

MPPF

UPVC Pipes & Fittings



AL-MAISARA

MANUFACTURING & TRADING PLASTIC CO.

شركة الميسرة لصناعة وتجارة البلاستيك

MPF

AL-MAISRHA

MANUFACTURING & TRADING PLASTIC CO.

Spot-Light

“Since it was established in 1996 **AL-MAISRHA** has become the market leading manufacturer of plastics piping systems in the middle east.

AL-MAYSAR A offers one of the most comprehensive and highest quality ranges of UPVC pipes and fittings for drainage applications.

The leadership and the management of the company goes forth in its thinking & activities from a comprehensive and strategic vision based on principles and flexible in procedures. It strives for a higher degree of global diversification, expansion and competitiveness. To fulfill that, the company pays a close attention to the human resources who play a major role in the process.

UPVC General Advantages

- Non-corrosion:

UPVC pipes & fittings resist corrosion caused by acid, alkalis, oils, salts', moisture and the media inside and outside the pipe.

- Non toxic:

It neither affects the taste, smell or color of water or liquid nor react with any liquid to cause a precipitant.

- Low flow loss:

It has a mirror-smooth surface that minimizes resistance and impedes the build-up of deposits and corrosive scales.

- Light weight:

UPVC pipes & fittings are lighter in weight than traditional cast iron This gives savings in manpower handling and installation cost.

- Ease of installation and maintenance:

It is quick and easy to install by using solvent cement, by threading or by rubber joints. UPVC pipe can be cut easily for installation. Also can be quickly repaired with a minimum of complication or cost.

- Fire proof:

UPVC pipes & fittings will not support combustion. In the event of fire, flames are unable to travel along the pipe and fitting, It is self-extinguishing.

- Insulator:

UPVC pipes & fittings are ideal for electric conduits, as UPVC is an integral insulator, It eliminates the possibility of electrolytic corrosion. that so often destroys underground piping systems.

- Anti ultra violet rays (UV):

UPVC pipes & fittings for DWV systems have a specially formulating materials to protect from sunlight.

- High chemical resistance:

ALMYSARA UPVC (DWV) systems are resistant to a great number of chemicals agents.

UPVC Pressure Pipes أنابيب الضغط

MPF UPVC Pressure Pipes according to DIN 8062, DIN 19532 & ISO 161-1
Applications: Pressure Pipes

Series		Series 1		Series 2		Series 3		Series 4		Series 5	
Nominal Pressure in Bars		2.5 Bar		4 Bar		6 Bar		10 Bar		16 Bar	
Nominal-OD mm	Tolerance on Nom-OD mm	Thickness mm	Weight Kg/M	Thickness mm	Weight Kg/M	Thickness mm	Weight Kg/M	Thickness mm	Weight Kg/M	Thickness mm	Weight Kg/M
10	0.2									1.0	0.010
12	0.2									1.0	0.055
16	0.2									1.2	0.090
20	0.2									1.5	0.137
25	0.2							1.5	0.174	1.9	0.212
32	0.2							1.8	0.264	2.4	0.342
40	0.2					1.8	0.334	1.9	0.350	3.0	0.525
50	0.2					1.8	0.422	2.4	0.552	3.7	0.809
63	0.2					1.9	0.562	3.0	0.854	4.7	1.290
75	0.3			1.8	0.642	2.2	0.782	3.6	1.220	5.6	1.820
90	0.3			1.8	0.774	2.7	1.130	4.3	1.750	6.7	2.610
110	0.3	1.8	0.950	2.2	1.160	3.2	1.640	5.3	2.610	8.2	3.900
125	0.3	1.8	1.080	2.5	1.480	3.7	2.130	6.0	3.640	9.3	5.010
140	0.4	1.8	1.210	2.8	1.840	4.1	2.650	6.7	4.180	10.4	6.270
160	0.4	1.8	1.390	3.2	2.410	4.7	3.440	7.7	5.470	11.9	8.170
180	0.4	1.8	1.570	3.6	3.020	5.3	4.370	8.6	6.880	13.4	10.400
200	0.4	1.8	1.740	4.0	3.700	5.9	5.370	9.6	8.150	14.9	12.800
225	0.5	1.8	1.960	4.5	4.700	6.6	6.760	10.8	10.800	16.7	16.100
250	0.5	2.0	2.400	4.9	5.650	7.3	8.310	11.9	13.200	18.6	19.900
280	0.6	2.3	3.110	5.5	7.110	8.2	10.400	13.4	16.600	20.8	24.900
315	0.6	2.5	3.780	6.2	9.020	9.2	13.200	15.0	20.900	23.4	31.500
355	0.7	2.9	4.880	7.0	11.400	10.4	16.700	16.9	26.500	26.3	39.900
400	0.7	3.2	6.100	7.9	14.500	11.7	21.100	19.1	33.700	29.7	50.800
450	0.8	3.6	7.650	8.9	18.300	13.2	26.800	21.5	42.700		
500	0.9	4.0	9.380	9.8	22.400	14.6	32.900	23.9	52.600		
560	1.0	4.2	11.800	11.0	28.100	16.4	41.400	26.7	65.800		
630	1.1	2.0	14.700	12.4	35.700	18.4	52.200	30.0	83.200		
710	1.2	5.7	18.900	14.0	45.300	20.7	66.100				
800	1.3	6.4	23.900	15.7	57.200	23.3	83.900				

- Length: 3.0 & 6.0 Meters
- SOCKET TYPE: Rubber Joint R/J type - supplied from size 50 mm up to 630 mm.
Solvent Cement (SC/J) type - supplied from size 16 mm to 630 mm.
- Color: Grey
- None Standard lengths & Colors are available on request.

