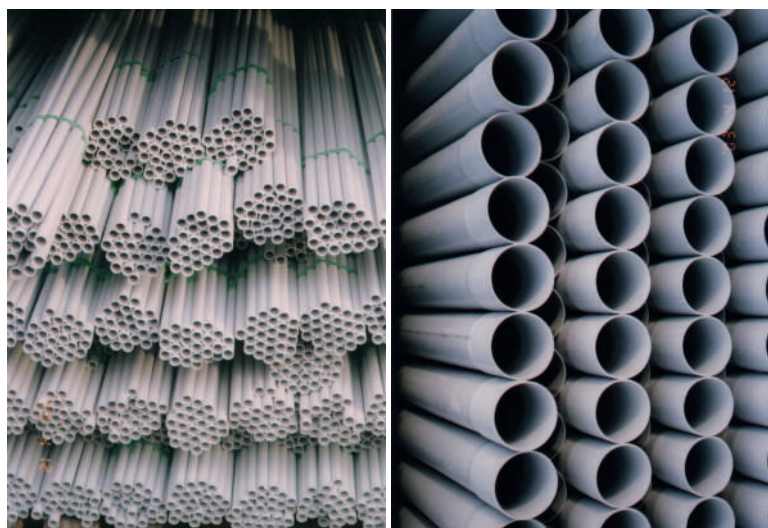
## **The Advantages of the plastic pipes:**

- a. **Cost:** the plastic piping systems is proven to be cost cutting materials as its evaluated to the cost of the initial materials, installation, operation and repair or replacement over the system life.
- b. **Simplicity of installation:** being very simple to join and install it makes it very convenient to labor cost reduction & it makes less technical people able to conduct the work.
- c. Plastic pipes are insensitive to aggressive media and soil.
- d. Plastic pipes are non-abrasive.
- e. Plastic pipes need no protective or insulation coating.
- f. Plastic pipes are non-corrosive, as they resist almost all types of chemical and electrochemical corrosion factors.

**QPF PIPES QUALITY CONTROL:** To enable us to provide high quality pipes to our customers, we have equipped our pipe production with the latest quality testing equipments and updated our quality testing methods to fulfill the latest versions of standards.



## QPF Unplasticized Polyvinyl Chloride Pipes (u PVC)



QPF uPVC pipes are manufactured with accordance to the international standards for different types of uses mainly to & European standards (BS EN 1401, BS EN 1329, DIN 8062, BS 3505 / 3506, BS 6099). Also & in some cases QPF are manufacturing with accordance to the standard of special telecommunication companies or contractors.

### Technical Data of QPF uPVC Pipes

Physical Properties			
Properties at 20_C	Unit	Values	Method of Evaluation
Specific Gravity at 23_C		1.43	ASTM D 792
Flammability	not support		ASTM D 635
Resistance of burning	Sec.	< 30	BS 4607 PART 2.70
Softening PT. (VSP 5kgf)	C	82	BS 2782 - 1976
Shore Hardness		81	ASTM D 2240 - 75
Thermal Conductivity	W/m-k	0.17	BS 874 - 1973
Specific Heat	Cal/g_C	0.25,	
Mechanical Properties			
Tensile Strength 20_C	Kg/cm2	481 - 550	ISO R 257
Modulus of Elasticity	MN/m	3000	ASTM - 1784
Compressive Strength	Kp/cm	668	BS 4607 PART 2:70
Flexural Strength	Kp/cm	950	ASTM D 790
Elongation at Break	%	> 80	ISO R 527
Yield Stress	Kp/cm	> 400	ISO R 527
Resistance to Heat	mm	< 2	BS 4607 PART 2:70
Chemical Properties			
Resist to Sulphuric Acid	g/45cm	-0.13 +3.19	
Resist to Methylene Chloride	%	<3	ISO 2508/81
Resist. Water Absortion	mg/cm	<2.0	ISO 2508/81 & DIN 8061
Toxicity			
Pb Toxicity	mg/L	<0.3	
Sn Toxicity	=	<0.02	
Zn Toxicity	=	<0.01	
Electrical Properties			
Volume Resistively	mg/L	1014	
Surface Resistance	ohm	1012	DIN 53482
Power Factor at 10 HERTZ		3	
Dielectric strength	V/mil	1400	BS 4607
Insulation Resistance	M. ohm	1.1x105	BS 4607

## QADDCO Sewerage/Drainage Non-Pressure uPVC Pipes

QPF manufactures this type of pipes with accordance to both British, Dutch & Australian standards as follows:

### 1. British Standards:

BS EN 1329 (Formerly BS 5255) Soil & Waste (Above Ground Drainage) MuPVC with Co-Operation of Marley-UK			
Nominal Size		Mean Outside Diameter mm	Wall Thickness mm
INCH	mm		
1 <sup>1</sup> / <sub>4</sub>	32	36.15	2.0
1 <sup>1</sup> / <sub>2</sub>	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) uPVC Pipes with Co-Operation of Marley-UK			
Nominal Size		Mean Outside Diameter mm	Wall Thickness mm
INCH	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 (Formerly BS 4660) Sewer & Drainage (Underground) uPVC Pipes with Co-Operation of Marley-UK			
Nominal Size		Mean Outside Diameter mm	Wall Thickness mm
INCH	mm		
4"	110	110.0	3.2
6"	160	160.0	4.1

- The Standard Length = 5.8 Meters.
- The Standard Color = Red (Golden Brown).
- The Socket = Solvent Weld Socket.

BSEN1401 Gravity Sewage uPVC Pipes & BSEN1329 (Above Ground Drainage)		
Nominal Size mm	Mean Outside Diameter mm	Wall Thickness mm
200	200.0	4.9
250	250.0	6.1
315	315.0	7.7

- The Standard Length = 5.8 & 6.0 Meters.
- The Standard Color = Red (Golden Brown), Grey
- Socket = Solvent Weld & Rubber Ring Seal Socket Type.



# Marley Plumbing & Drainage plastic fittings

## Kitemarked Soil, Waste and Underground fittings

### BS EN 1329-1: 2000

Plastic piping systems for soil and waste discharge systems – PVCu

### BS 4514: 1983

Specification for PVCu soil and ventilating pipes, fittings and accessories.

### BS 5255: 1989

Specification for thermoplastics waste pipe and fittings.

### BS 4660: 2000 & BS EN 1401: 2009

Plastic piping systems for non-pressure underground drainage and sewerage.

## Soil and Waste

Through QADDCO, Marley Plumbing & Drainage offer a complete range of Kitemarked soil & waste systems, with products available in a variety of colours and with either push-fit, compression or solvent weld joints. A wide range of systems have been developed to suit both the requirements of domestic above ground drainage and the particular needs of commercial, industrial and public buildings.