Chemical	Concentration	Temperature		Chemical	Concentration	Temperature	
		20°C	60°C			20°C	60°C
Lead tetraethyl, see tetraethyllead				Nicotinic acid		S	S
Linoleic acid		S	S	Nitric acid	5%(w/v)aq sol.	S	
Linseed oil		S	S		10%(w/v)aq sol.	S	D
Lubricating oil		S	S		25%(w/v)aq sol.	S	D
Magnesium carbonate		S	S		50%(w/v)aq sol.	S	U
Magnesium chloride		S	S		70%(w/v)aq sol.	D	U
Magnesium hydroxide		S	S		98%(w/v)aq sol.	U	U
Magnesium nitrate		S	S	Nitrobenzene		U	U
Maleic acid	25%(w/v)aq.sol.	S	S	Nitropropane		U	U
	50%(w/v)aq.sol.	S	S	Nitrous fumes	Moist	D	U
	Concentrated	S	S	Nonanol (nonyl alcohol)		S*	S*
Malic acid		S	S	Octane		S*	U*
Managanese sulphate		S*	S*	Octano (octyl alcohol)		S*	
Margarine		S	S	Oils and Fats		S	S
Mercuric chloride		S	S	Oleic acid		S	S
Mercuric cyanide		S	S	Orthophosphoric acid	20% aq. soln.	S	S
Mercurous nitrate		S	S		30% aq. soln.	S	S
Mercury		S	S		50% aq. soln.	S	S
Mesityl oxide		U	U		95% aq. soln.	S	S
Metallic soaps (water soluble)		S*	S*	Oxalic acid		S	S
Methanol (methyl alcohol)	100%	S	S	Oxygen		S	S
	6%(w/v)aq.sol.	U*	U*	Ozone		S	S
Methyl acetate				Palmitic acid	10%	S	S
Methyl bromide, see bromomethane					70%	S	S
Methyl isobutyl ketone, see isobutyl methyl ketone				Paraffin		S	S
Methyl chloride, see chloromethane				Paraffinwax		S	S
Methyl ethyl ketone, see ethyl methyl ketone				Pentane		S*	
Methyl glycol		S	S	Perchloric acid	0%	S	D
Methyl hydrogen sulphate (methyl sulphuric acid)	50%(w/v)aq.sol.	S	S	Petrol		S	U
	60%(w/v)aq.sol.	S	S	Petro1Jbenzene mixture	80:20 ratio	U	U
	75%(w/v)aq.sol.	S	S	Petroleum spirit (Petroleum ether)		U	U
	90%(w/v)aq.sol.	S	S	Phenol		S	U
Methyl methacrylate		U	U	Phenyl carbinol, see benzyl alcohol			
Methyl sulphate, see dimethyl sulphate				Phenylhydrazine		U	U
Methylated spirits		S	D	Phenylhydrazine hydrochloride		U	U
Methylcyclohexanone		U	U	Phosgene	gas	S	U
Methyl sulphonic acid		S	D		liquid	U	U
Milk+		S*	S*	Phosphates (see also under ammonium, pottasium, sodium etc.)		S*	S*
Mineraloils		S	S	Phosphine		S	S
Mixed acids"			U	Phosphoric acid, see orthophosphoric acid			
Molasses		S	S	Phosphorus		S	U
Monochlorobenzene		U*	U*	Phosphorus pentoxide		S	S*
Naphtha		S	S	Phosphorus trichloride		U	U
Naphthalene		U	U	Phosphoryl chloride (Phosphorus oxychloride)		U	U
Nickel chloride		S	S	Pthalic anhydride		S*	S*
Nickel nitrate		S	S	Picric acid	1 %(w/v)aq.sol.	S	S*
Nickel sulphate		S	S		10%(w/v)aq.sol.	U	U
Nicotine		S	S				

MPF UPVC Pipes Based on ASTM D 2241
Applications: Pressure Rated Pipes

Nominal Pipe Size	Outside Diameter (mm)		Wall Thickness (mm)											
			Standard Dimension Ratio (SDR)											
			41		32.5		26		21		17		17	
Inch.	Min	Max	W.P: 6.9 Bar		W.P: 8.6 Bar		W.P: 11Bar		W.P: 18.8 Bar		W.P: 17.2 Bar		W.P: 17.2 Bar	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1/2	21.24	21.44											1.57	2.08
3/4	26.57	26.77							1.52	2.03	1.57	2.08	1.98	2.49
1	33.27	33.53					1.52	2.03	1.6	2.11	1.96	2.46	2.46	2.97
1 1/4	42.03	42.29			1.52	2.03	1.63	2.13	2.01	2.52	2.49	3	3.12	3.63
1 1/2	48.11	48.41			1.52	2.03	1.85	2.36	2.29	2.8	2.84	3.35	3.58	4.09
2	60.17	60.47			1.85	2.36	2.31	2.82	2.87	3.38	3.56	4.06	4.47	4.98
3	88.7	89.1	2.16	2.67	2.74	3.25	3.43	3.94	4.24	4.75	5.23	5.87	6.58	7.37
4	114.07	114.53	2.8	3.3	3.51	4.01	4.39	4.9	5.44	6.1	6.73	7.54	8.46	9.47
6	168	168.56	4.11	4.62	5.18	5.79	6.48	7.26	8.03	9	9.91	11.1	12.47	13.97
8	218.7	219.46	5.33	5.97	6.73	7.54	8.43	9.45	10.41	11.66	12.9	14.45		

• Length: 5.8 & 6.0 Meters

• Color: Golden Brown

• SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type

• None Standard lengths & Colors are available on request.