### Waste

**Type:** ● PVC-c Solvent Weld    **Size:** 32mm, 40mm and 50mm  
● ABS Solvent Weld

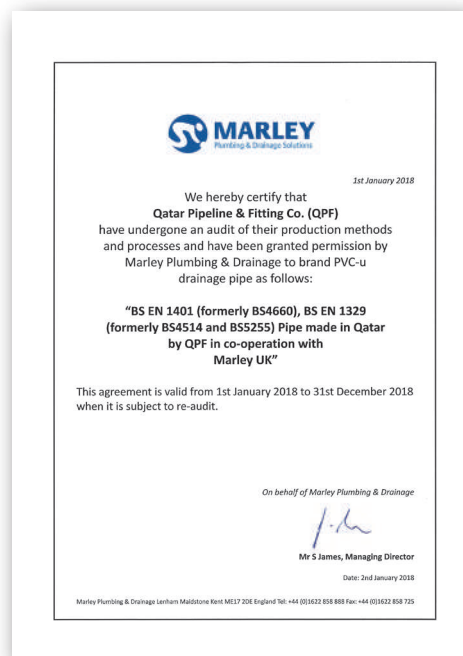
### Soil

**Type:** ● Push-fit    **Size:** 82mm, 110mm and 1600mm

## Underground

The Marley Plumbing & Drainage range of underground drainage systems consists of a solid wall range with either a socketed or plain end, which is predominately used for private drainage.

**Type:** ● Solid wall    **Size:** 110mm and 160mm





## 2. DIN Standards:

DIN19531 Drain (Above Ground) uPVC Pipe		
Nominal Size (mm)	Mean Outside Diameter (mm)	Wall Thickness (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 & Black.
- The Socket = Solvent Weld & Rubber Ring Seal Sockets.

DIN19534 Sewer (Gravity) uPVC Pipe		
Nominal Size (mm)	Mean Outside Diameter (mm)	Wall Thickness (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
315	315.0	7.1

- The Standard Length = 5.8 & 6.0 Meters.
- The Standard Color = Red (Golden Brown).
- The Socket = Solvent Weld & Rubber Ring Seal Sockets.



# QADDCO uPVC Pressure Pipes

QPF manufactures this pressure pipes in cooperation with Comer-Italy for the wide use in the pumped water supply system, irrigation & industrial uses. These pipes are manufactured with accordance to the following:

## 1. British Standards:

BS 3505/3506 QADDCO 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
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

- The Standard Length : 5.8/6.0 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 QADDCO 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	1.9	3.0
50	50		1.8	2.4	3.7
63	63		1.9	3.0	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

- The Standard Length : 5.8 or 6.0 Meters.
- The Standard Color : Dark Gray in Color.
- The Socket : Solvent Weld or Ring Seal Socket.

### 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

CONDUIT TUBING NEMA TC2								
Nominal Size (Inches)	Outside Diameter		Wall Thickness					
	(mm)		EPT*		EPC*40		EPC*80	
	Min	Max	Min	Max	Min	Max	Min	Max
1/2"	21.24	21.44	1.52	2.03	2.77	3.28	3.73	4.24
3/4"	26.57	26.77	1.52	2.03	2.87	3.38	3.91	4.42
1"	33.27	33.53	1.52	2.03	3.38	3.89	4.55	5.08
1 1/4"	42.03	42.29	1.78	2.29	3.56	4.06	4.85	5.43
1 1/2"	48.11	48.41	2.03	2.54	3.68	4.19	5.08	5.69
2"	60.17	60.47	2.54	3.05	3.91	4.42	5.54	6.20
3"	88.70	89.10	3.18	3.68	5.49	6.15	7.62	8.53
4"	114.07	114.50	3.81	4.32	6.02	6.73	8.56	9.58
5"	141.05	141.55	-	-	6.55	7.34	9.52	10.67
6"	168.00	168.56	-	-	7.11	7.98	10.97	12.29

Nominal Size (Inches)	Outside Diameter		Wall Thickness			
	(mm)		TC6		TC8	
	Min	Max	Min	Max	Min	Max
1	33.27	33.53	-	-	-	1.52
1 1/2"	48.11	48.41	-	-	-	1.52
2"	60.17	60.47	1.52	1.52	1.52	1.96
3"	88.70	89.10	1.55	2.32	1.93	3.00
4"	114.07	114.50	2.08	3.07	2.54	3.91
5"	141.05	141.55	2.62	3.86	3.20	4.85
6"	168.00	168.56	3.18	4.62	3.86	5.77

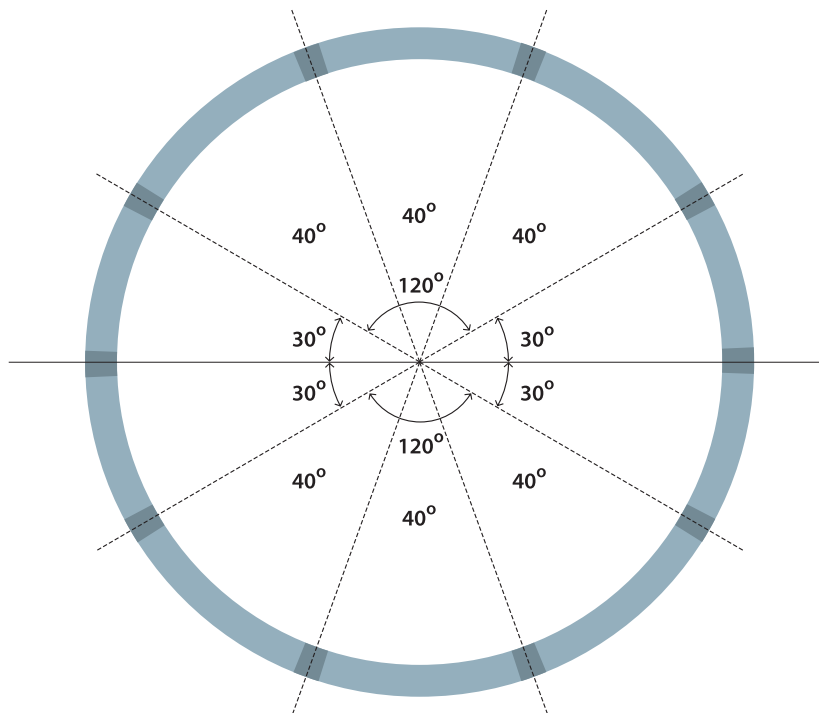
- Unit length of conduit : 5.8 mtrs & 6 mtrs
- Colour of Conduit : Grey/ Black
- Conduits joining method : Solvent Cement Weld
- Conduit Ends : 2" and above -socket to spigot ends.

**Note:** All items are not under normal production run, but manufactured upon special request & in bulk quantity only

\*Abbreviation used above stands for:

- EPT (Electrical Plastic Tubing) - For Concrete Encasements
- EPC 40 (Electrical plastic Conduits) - For Direct Underground Burial
- EPC 80 - For Underground Burial Extra Heavy Wall
- EB (Encase Burial) - For Concrete Encasements
- DR Direct Burial) - For Direct Underground Burial

# Perforated Piping Systems

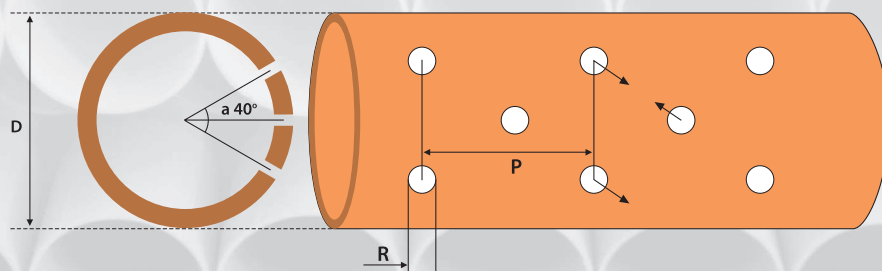


**Fully Perforated Pipe**

Reference No.	Outside Diameter (mm)	Wall Thickness (mm)	Joint Type
QAD-PRF-110	110	3.2	SCJ or RS
QAD-PRF-160	160	4.1	SCJ or RS
QAD-PRF-200	200	4.9	SCJ or RS
QAD-PRF-250	250	6.2	SCJ or RS
QAD-PRF-315	315	7.7	SCJ or RS

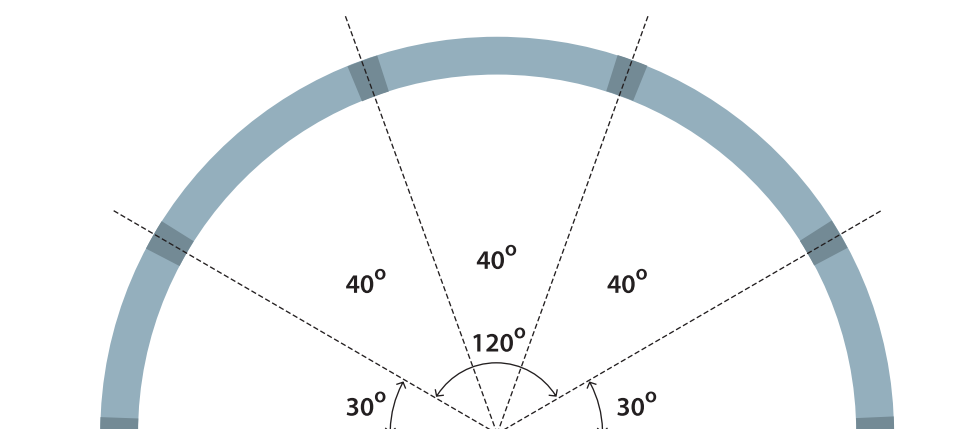
## PERFORATED PIPE DATA

- Hole Size (R) : 8mm, 10mm 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 raws
- : 120° between outside raw if all four raws are used
- Colour : Red or grey



**Staggered Rows**

# Perforated Piping Systems

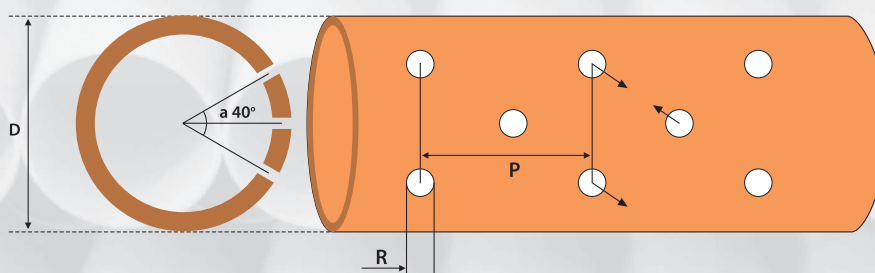


**Half Perforated Pipe**

Reference No.	Outside Diameter (mm)	Wall Thickness (mm)	Joint Type
QAD-PRF-110	110	3.2	SCI or RS
QAD-PRF-160	160	4.1	SCI or RS
QAD-PRF-200	200	4.9	SCI or RS
QAD-PRF-250	250	6.1	SCI or RS
QAD-PRF-315	315	7.7	SCI or RS

## PERFORATED PIPE DATA

- Hole Size (R) : 8mm, 10mm 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
- Colour : Red or grey



**Staggered Rows**

# QADDCO uPVC Electrical Conduit & Cable Ducts

QPF has a variety of electrical conduits & cable ducts which are manufactured with accordance to British, European Standards & Qatar Telecommunication & Electricity & Water Service Company (Q.Tel & Kahrama). with the brand name QADDCO

BS EN 50086 & BS 6099/2 uPVC Electrical Conduit						
Nominal Size (mm)	Inside Diameter (mm)			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

- Standard Length : All Conduits are 2.9 Meters in Length.
- The Standard Color : All Conduits are White or Black in Color.

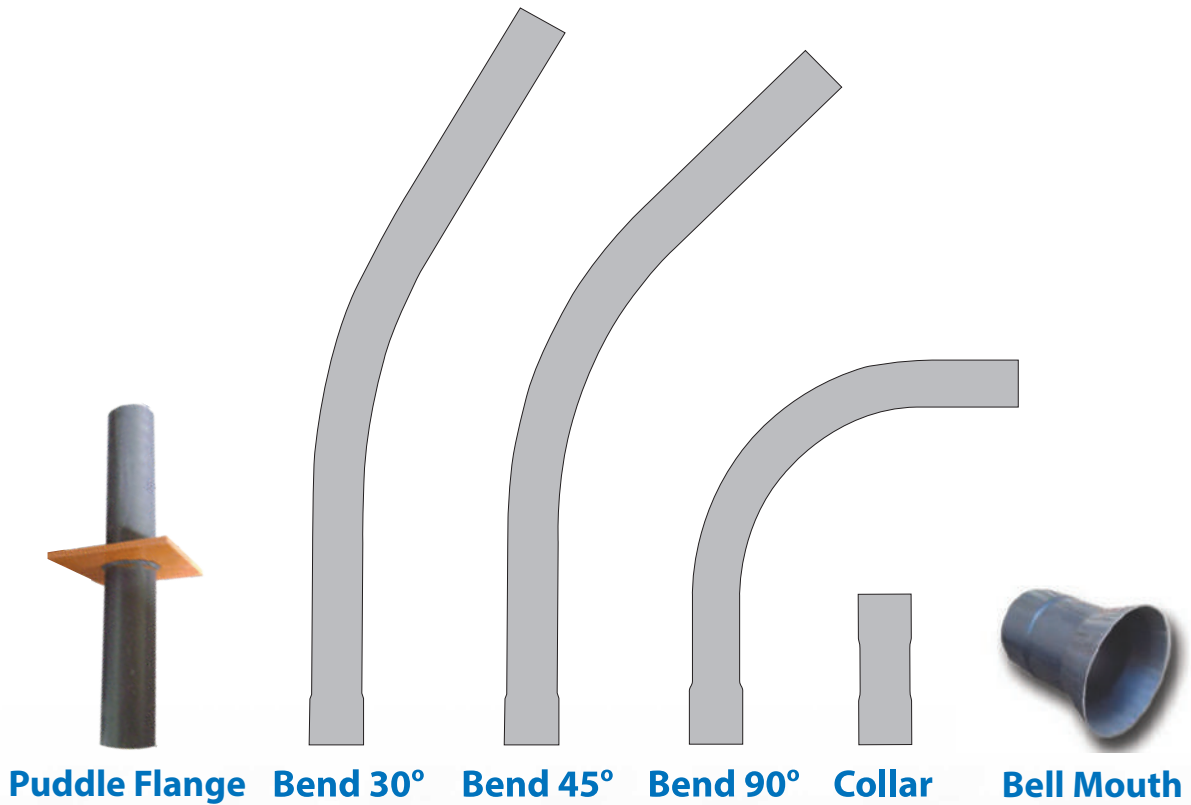
Q. TEL (Ooredoo Standard)					
Duct No.	Outside Diameter (mm)	Inside Diameter (mm)	Socket Length (mm)	Duct Length	Wall Thickness (mm)
54D	96.5	90.0	100.0	5.9	3.25
56D	56.5	50.0	70.0	3.07	3.25

- The Standard Color : All the Ducts & the Bends are Black.
- The Socket Type : All the Ducts & the Bends are Solvent Weld Type.