MPF UPVC Underground Sewer Pipe (gravity) According To BS 5481
Applications: Sewer Pipe Gravity

Nominal Size mm	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	Min	Max	Min	Max	
200	200	200.6	4.9	5.6	4.500
250	250	250.7	6.1	7.0	7.010
415	315	315.9	7.7	8.7	11.070
400	400	401.0	9.8	11.0	17.830

Note: The maximum pressure rating given above is based on water 73° F or 23 C° & for unthreaded pipes.

• Length: 5.8 & 6.0 Meters

• Color: White

• SOCKET TYPE: Plain, Solvent cement (SC/J)

• None Standard lengths & Colors are available on request.

MPF UPVC Underground Drainage & Sewer Pipes According To BS 466
Applications: Drainage Under Ground, Fields & Roads

Nominal Size mm	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	Min	Max	Min	Max	
110(4")	110	110.4	3.2	3.8	1.640
160(6")	160	160.6	4.1	4.8	3.040

• Length: 5.8 & 6.0 Meters

• Color: Golden Brown

• SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type

• None Standard lengths & Colors are available on request.

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UPVC Pipes & Fittings

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أنابيب الصرف الصحي - المجاري - التهوية
Drain - Waste - Vent (DWV) Pipes

MPF UPVC Drain Pipes According To DIN 19531

Applications: Drainage Above Ground

Nominal Size mm	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	Min	Max	Min	Max	
40	40	40.2	1.8	2.2	0.381
50	50	50.2	1.8	2.2	0.481
75	75.3	75.3	1.8	2.2	0.642
110	110	110.3	2.2	2.7	1.160
125	125	125.3	2.5	3.0	1.480
160	160	160.4	3.2	3.8	2.410

- Length: 4, 5,8 & 6.0 Meters
- Color: Grey
- SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type
- None Standard lengths & Colors are available on request.

MPF UPVC Drain, Waste and Vent Pipes According to ASTM D – 2265

Applications: Drain, Waste, Vent.

Nominal Size Inch	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	Min	Max	Min	Max	
1 1/4	42.03	42.29	3.56	4.07	0.650
1 1/2	48.11	48.41	3.68	4.19	0.770
2	60.17	60.47	3.91	4.42	1.040
3	88.7	89.1	5.49	6.15	2.140
4	114.1	114.5	6.02	6.73	3.050
6	168	168.56	7.11	7.98	5.370
8	218.7	219.46	8.18	9.17	8.110

- Length: 5,8 & 6.0 Meters
- Color: White
- SOCKET TYPE: Solvent cement (SC/J) type
- None Standard lengths & Colors are available on request.

MPF UPVC Aboveground Soil Pipes According To BS 4514

Applications: Soil Above Ground

Nominal Size mm	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	Min	Max	Min	Max	
82(3")	82.4	82.8	3.2	3.8	1.210
110(4")	110	110.4	3.2	3.8	1.640
160(6")	160	160.6	3.3	3.9	2.470

- Length: 5,8 & 6.0 Meters
- Color: Golden Brown
- SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type
- None Standard lengths & Colors are available on request.

MPF UPVC Aboveground Waste Pipes According To BS 5255

Applications: Waste Above Ground

Nominal Size	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	Min	Max	Min	Max	
32 (1 1/4")	36.15	36.45	1.8	2.2	0.301
40 (1 1/2")	42.75	43.05	1.9	2.3	0.376
50 (2")	55.75	56.05	2.0	2.4	0.519

- Length: 4, 5,8 & 6.0 Meters
- Color: Grey
- SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type
- None Standard lengths & Colors are available on request.

Chemical	Concentration	Temperature		Chemical	Concentration	Temperature	
		20°C	60°C			20°C	60°C
Oodecanol (lauryl alcohol)		S*	S*	Glycol, see ethanediol			
Emulsifiers	All	S*	S*	Glycolic acid	30% ale. soln	S	S
Emulsions (photographic)		S	S	Grape sugar		S	S
Ethane		S*		Heptane		S	S
Ethanediol (ethylene glycol)		S	S	Hexadecanol (cetyl alcohol)		S*	S*
Ethanol (ethyl alcohol)	95-100%	S	D	Hexanol (hexyl alcohol)		S	S
	40% (v/v)aq.sol.	S	D	Hydrobromic acid	50% (w/v)aq. sol	S	S
Ethers (see also diethyl ether)		U	U		100% (w/v) aq. soln.	S*	S*
Ethyl acetate		U	U	Hydrochloric acid	10% (w/v)aq. sol	S	S
Ethyl acrylate		U	U		22% (w/v)aq. sol	S	S
Ethyl alcohol, see ethanol					36% cone.	S	S
Ethyl butyrate		U*	U*	Hydrocyanic acid	10% (w/v)aq. sol	S	S
Ethyl chloride, see Chloroethane				Hydrofluoric acid	4% (w/v)aq. sol.	S	S
Ethyl formate		U*	U*		40% (w/v)aq. sol	S	S
Ethyl lactate		U*	U*		60% (w/v)aq. sol	D	D
Ethyl methyl ketone (Methyl ethyl ketone)		U	U	Concentrated		U*	U*
Ethyl sulphate, see diethyl sulphate				Hydrocyanic acid	10% (w/v)aq. sol	S	S
Ethylene chlorohydrin see 2 - chloroethanol				Hydrofluoric acid	4% (w/v)aq. sol.	S	S
Ethylene dibromide, see dichloroethane					40% (w/v)aq. sol	S	S
Ethylene dichloride, see dichloroethane					60% (w/v)aq. sol	D	D
Ethylene glycol, see ethanediol				Concentrated		U*	U*
Ethylene oxide (oxiran)		U	U	Hydrocyanic acid	10% (w/v)aq. sol	S	S
Fatty acids, higher		S	S	Hydrofluoric acid	4% (w/v)aq. sol.	S	S
Ferric chloride		S	S		40% (w/v)aq. sol	S	S
Ferric nitrate		S	S		60% (w/v)aq. sol	D	D
Ferric sulphate		S	S	Concentrated		U*	U*
Ferrous ammonium citrate, see ammonium ferrous citrate		S*	S*	Hydrogen		S	S
Ferrous chloride		S*	S*	Hydrogen bromide	Anhydrous	S*	S*
Ferrous sulphate		S	S	Hydrogen chloride	Anhydrous	S*	S*
Fixing soln. (photographic)		U	U	Hydrogen fluoride	Anhydrous	S*	S*
Flourine		S	S	Hydrogen peroxide	3% (w/v)aq. sol.	S	S
Fluorosilic acid	40% aq. soln. cone.	S	S		12% (w/v)aq.sol.	S	S
Formaldehyde	40% (w/w) aq. soln.	S	S		30% (w/v)aq.sol.	S	S
Formic acid	3% aq. soln.	S	S		90% (w/v) or greater	U	U
	10% aq. soln.	S	S	Hydrogen sulphide		S	S
	25% aq. soln.	S	D	Hydroquinone, See quinol			
	50% aq. soln.	S	U	Hydroxylammonium sulphate		S	S
	98-100%	U	U	Hypochlorous acid		D	D
Fructose		S	S	Iodine	soln. In pottasium iodide	U	U
Fruit juices		S	S			S	S
Fuel oil		S	S	Iso-octane (2,2,4 trimethylbentane)		S	S
Furfuraldehyde (furfural)	100%	U	U	Isophorone			
Furfuryl alcohol		U*	U*	Isopropanol, see Isopropyl alcohol			
Gallic acid, see 3, 4, 5 trihydrobenzoic acid				Lactic acid	10% (w/v)aq.sol.	S	S
Gasoline, see petrol					100% (w/v)aq.	U	U
Glucose		S	S	Lanolin		S*	S*
Glycerol		S	S	Latex		S	S
Glycerol monobenzyl ether		U*	U*	Lauric acid, see dodecanoic acid			
				Lauryl alcohol, see dodecanol		S	S
				Lead acetate		S*	S*
				Lead arsenate		S*	S*
				Lead nitrate		S*	S*

MPF UPVC Pipes According to ASTM D-1785, Schedule 40 & Schedule 80
Applications: Water Distribution & Irrigation Systems

Nominal Size Inch.	O.D. (mm)		Schedule 40				Schedule 80			
	Min	Max	Wall Thickness (mm)		Nominal Weight (KG/M)	PSI	Wall Thickness (mm)		Nominal Weight (KG/M)	PSI
			Min	Max			Min	Max		
1/2	21.44	21.44	2.77	3.28	0.24	600	3.73	4.24	0.3	850
3/4	26.77	26.77	2.87	3.38	0.33	480	3.91	4.42	0.43	690
1	33.53	33.53	3.38	3.89	0.48	450	4.55	5.08	0.61	630
1 1/4	42.29	42.29	3.56	9.06	0.65	370	4.85	5.44	0.87	520
1 1/2	48.41	48.41	3.68	4.19	0.77	330	5.08	5.69	1.03	470
2	60.47	60.47	3.91	4.42	1.04	280	5.54	6.2	1.43	400
2 1/2	73.2	73.2	5.16	5.77	1.57	300	7.01	7.85	2.2	420
3	89.1	89.1	5.49	6.15	2.14	260	7.62	8.53	2.91	370
4	114.5	114.5	6.02	6.73	3.05	220	8.56	9.58	4.26	320
5	141.5	141.5	6.22	7.347	4.18	190	9.52	10.67	6.42	290
6	168.56	168.56	7.11	7.98	5.37	180	10.97	12.29	8.13	280
8	219.46	219.46	8.18	9.17	8.11	160	12.7	14.22	10.1	250

• Length: 4, 5.8 & 6.0 Meters

• Color: Schedule 40 - white Schedule 80 - dark grey

• SOCKET TYPE: Plain, Solvent cement (SC/J)

• None Standard lengths & Colors are available on request.

MPF UPVC Pipes Based on ASTM D 2241
Applications: Pressure Rated Pipes

Nominal Pipe Size	Outside Diameter (mm)		Wall Thickness (mm)											
			Standard Dimension Ratio (SDR)											
			41		32.5		26		21		17		13.5	
Inch.	Min	Max	W.P: 6.9 Bar		W.P: 8.6 Bar		W.P: 11Bar		W.P: 18.8 Bar		W.P: 17.2 Bar		W.P: 21.7	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1/2	21.24	21.44											1.57	2.08
3/4	26.57	26.77							1.52	2.03	1.57	2.08	1.98	2.49
1	33.27	33.53					1.52	2.03	1.6	2.11	1.96	2.46	2.46	2.97
1 1/4	42.03	42.29			1.52	2.03	1.63	2.13	2.01	2.52	2.49	3	3.12	3.63
1 1/2	48.11	48.41			1.52	2.03	1.85	2.36	2.29	2.8	2.84	3.35	3.58	4.09
2	60.17	60.47			1.85	2.36	2.31	2.82	2.87	3.38	3.56	4.06	4.47	4.98
3	88.7	89.1	2.16	2.67	2.74	3.25	3.43	3.94	4.24	4.75	5.23	5.87	6.58	7.37
4	114.07	114.53	2.8	3.3	3.51	4.01	4.39	4.9	5.44	6.1	6.73	7.54	8.46	9.47
6	168	168.56	4.11	4.62	5.18	5.79	6.48	7.26	8.03	9	9.91	11.1	12.47	13.97
8	218.7	219.46	5.33	5.97	6.73	7.54	8.43	9.45	10.41	11.66	12.9	14.45		

• Length: 5.8 & 6.0 Meters

• Color: Dark Grey

• SOCKET TYPE: Plain, Solvent cement (SC/J)

• None Standard lengths & Colors are available on request.