QADDCO Electrical cable Ducts			
Nominal Size (inch)	Outside Diameter (mm)	Wall Thickness (mm)	Standard Length (meters)
1 1/4"	36.15	1.8	4.0
1 1/2"	42.75	1.9	4.0
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

- The Standard Color : Red, Gray & Black.
- The Socket Type : All pipes are solvent or rubber socket.
- Note : QCS ducts are included in the above table.

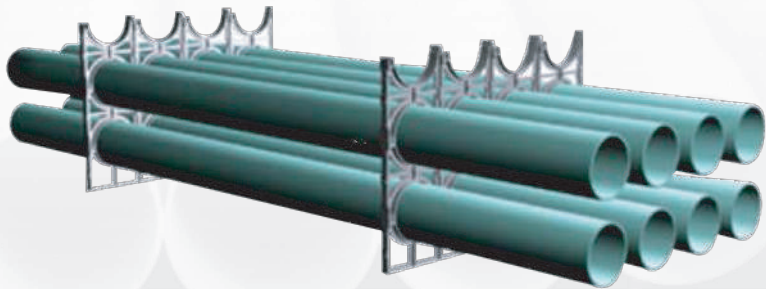
# QADDCO uPVC Fabricated Accessories



**Intermediate**



**Base**



## Ducting Spacers

DIA	WALL THICKNESS (mm)	BEND 30°	BEND 45°	BEND 90°	COLLAR	BELL MOUTH	PUDDLE FLANGE	Ducting Spacers
1 1/4"	1.8	√	√	√	√	√	√	
1 1/2"	1.9	√	√	√	√	√	√	
2"	2	√	√	√	√	√	√	
3"	2.2	√	√	√	√	√	√	
56.5 mm	3.25	√	√	√	√	√	√	
96.5mm	3.25	√	√	√	√	√	√	√
110 mm	2.4 & 3.2	√	√	√	√	√	√	√
160 mm	2.6 & 3.6	√	√	√	√	√	√	√

# Handling, Transport and Storage

As uPVC is a material, which is approximately 1/5th in weight when compared with substitutes like ductile iron, the proper handling of this material is an area which is sometimes incorrectly addressed and thus can seriously affect the quality of the final pipe system structure. It is therefore prudent to employ proper care and handling as outlined in the BSI code of practice CP 312: Part 2 (uPVC Pipe work for the conveyance of liquids under pressure).

## 1. Handling

During transportation, pipes must not be handled roughly. This is particularly so when they are in contact with hard surfaces. Dropping from a height or dragging them from one place to another may damage the pipes and make them unsuitable for use, particularly when the pipe ends have already been prepared for installation.

Use of improper machinery/handling equipment for lifting or moving pipes must be avoided at all times.

Where mechanical handling equipment is used, it should be insured that any metallic implements do not come in direct contact with the

pipes. Fibrous material like ropes and web slings are ideal for such purposes, as they will not damage the pipe walls.

Under near freezing conditions, uPVC becomes more brittle than normal. Great care should therefore be taken in handling pipes in cold conditions.

Before installation, pipes and fittings should be minutely examined for any structural damage.

## 2. Transport

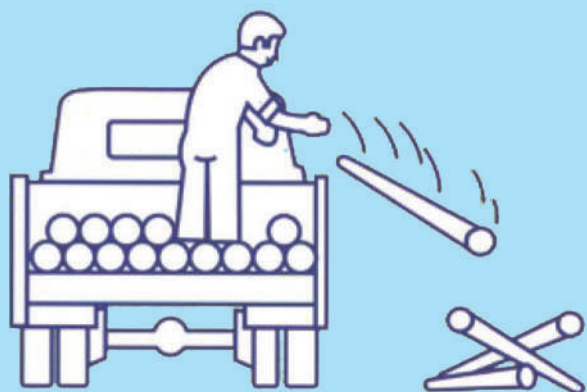
The transporting vehicle must ideally have a flat bed, free from any rough surfaces or corrugation.

Overchanging of pipes from the bed of the transporting vehicle must not exceed 1 meter, the pipes must be evenly supported and should be loaded with sockets aligned at alternate ends.

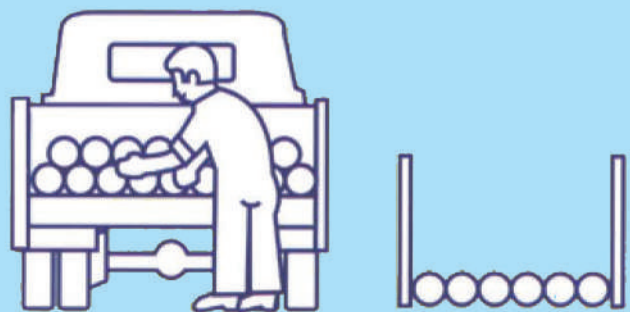
Heavier and large pipes must always be loaded first, with proper side supports.

## 3. Storage

If uPVC are to be stored for long periods of time, it is necessary to observe a few precautions.



Wrong way



The correct way to off load



# Handling, Transport and Storage

Pipes in bundles: It is important that factory made bundles have a flat surface to rest on. The bundles must remain undisturbed till they are required for use as excessive movement can damage them permanently.

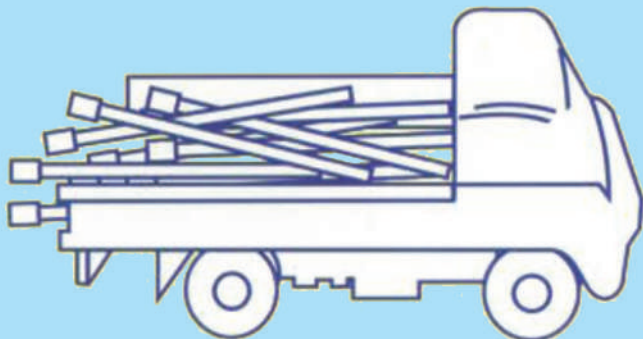
Likewise, loose pipes must also have a flat surface to rest on and it may be sometimes necessary to level the appropriate site prior to storage. Alternately, timber supports, not less than 75 mm wide placed at distances not greater than 1.5 meters can also meet this requirement.

Bundled as well as loose pipes must always have timber supports not less than 75mm square at distances not exceeding 1.5 meters along the length of the stack. Pipes with sockets must be placed with alternating ends to avoid damage to the sockets. Pipes of different dimensions should

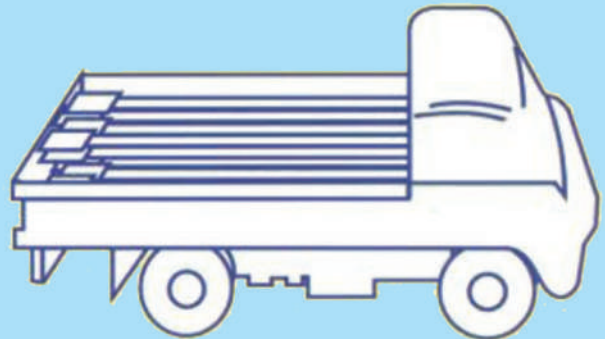
be stored separately. Wherever this is not possible, larger and heavier pipes must always be at the bottom of stack.