أنابيب المجاري والصرف الصحي Sewer & Drain Pipes

MPF UPVC Sewer Pipes (Gravity) According to DIN 8061/DIN 8062 Applications: Sewer Pipe Gravity

Nominal Size mm	Outside Diameter mm		Wall Thickness (mm)		Weight Kg / m
	(D)	Tolerance	(S)	Tolerance	
110	110	0.3	3.2	0.6	1.640
125	125	0.3	3.7	0.6	2.130
160	160	0.4	4.7	0.7	3.440
200	200	0.4	5.9	0.8	5.370
250	250	0.5	7.3	1	8.310
315	315	0.6	9.2	1.2	13.200
400	400	0.7	11.7	1.4	21.100
500	500	0.9	14.4	1.7	32.900

- Length: 5,8 & 6,0 Meters
- Color: Golden Brown
- SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type
- None Standard lengths & Colors are available on request.

MPF UPVC Sewer Pipes (Gravity) According to DIN 19534 Applications: Sewer Pipe Gravity

Nominal Size mm	Outside Diameter mm		Wall Thickness (mm)		Insertion Depth	Weight Kg / m
	(D)	Tolerance	(S)	Tolerance		
110	110	0.3	3.0	+ 0.5	115	1.630
125	125	0.3	3.0	+ 0.5	120	1.870
160	160	0.4	3.6	+ 0.6	132	2.650
200	200	0.4	4.5	+ 0.7	145	4.120
250	250	0.5	6.1	+ 0.9	160	7.000
315	315	0.6	7.7	+ 1.0	180	11.110
400	400	0.7	9.8	+ 1.2	200	17.800
500	500	0.9	12.2	+ 1.5	250	27.649
600	630	1.1	15.4	+ 1.8	300	43.944

- Length: 5,8 & 6,0 Meters
- Color: Golden Brown
- SOCKET TYPE: Rubber Joint R/J type. Solvent cement (SC/J) type
- None Standard lengths & Colors are available on request.

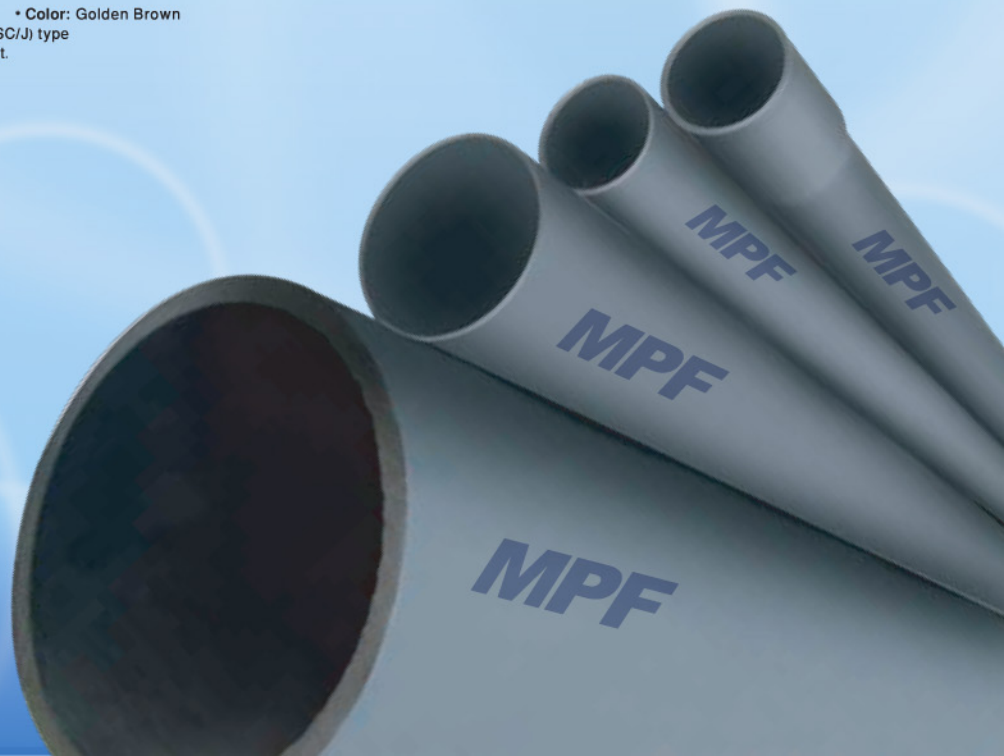


Table of chemical Resistance of UPVC

The resistance of plastic pipes materials to a wide range of chemicals is listed in the following tables (RE. CP 312:PART 1:1993)

The chemical names used in the tables are wherever possible in accordance with the recommendations contained in BS2474; other chemical names commonly used are frequently included as well with a cross-reference to the preferred name. The symbols used in the tables are as follows:

S - Satisfactory

U - Unsatisfactory, So rated because of decomposition, solution, swelling, loss of ductility, etc. of the samples tested.

D - Some attack or absorption. The material may be considered for use when alternative materials are unsatisfactory, and where limited life is acceptable. When plastics are to be used with such chemicals, full scale trials under realistic conditions are particularly necessary.

* - Predicted results. In order to cover as wide a range of named chemicals as possible, the resistance of plastics to some chemicals has been predicted from its resistance to other chemicals which have similar composition.

+ Reference should be made to Section 21 (pipes for food and drink other than water) of BS CP 312

Chemical	Concentration	Temperature	
		20°C	60°C
Acetaldehyde	40% (w/v) soln.	S	U
	100%	U	U
Acetic Acid	10% (w/v) soln.	S	S
	60% (w/v) soln.	S	D
	glacial	U	U
Acetic anhydride		U	U
Acetone		U	U
Acetonitrile			U
Acetophenetidine		S'	S'
Acetophenone		U	U
Adipic Acid		S	
Alcohols, see specific alcohols			
Aliphatic hydrocarbons		S'	S'
Allyl alcoholic		D	U
Allyl chloride		U	
Alum, see aluminium potassium sulphate			
Aluminium acetate		S'	S'
Aluminium chloride		S	S
Aluminium fluoride		S'	S'
Aluminium hydroxide		S'	S'
Aluminium nitrate		S	S
Aluminium oxalate		S'	S'
Aluminium Oxychloride		S	S
Aluminium Pottasium Sulphate (Alum)		S	S
Aluminium Sulphate		S	S
Ammonia	dry gas	S	S
	liquid	U	UL
Ammonia Solution	35% (m/v) soln	S	S
(ammonium hydroxide)	(0-88g/ml)		
Ammonium Bicarbonate, see ammonium hydrogen carbonate			
Ammonium carbonate		S	S
Ammonium chloride		S	S
Ammonium ferrous citrate		S'	S'
Ammonium fluoride		S	S
Ammonium hydrogen carbonate		S'	S'
Ammonium hydroxide see Ammonia, solution			
Ammonium m-fosphosphate		S	S
Ammonium nitrate		S	S
Ammonium ortho-phosphates		S'	S*
Ammonium oxalate		S'	S*
Ammonium persulphate		S'	S
Ammonium sulphate		S	S
Ammonium sulphide		S	S
Ammonium thiocyanate		S	S
Ammonium zinc chloride (zinc ammonium chloride)		S	S
Amyl acetate		U	U
Amyl alcohol		S'	U
Amyl chloride		U	U
Aniline		U	U
Aniline hydrochloride		U	U
Aniline sulphate		U	U
Animal oils		S'	S'
Antrquinone		S	U
Antraquinone sulphonic acid		S	U
Antimony chloride		S	S'

Chemical	Concentration	Temperature		Chemical	Concentration	Temperature	
		20°C	60°C			20°C	60°C
Aqua Regia"	conc.	U	U	Chlorine gas	10% dry	D	
Aromatic Hydrocarbons		U	U		100% dry	D	U
Arsenic: acid (syropl)	75% (m/m) or 2 g/ml	S	D		10% moist	U	U
Aryl sui phonic acids		S	U		sat. aq. soin	D	U'
Barium carbonate		S*	S*	Chlorine trifluoride		U	U'
Barium chloride		S*	S*	Chloroacetic acid		S	S
Barium hydroxide		S	S	Chlorobenzene		U	U
Barium sulphate		S*	S*	Chloroethane (ethyl chloride)		U	U
Barium sulphide		S	S	2-Chloroethanol (ethylene chlorohydrin)		U	U
Barium+		S		Chloroform		U	U
Benzaldehyde	trace	U	U	Chloromethane (methyl chloride)		U	U
	100%	U	U	Chlorosulphonic acid		D	U
Benzene		U	U	Chromic acid	plating soln.		
Benzoic acid		D	U	Chromic pottasium sulphate (chrome alum)		S	S
Benzoyl chloride		U*	U*	Cider		S'	
Benzyl acetate		U	U	Citric acid		S	S
Benzyl alcohol (phenylcarbinol)		U*	U*	Copper" chloride		S'	S'
Bismuth carbonate		S	S	Copper** cyanide		S	S
Borax, see disodium tetraborate				Copper" flouride		S'	S'
Boric acid		S	S	Copper" nitrate		S	S
Boron trifluoride		S	S	Copper** sulphate		U	U
Brine		S	S	Creosote		U	U
Bromine	trace	S	U	Creosols		U	U'
	100% dry gas	U*	U	Cresylic acid		U	U
	liquid	U	U	Crotonaldehyde		U	U
Bromomethane (methylbromide)		U*	U*	Cyclohexanone		U	U
Butadiene		S	S	Detergents (synthetic)	Diluted for use	S	S'
Butane		U	U	Developers (photographic)		S	S'
Butanedioles		U	U	Dextrin		S	S
Butanols (butyl alcohols)		S	D	Dextroset+	Sat. soln.	S	S
Butyl acetate		U	U	Diamyl ether		U'	U'
Butyl chloride		U*	U*	Diazo salts		S	S
Iso Butyl methyle ketone (4-methylpentan - 2-one)		U*	U*	Dibromoethane (ethylene dibro'11ide)		U'	U'
Butylphenols		U	U	Dibutyl pthalate		U'	U'
Butyraldehyde		U*	U*	Dichlorobenzene		U'	U'
Butyric acid	20%aq. soln. conc.	S	U*	Dichlorodifluoromethane		S	
		U	U	Dichloroethane (ethylene dichloride)		U	U
Calcium carbonate		S	S	Dichloroethylene		U'	U'
Calcium chlorate		S	S	1,2 -Dichloropropane (propylene dichloride)		U	U
Calcium chloride	Aq. soln.	S	S	Diethyl ether		U	U
Calcium hydrogen sulphate (Calcium bisulphite)		S*	S*	Diethyl ketone		U'	U'
Calcium hydroxide		S	S	Diethyl sulphate (ethyl sulphate)		U	U
Calcium hypochlorite		S	S*	Digol (diethylene glycol)		S'	S'
Calcium nitrate		S	S	Dimethyl sulphate (methyl sulphate)		S	U
Calcium orthophosphates		S*	S*	Dimethylamine		S	S
Calcium sulphate		S	S	Dimethylcarbinol, see isopropyl alcohol			
Calcium sulphide		S	S	Diocetyl pthalate		U'	U'
Carbon dioxide (gas)	U	S	S	Dioxan		U'	U'
Carbon disulphide		S	S	Diphenyl ether		U	U
Carbon monoxide		S	S	Disodium phosphate, see disodium hydrogen orthophosphate			
Carbon tetrachloride		D	D	Dodecanoic acid (lauric)		S	S
Casien		S*	S*				
Castor oil		S	S				
Cetyl alcohol, see hexadecanol							
Chloral hydrate		S	S				
Chloric acid		S	S**				