The stack height should be restricted to seven layers or less, with the total height not exceeding 2 meters. Where a storage period of more than a month is anticipated or where storage is to be done in temperatures exceeding 23°C the stack height of 1 meter. All pipes should be properly covered by tarpaulin, which should be securely fastened to the timber supports to afford shaded and airy storage conditions.

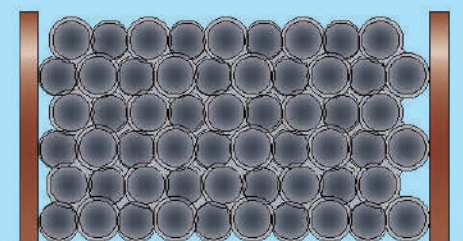
Fittings can be affected by weathering thus special care should be taken to afford sheltered conditions for their storage in order to avoid accidental damage.



The wrong way to load pipes



The correct way to load pipes



# QADDCO Installation Methods of uVPC Pipes

## A. Method of solvent welded joint:

1. The matting surfaces of the spigot and socket must be wiped with cleaning fluid to remove any adhering mud and grit.
2. Mark on the spigot the full depth of insertion into the socket lightly roughen the penetration length of the spigot and the interior of the socket with emery cloth.
3. Using a clean rag or absorbent paper and cleaning fluid thoroughly clean the matting surfaces of both spigot and socket ensure that no moisture remains on the areas to be jointed.
4. Apply solvent cement sparingly in an even layer, to the internal surface of the socket apply solvent cement liberally to the matting surface of the spigot. Use a new, inexpensive paint brush of suitable size. Always lay on the solvent cement lengthwise and not with a circular motion.
5. With the initial pipe length suitably anchored, immediately push, the spigot end fully home, without turning the pipe. Wipe off with a rag surplus cement around the outside of completed joint.
6. The completed joint should not be disturbed for about five minutes, after which it may be handled with reasonable care.

Hydraulic testing to  $1\frac{1}{2}$  times working pressure may take place 24 hours after completion of joint; working pressure may be applied after 8 hours.

### Note:

Close the open tin of solvent cement when not in use, do not work near a naked flame and do not mix cleaning fluid with the solvent cement.



## Laying of Pipes

Prior to installation, pipes should be thoroughly checked for possible defects or damage.

Including:

- Damage to surfaces (internal and external) should be limited to superficial scratches which do not exceed 5% of the standard wall thickness.

- Spigot or socket must be cleared of dirt and bums.
- The chamfer on the spigot end must be uniform, approximately 15° right around the circumference of the pipe.

The pipeline must be laid directly onto the prepared bedding.

### Deflection & bending

A misalignment of 0.5° can be accommodated for every rubber ring joining used and a length of pipe can be purposefully and uniformly bent to limited extent (the radius of the bend should be no less than 300 times the pipe diameter).

### Backfilling

#### Material

The same material used for the bedding should form the sidefilling and initial backfilling (overlay) and should be compacted to 300mm above the crown of the pipe. For the rest of the backfilling, excavated material from the site can be used, unless otherwise specified by the engineer.

#### Contraction

Often, pipes may have been in the sun prior to installation and may have expanded. Each pipe must be partially backfilled immediately after installation in order to restrict the possible subsequent contraction of each pipe length, where it is then catered for by the rubber ring joint system.

#### Side Filling & Overlay

Suitable material is carefully and evenly placed in un-compacted layers of about 75mm and tamped by hand until it is level with the crown of the pipe. To restrict pipe movement, simultaneously fill and compact material evenly on either side of the pipe. Further 150mm un-compacted layers are placed and hand tamped until

a level of 300mm above the crown is reached.

### Main Backfill

The remainder of the trench is filled in layers of 300mm and can be compacted by means of mechanical equipment if desired. All joints must be left exposed until pressure testing has been completed. Thereafter, the same backfilling process can be followed at the joints.

### Anchoring

Concrete thrust blocks are necessary for buried PVC pressure pipe installations with rubber ring joints in order to anchor the pipeline and avoid possible failure when pressure is applied.

The purpose of a thrust block is to spread the load of a pressurised pipe over a larger bearing area and against the undisturbed surface of the trench side wall. The size of the thrust block is designed bearing in mind.

- Changes of direction greater than 10° (e.g. Tees and Bends)
- Changes in pipe size
- Valves and end caps

Engineers will take into consideration the load bearing capacity of the soil, the test pressure and the direction of the resultant thrust when calculating the sizes and positions of thrust blocks.

Note: Temporary thrust blocks can be constructed at the two ends of a test section and removed after testing is complete.

### Test Length

Pipelines less than 1000m long can be tested as a whole. For longer pipelines, it is advisable to divide testing into sections with the first test section about 500m and thereafter no more than 1000m. This will allow for the quicker identification of faulty installation and/or handling.

# QPF Polypropylene

## Random Co-Polymer Pipes (PPRC)

QPF manufactures the PPRC (Polypropylene Random Co-Polymer) pipes in co-operation with COES - Italy, by QADDCO as the company has the license from the company of origin COES - Italy.

The PPRC pipe are manufactured with accordance to DIN 8077/8078 standards & made from special blue vestolen P9421 granules exclusively supplied to QPF.

## Fields of Application

1. Cold & hot potable water systems.
2. Air conditioning systems.
3. Heating systems.
4. Healthy installation (Hospitals & Laboratories).
5. Industrial pipelines (Compressed air, Chemicals & Liquid food products).
6. Drainage systems for chemical plants & facilities.

## Major properties

1. Resistance to electrochemical corrosion.
2. Low thermal conductivity.
3. Hygienic & non-toxic.
4. Resistance to stray electric current.
5. Easy workability & pipe laying.
6. Competitive prices.
7. Leak proof, frost resistance & energy saving.
8. Resistance to noise & vibration.
9. Extreme resistance to high pressure & temperature.
10. Low weight & flexibility.

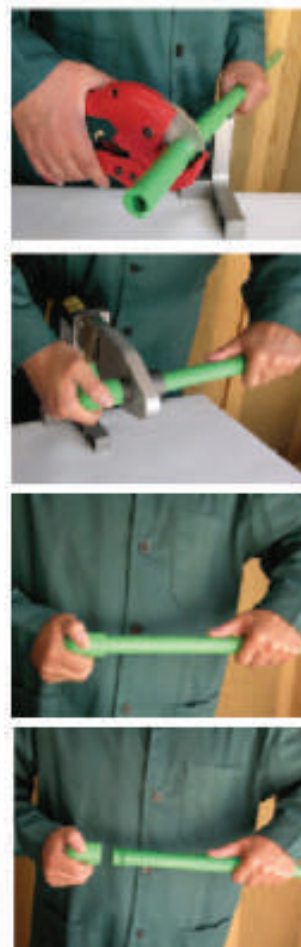


## Characteristic of PPRC Pipes

Property	Test Method	Unit	Value
Viscosity	ISO 1628 T3	.cm3/g	43
MFI (Melting Index)	ISO 1133 Procedure 18	.g/10m	0.5
MFI 190/5			0.3
MFI 230/2.16	ISO 1133 Procedure 12		1.5
Density at 23_C	ISO 1183	.g/cm3	0.898
Melting Zone	DIN 53736 B2	_C	150-154
Ultimate Strength	ISO 527	N/mm2	40
Ultimate Elongation	ISO 527	%	> 50
Modulus of Elasticity	ISO 527	N/mm2	700
Impact Test (Charpy)	DIN 8078		Non
Coefficient of Thermal Linear Expansion	VDE 0304	K-1	1.5x10-4
Thermal Conductivity at 20_C	DIN 52612	W/mK	0.24
Specific Heat at 20_C	Adiabatic Calorimete	.kj/kg K	2.0
Loss Factor	DIN 53483		< 5x10-4
Dielectric Constant	DIN 53483		2.3
Volume Resistively	DIN 53482	Ohm cm	> 1x1016
Dielectric Strength	DIN 53481	.kV/mm	20