Material Properties and Performance

AL-MAISARA UPVC pipes and fittings are manufactured from Unplasticised Polyvinyl Chloride UPVC. The following table shows the main physical and thermal properties of the UPVC material:

PROPERTY	UNIT	VALUE
Specific gravity	gms/cm ³	1.41 + 0.02
Specific heat	KCal/kg/°C	0.25
Co-efficient of linear expansion	mm/m/°C	.08
Vicat softening temperature	°C	85 @ 1kg load
Elongation at Break	%	90 min
Tensile strength @ 20°Cmin	Mpa	50
Compressive strength	N/mm ²	-
Water absorption	Mg/cm ²	<4
Modulus of Elasticity	MPa	1200-1500
Flexural Strength	kg/cm ²	950
Impact Strength	Joules	4.75 - 5.42
	mg/cm ²	<4
Thermal Conductivity	KICal/cm.ho°C	0.13
Volume Resitivity	OHM/cm	1014
Dielectric Strength	KS/mm	>740
Friction Coefficient		135-150
Flammability		Will not support combustion

MPF AL-MAISARA

MANUFACTURING & TRADING PLASTIC CO.

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UPVC MATERIAL is extremely well adopted to withstand abuse against both natural as well as man made elements, which may cause damages to the material.

Corrosion resistance:

UPVC being a non-conductor is totally resistant to all types of galvanic and electromechanical influences which might corrode it. Being non-mettalic, UPVC is resistant to any type of corrosion caused by water as well as a large range of industrial liquids and chemicals. Seepage from high sulphate soils as well as low hardness waters also do not threaten it. This in turn translates into a longer installed life of the UPVC pipe systems.

Resistance to biological attack and growth:

UPVC is completely resistant to any microscopic life that might be exposed to. It does not offer a nourishing source to any bacterial life form and is completely guaranteed to withstand any such growth.

Resistance to Abrasion:

UPVC Pipes are highly resistant to abrasion due to stress from abrasion fluids of excessive pressure.

Tests have shown that UPVC pipes are up to 2.5 times more resistant to abrasions when compared to steel.



Jointing Techniques

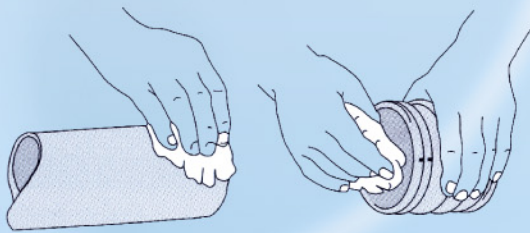
Solvent Cement Jointing

To achieve effective reliable joints:

- Ensure that all pipes and fittings are cleaned with cleaning fluid. before applying cement.
- After applying liquid weld (solvent cement), initial bonding is achieved within 15 seconds. However, the joint should not be disturbed for 10 minutes.

Step 1

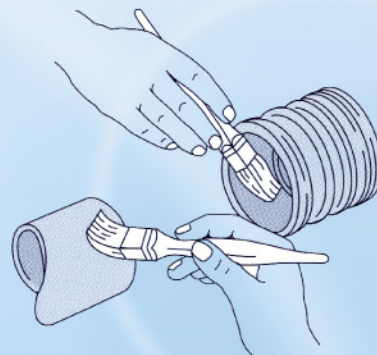
Cut the pipe square, de-burr and clean mating surfaces with Cleaning fluid using a dry, clean, natural fibre cloth (NOT synthetic).



Preparing Pipe

Step 2

Coat mating surface with Liquid Weld (Solvent cement), using a clean brush. Replace lid on container to prevent evaporation of cement



Applying Solvent Cement

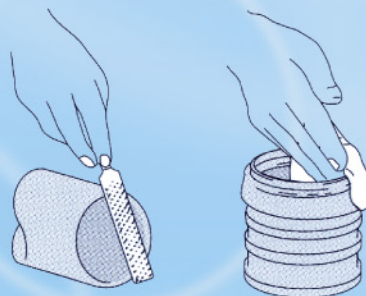
Step 3

Assemble joint immediately, removing any excess cement with a clean rag. Initial set: 10 minutes. Final set: 12 hours

Push Fit Jointing

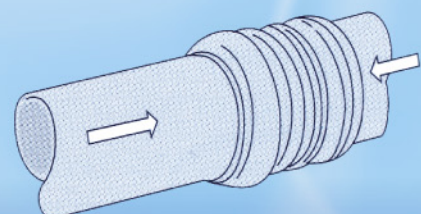
Step 1

File square cut pipe to provide 45° chamfer. (Do not chamfer to a knife edge). Lubricate rubber seal with Silicone Lubricant