## Connection method of COES by QADDCO

1. Cut the pipe using the cutting tool & check that the parts to be welded are clean from dust & grease.
2. The welding machine must be connected & switched on & with the suitable male & female dies until it reaches the required temperature.
3. The two pieces (The pipe & The fitting) are inserted into the dies to reach the melting point.
4. The two pieces are then inserted together as straight as possible without twisting & are left for gradual cooling which takes few moments only.
5. During connection the following precautions are to be taken into consideration.
  - A. Do not use a blow torch flame to bend or shape the pipe.
  - B. Do not try to fit any cast iron conical threads to the brass female end union.
  - C. Realigning between the pipe & the fitting must be done immediately after welding & with angle not to exceed 30°.



DIN 8077 / 8078 COES by QADDCO			
Nominal Size (inch)	Outside Diameter (mm)	Wall Thickness (mm)	
		Class PN 10 Bar (SDR4)	Class PN 20 Bar (SDR6)
1/2"	20.0		3.4
3/4"	25.0		4.2
1"	32.0		5.4
1 1/4"	40.0	3.7	6.7
1 1/2"	50.0	4.6	8.4
2"	63.0	5.8	10.5
2 1/2"	75.0	6.8	12.5
3"	90.0	8.2	15.0
4"	110.0	10.0	18.4

**All PPRC by Qaddco System is with twenty five years of Guaranty.**

## QPF Polyethylene (PE)

QPF manufactures polyethylene pipes system at both types high density polyethylene (HDPE) & low density polyethylene (LDPE) pipes & coils.

The polyethylene is a standard plastic piping system commonly used in the transport of hygienic liquids as water, oil & fuels. Also now it's used in the transport of gases especially in the petroleum industry.



### The Polyethylene materials properties

Property	Method of Testing	Units	PE 40	PE 80	PE 100
Melt flow rate 2.16 kg LOAD	BS 2782 ISO 1133	.g/10 min	0.40	0.20	<0.15
Melt flow rate 5.0 kg load	BS 2782 ISO 113	.g/10 min	1.8	1.0	<0.5
Density	BS 3412 ISO 1872	.kg/m <sup>3</sup>	935	949	955
Tensile Strength at yield	BS 2782 ISO R 527	MPa	≥11	18	23
Elongation break	BS 2782 ISO R 527	%	≥ 600	>600	>600
Flexural modulus	BS 2782 ISO R 527	MPa	≥ 600	700	1000
VICAT softening point	BS 2782	°C	103	116	124
Brittleness Temperature	ASTM D 746 ISO 9784	°C	<-50	<-70	<-100
Linear thermal expansion	ASTM D 696	/°C	1.5 x 10 <sup>-4</sup>	1.5 x 10 <sup>-4</sup>	1.5 x 10 <sup>-4</sup>
Thermal conductivity	BS 874 DIN 52612	W/m°K	0.4	0.4	0.4

### A. Medium & High Density Polyethylene (MDPE & HDPE)

This an outstanding plastic materials that withstands extreme temperature conditions & has great universal chemical resistance of drain pipe materials. This HDPE pipes are manufactured with accordance to European, British & DIN Standards, with different types of polyethylene (PE 40, 63, 80 & 100) dependant on the use & the classification of the manufactured pipe. We supply fittings from Unidelta - Italy to complete the system.



The means of jointing in this type are butt fusion, electro fusion & compression systems (dependant of application).

QPF MDPE Pipes DIN 8074 / 8075 PE 80				
Outside Diameter (mm)	Wall Thickness (mm)			
	PN 4 Series 3	PN 6 Series 4	PN 10 Series 5	PN 16 Series 6
16.0	-	-	1.8	2.3
20.0	-	1.8	1.9	2.8
25.0	-	1.8	2.3	3.5
32.0	1.8	1.9	3.0	4.5
40.0	1.8	2.3	3.7	5.6
50.0	2.0	2.9	4.6	6.9
63.0	2.5	3.6	5.8	8.7
75.0	2.9	4.3	6.9	10.4
90.0	3.5	5.1	8.2	12.5
110.0	4.3	6.3	10.0	15.2

QPF HDPE Pipes DIN 8074 / 8075 PE 100				
Outside Diameter (mm)	Wall Thickness (mm)			
	PN 4 Series 3	PN 6 Series 4	PN 10 Series 5	PN 16 Series 6
3.20	-	-	-	3.0
40.0	-	-	-	3.7
50.0	-	-	-	4.6
63.0	-	-	3.0	5.8
75.0	-	-	3.8	5.8
90	-	-	5.4	8.2
110	-	-	6.6	10.0
125	-	-	7.4	11.4
160	-	-	9.5	14.6
180	-	-	10.7	16.4
200	-	-	11.9	18.2
225	-	-	13.4	20.5
250	-	-	14.8	22.7
280	-	-	16.6	25.4
315	-	-	18.7	28.6
355	-	-	21.1	32.2
400	-	-	23.7	36.3

QPF HDPE Pipes BS 3284: 1967			
Nominal Size (inch)	Outside Diameter (mm)	Wall Thickness (mm)	
		Class C	Class D
$\frac{3}{8}$ "	17.0	-	1.9
.50"	21.2	1.8	2.3
.75"	26.6	2.3	2.9
1"	33.4	2.8	3.7
$1\frac{1}{4}$ "	42.5	3.6	4.6
$1\frac{1}{2}$ "	48.1	4.1	5.3
2"	60.1	5.1	6.6
3"	88.6	7.5	9.7
4"	113.6	9.6	

- The standard length : from 100 meters/coil dependent on size of the pipe.
- The standard color : Black & Yellow for gas lines.

# QPF PLASTIC FITTINGS



QPF is the first Qatari manufacturer of plastic fittings that covers the drainage, sewer and electrical systems. With wide range that reflects the best quality that matches to the international standards. with the brand name QADDCO

## **The systems that QPF is providing are:**

- A. PVC Underground drainage system (BS 4660)
- B. PVC Aboveground drainage Soil (BS 4514).
- C. PVC Aboveground drainage waste (BS 5255).


In QPF fittings are been tested with our new highly technical quality laboratory where strict testing standards are been followed dependant on each application.




## QADDCO uPVC FITTINGS

Above Ground Drainage Waste BS 5255 Fittings		
DESCRIPTION	SIZE	PICTURE
<b>Elbow 90</b>	1 1/2"	
	2"	
<b>Elbow 45</b>	1 1/2"	
	2"	
<b>Branch 90</b>	1 1/2"	
	2"	
<b>Branch 45</b>	1 1/2"	
	2"	
<b>Socket</b>	1 1/2"	
	2"	

## QADDCO uPVC FITTINGS

Above Ground Drainage Soil BS 4514 Fittings		
DESCRIPTION	SIZE	PICTURE
Elbow 90	3"	
	4"	
	6"	
Elbow 45	3"	
	4"	
	6"	
Branch 45	3"	
	4"	
	6"	
Branch 90	3"	
	4"	
	6"	
Socket	3"	
	4"	
	6"	
Trapped Floor Gully	4"	
End Cap	4"	

# QADDCO uPVC FITTINGS

Underground Drainage System BS 4660 Fittings		
DESCRIPTION	SIZE	PICTURE
Elbow 90	4"	
	6"	
Branch 90	4"	
	6"	
Branch 45	4"	
	6"	
Elbow 45	4"	
	6"	
P Trap Gully	4"	
End Cap	4"	

### **Projects in which QADDCO U-PVC Plumbing & Drainage System used (in co-operation with: 'Marley – U. K.')**

1. Doha Asian Games Village (Hamad Medical City)
2. Khalifa Sports City
3. Pearl – Qatar
4. Al – Mirqab Twin Towers
5. Al – Jazeera Tower
6. Al – Dana Tower
7. Beverly Hills Complex
8. Silhouette Tower
9. Al - Seal Tower
10. Al - Rayyan Hotel Tower
11. Regency Hotel Tower
12. Qatar Gas Housing Camp
13. Mesaieed Housing Project
14. Al - Khor Housing Project
15. Dukhan Housing Project
16. Ras Laffan Onshore Expansion Project
17. Q-Chem : II Project
18. QP Field Support Facilities Project
19. More Than 30 Schools around Doha City

### **Projects in which PPRC - Cold & Hot Water Installation System used**

1. West - Bay Complex Tower
2. Al – Emadi Hospital
3. Education City – Weil Cornell Medical College
4. Khalifa Sports City
5. Laqta – 100 Villas Residential Compound
6. Doha Racing & Equestrian Club
7. Abdul Ghani Tower
8. Al - Dana Tower
9. Al - Zaabi Tower
10. Umm Bab Tower
11. Ras Abu Fantas Power Station
12. More Than 30 Schools around Doha City

### **Projects using High Pressure System (in co-operation with 'COMER' - Italy)**

1. Horse Race Club (Al - Furusia)
2. Al – Sharq Villegio (S. P.A.)
3. Dolphin – Ras Laffan Facility Work
4. Ahmed Bin Ali Street
5. West - Bay Road Works & Infrastructure Project
6. New Doha International Airport
7. Pearl – Qatar
8. Dolphin Ras Laffan Project
9. Al – Wassail City Infrastructure
10. Umm Obayriah Farm at Umm Salal Ali
11. Al – Wajba Palace
12. Al – Dana Tower
13. Marriott Gulf Hotel

### **Projects using Electrical Ducts & Q-Tel Ducts (according to KAHRAMAA, Q-Tel & QCS Standards)**

1. Salwa International Highway Project
2. Dukhan Highway Project
3. Salah Al – Deen Street
4. Musaimeer Street
5. West - Bay Road Works & Infrastructure Project
6. New Doha International Airport
7. Pearl – Qatar
8. Dolphin Ras Laffan Project
9. Al – Wassail City Infrastructure





1st January 2016

We hereby certify that  
**Qatar Pipeline & Fitting Co. (QPF)**  
have undergone an audit of their production methods and processes and have been granted permission by Marley Plumbing & Drainage to brand PVC-u drainage pipe as follows:

**"BS EN 1401 (formerly BS4660), BS EN 1329 (formerly BS4514 and BS5255) Pipe made in Qatar by QPF in co-operation with Marley UK"**

This agreement is valid from 1st January 2016 to 31st December 2016 when it is subject to re-audit.

On behalf of Marley Plumbing & Drainage

Mr K Williams, Commercial Director

Date: 4th January 2016

Marley Plumbing & Drainage Lenham Maidstone Kent ME17 2DE England Tel: +44 (0)1622 858 888 Fax: +44 (0)1622 858 725



BUREAU VERITAS

**Certificate of Conformity**

Certificate No. BVI.DOA.22.IND.050.09A.CPC.002.00.YS

Certification Body : Bureau Veritas International Doha W.L.L  
Client : Qatar Pipeline & Fitting Co (QPF)  
Client Address : Industrial Area Street 48, Doha, Qatar  
Application No. : BVI.DOA.22.IND.050  
Job Description : Conformity assessment of a product  
Product Name : UPVC Duct Pipes for Electrical & Telecommunication  
Application :  
Product range : 25mm to 315mm (3/4" - 12"), Duct 54 (QD54) & Duct 56 (QD56)  
Date of Inspection : 10/01/2023  
Date of Certification Granted : 16 January 2023

Scope of Certification:

1. Review Quality Plan
2. Review QA/QC Procedures
3. Review Personnel Competency
4. Carry out a site visit during production
5. Review test equipment & calibration record

Documents Referenced:

1. QPF Internal Specification for UPVC Duct Pipes: QAD/QPF/IS-01/R01
2. QPF Quality Work Manual for UPVC Duct Pipes QAD/QC/WM-01 Rev.01

Certificate Validity : 15 January 2024  
Inspection Evaluated by : Yogesh Sahib  
Reviewer : Mayur Patel  
Issuer:  Technical Manager : Mayur Patel  
 Deputy to Technical Manager  
Issue Date : 19 January 2023  
Certificate Number : BVI.DOA.22.IND.050.09A.CPC.002.00.YS  
Inspection Center : Bureau Veritas International Doha W.L.L



This note is issued further to an inspection whose duration and scope were limited by the terms and conditions of the contract with BVI principal. This note is NOT an indication that the item(s) is (are) fit for any specific purpose and does not release the manufacturer, supplier and any party from their respective duty, guarantee, obligation and/or indemnity relating to, without limitation, patents, workmanship, materials, safety, performance in operation and/or reliability

ND-COC-01 Rev.02 18 Aug. 2022



Approval Ref. : 04 / 2001  
Date : 27-08-2001

**Certificate Of Approval**

Commercial Name : M/s. Qatar Plastic Additives Co., State Of Qatar

This is to certify that the above mentioned commercial name is approved to be used in The State Of Qatar for the following items :

UPVC Electrical Cable Duct Size 110 And 160 mm,  
Standard Length : 5.80 - 6.00 Mtrs., Color : Grey.

Note :

This Certificate Of Approval Is Valid For Only Two ( 02 ) Years Starting From The Date Of This Certificate.

Any modifications on the product must be informed to the department to update the above approval.

Eng. Ahmed Ali Al - Muhannadi,  
Acting Manager, Customer Services Department

Head, Installation Section

P.O. Box: 41 Doha- Qatar Tel: 4628266 Fax: (9974) 4628294 Customer Services Department



Approval Ref. : 01 / 20002  
Date : 14-08-20002

**Certificate Of Approval**

Commercial Name : Qatar Plastic Additives Co.

This is to certify that the above mentioned commercial name is approved to be used in The State Of Qatar for the following items :

Polypropylene Pipes & Fittings , Coprax

The approval diameters for the above product are:  
Internal Diameters in inch : ( 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3 & 4 )  
External Diameters in mm : ( 16, 20, 25, 32, 40, 50, 63, 75, 90 & 110 )

Note :

This Certificate Of Approval Is Valid For Only One ( 01 ) Year From The Date Of This Certificate.

Any modifications on the product must be informed to the department to update the above approval.

Eng. Ahmed Ali Al-Mohannadi  
Acting Manager, Customer Services Department

Head, Installation Section

P.O. Box: 41 Doha- Qatar Tel: 4628266 Fax: (9974) 4628294 Customer Services Department

Certificate No: CP 034      Validity: 14-01-2006\*  
 Issued : 14-07-2005

  
**الهيئة العامة القطرية للمواصفات والمقاييس**  
**Qatar General Organization for Standards & Metrology**  
**شهادة مطابقة**  
**CERTIFICATE OF CONFORMITY**  
**FOR**  
**THE TECHNICAL REQUIREMENTS IN THE FIELD OF**  
**CONSTRUCTION & BUILDING PRODUCTS MANUFACTURER / SUPPLIER**

Products : UPVC Electrical Cable Ducts (Grey Colour) 160x3.6 mm  
 Manufacturer : Qatar Plastic Additives Company  
 Supplier : Qatar Plastic Additives Company  
 P.O.Box 40290  
 Doha-Qatar  
 Tel: 4603773      Fax: 4603993

Condition : The above product has been tested in accordance with standard regimes for physical properties and found to be in conformance with specified requirements of the products specification as per BS 4514.

Requirement	Physical Properties	Test Results (Lab. Ref. No. 20051584)	Specification BS 4514
Dimensions	Diameter - Nominal Size (inch)	0	-
	- Outside (mm)	160	-
	- Inside (mm)	153	-
Heat Resistance	Wall Thickness (mm)	3.6	-
	Change in length (%)	2	8
Impact Resistance		Pass	Pass

\* Notes :  
 (1) Qatar General Organization for Standards & Metrology (QGSM) has no any responsibility for supplying of modified or poor quality products by the manufacturer/supplier during the validity period.  
 (2) It is important to apply for renewal of conformity two weeks before expiry of validity of this certificate.  
 (3) The required fee of this certificate has been stated according to the decision No. 2004(76) of H.E. the Minister of Economic & Commerce.

Recommended by :   
 Eng. Essa A. Hassan  
 Quality Mark

Authorized by :   
 Eng. Moh'd Saif Al-Kuwari  
 Director of Quality & Conformity Dept.

Approved by:  
 Dr. Moh'd Saif Al-Kuwari  
 General Director  
 QGSM

تليشون : 4408555 - فاكس : 4479357 - ص. ب. 40290 - الدوحة - قطر  
 Tel. : 4408555 - Fax : 4479357 - P.O.Box : 23277 - Doha - Qatar

  
**الهيئة العامة**  
**القطرية للمواصفات والمقاييس**  
**موافقة APPROVAL**

Approval No: CP 0114      Validity : 25-02-2004\*\*  
 Issued : 25-08-2003

**CONSTRUCTION PRODUCT SUPPLY**

Products : UPVC Pressure Pipes : 1 1/2", 2", 3" & 4" inch dia.  
 Manufacturer : Qatar Plastic Additives Co.  
 Supplier : Qatar Plastic Additives Co.  
 P.O. Box 40290  
 Doha - Qatar  
 Tel : 4603773      Fax : 4603993

Condition : The above products have been tested in accordance with standard regimes and found to be in conformance with specified requirements and/or product specifications. This certificate shall remain valid for the period shown provided that the specification of the product remains unchanged by the manufacturer and the material supplied or used for construction purposes is of similar quality.

**\*\*Note: It is important to apply for certificate renewal two months before expiry of validity of this certificate.**

Authorized by:   
 Dr. Amer A. Kelzieh  
 Senior Materials Engineer

Approved by:   
 Eng. Nawaf Al-Mana  
 Central Laboratories & Calibration

(Lab Ref. No. 200314303, 4304, 4305 & 4307)

Tel.: 4682358 Fax: 4682564 P.O.Box: 23277 Doha - Qatar

  
**وزارة الشؤون**  
**البلدية والزراعة**  
**شهادة APPROVAL**  
**موافقة Certificate**

Certificate No: CP 0098      Validity : 01-06-2003  
 Issued : 01-06-2002

**CONSTRUCTION PRODUCT SUPPLY**

Products : Polypropylene (pp) Pipes : 20, 25, 40 & 50 mm dia.  
 Manufacturers : Qatar Plastic Additives Co.  
 Supplier : Qatar Plastic Additives Co.  
 P.O. Box 40290  
 Doha - Qatar  
 Tel : 4603773      Fax : 4603993

Condition : The above products have been tested in accordance with standard regimes and found to be in conformance with specified requirements and/or product specifications. This certificate shall remain valid for the period shown provided that the specification of the product remains unchanged by the manufacturer and the material supplied or used for construction purposes is of similar quality.


**\*\*Note: It is important to apply for certificate renewal two months before expiry of validity of this certificate.**

Authorized by:   
 Dr. Amer A. Kelzieh  
 Senior Materials Engineer

Approved by:   
 Dr. Moh'd Saif Al-Kuwari  
 Head of Materials & Laboratory Division

(Lab Ref. No. 20022262, 2363, 2364 & 2365)

**Ministry of Municipal Affairs & Agriculture - MO**  
 Tel.: 682358 Fax: 682564 P.O. Box: 22188 Doha - Qatar


  
**اتصالات قطر (كيوتل) ش.م.ق**  
**Qatar Telecom (Q-TEL) Q.S.C.**


OUR REF: CE/ 026 /2002      January 29, 2002

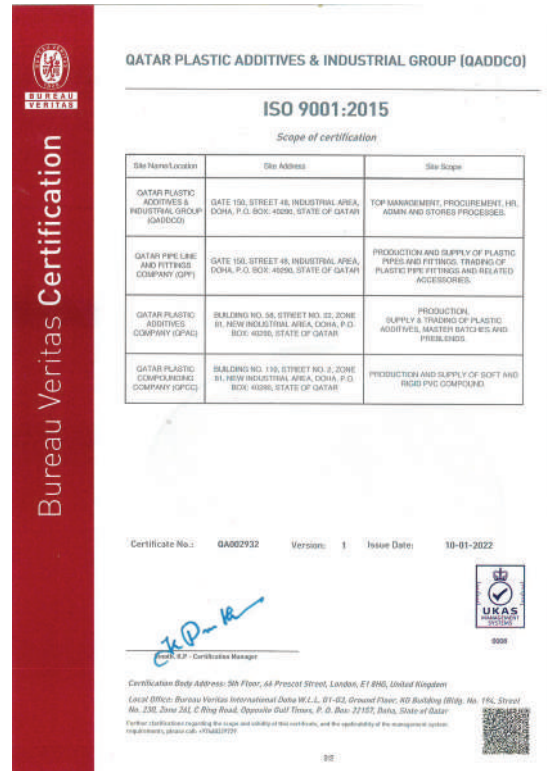
**To Whom It May Concern**

This is to certify that M/s. Qatar Plastic Additives Co. (QADDCO) are Q-Tel Approved Supplier for PVC Ducts D54, D56 & Bends, that predicated by QADDCO & which are conforming to Q-Tel specification.

QADDCO products had been tested & approved by Q-Tel Civil Engineering Section, after the test we found their products are very high quality.

Regards,  
  
**IBRAHIM AFSAN AL-KUWARI**  
 Manager External Network







## Qatar Pipeline & Fittings Co.

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