Step 1

Push pipe fully into socket. Mark pipe along edge of socket



FLOOR DRAIN



Size

110X50X50X50X50
mm UPVC
110X63X63X63X63
mm UPVC

REDUCER BUSH



Size

160X110 mm UPVC
110X63 mm UPVC
110X50 mm UPVC

FLOOR TRAP



Size

110X75X75X75
mm UPVC
110X50X50X50
mm UPVC

AIR VENT



Size

160 mm UPVC
110 mm UPVC
75 mm UPVC
50 mm UPVC

END CAP



Size

160 mm UPVC
110 mm UPVC
75 mm UPVC
50 mm UPVC

Size

110 mm UPVC
75 mm UPVC
50 mm UPVC

Size

160 mm UPVC
110 mm UPVC
90 mm UPVC
75 mm UPVC
63 mm UPVC
50 mm UPVC

Size

160 mm UPVC
110 mm UPVC
90 mm UPVC
75 mm UPVC
63 mm UPVC
50 mm UPVC

Size

160 mm UPVC
110 mm UPVC
90 mm UPVC
75 mm UPVC
63 mm UPVC
50 mm UPVC

Size

160 mm UPVC
110 mm UPVC
90 mm UPVC
75 mm UPVC
63 mm UPVC
50 mm UPVC



P-TRAP 90°



ELBOW 90°



ELBOW 45°



TEE 87.5°



Y 45°

COUPLING



Size

160 mm UPVC
110 mm UPVC
90 mm UPVC
75 mm UPVC
63 mm UPVC
50 mm UPVC

COUPLING REDUCER



Size

160X110 mm UPVC
110X 75 mm UPVC
110X 50 mm UPVC

CLEAN OUT



Size

160 mm UPVC
110 mm UPVC
75 mm UPVC
50 mm UPVC

DOUBLE TEE



Size

160 mm UPVC
110 mm UPVC
75 mm UPVC
50 mm UPVC

ELBOW WITH DOOR



Size

160 mm UPVC
110 mm UPVC

FEMALE THREADED ELBOW (Plastic)

Size 50 x 1 1/2 UPVC
50 x 1 1/4 UPVC



Size

160 mm UPVC
110 mm UPVC

Size

160X110 mm UPVC
110X 50 mm UPVC

Size

160X110 mm UPVC
110X 50 mm UPVC

Size

160 mm UPVC
110 mm UPVC
75 mm UPVC
50 mm UPVC

Size

160X110 mm UPVC
110X 50 mm UPVC



TEE WITH DOOR



REDUCED TEE WITH DOOR



TEE REDUCED



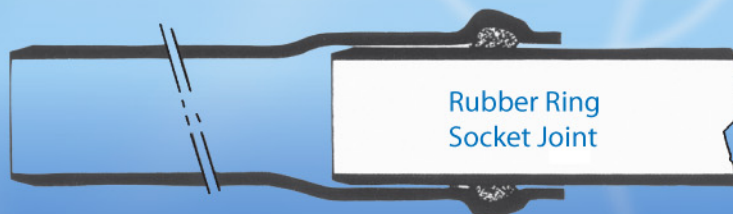
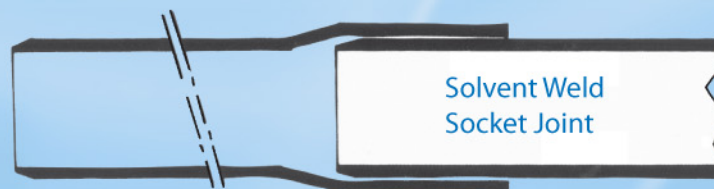
DOUBLE Y 45°



REDUCED Y 45°

MPF PIPES ACCORDING TO (ISO STANDARDS & DIN 8061 / 2)
DIMENSIONS & WEIGHTS OF RIGID U.P.V.C PRESSURE PIPES

Nominal Outside Diameter (mm)	Series 1 (2 Bar)		Series 2 (4 Bar)		Series 3 (6 Bar)		Series 4 (10 Bar)		Series 5 (16 Bar)	
	Thickness (mm)	Weight (Kg/m)	Thickness (mm)	Weight (Kg/m)	Thickness (mm)	Weight (Kg/m)	Thickness (mm)	Weight (Kg/m)	Thickness (mm)	Weight (Kg/m)
016									1.2	0.090
020									1.5	0.137
025							1.5	0.174	1.9	0.212
032							1.8	0.264	2.4	0.342
040					1.8	0.334	1.9	0.350	3.0	0.525
050					1.8	0.422	2.4	0.552	3.7	0.809
063					1.9	0.562	3.0	0.854	4.7	1.289
075			1.8	0.642	2.2	0.782	3.6	1.220	5.6	1.820
090			1.8	0.774	2.7	1.130	4.3	1.750	6.7	2.610
110	1.8	0.950	2.2	1.160	3.2	1.640	5.3	2.610	8.2	3.900
125	1.8	1.080	2.5	1.480	3.7	2.130	6.0	3.340	9.3	5.010
160	1.8	1.390	3.2	2.410	4.7	3.440	7.7	5.470	11.9	8.170
200	1.8	1.740	4.0	3.700	5.9	5.370	9.6	8.510	14.9	12.800
225	1.8	1.960	4.5	4.700	6.6	6.760	10.8	10.800	16.7	16.100
250	2.0	2.400	4.9	5.650	7.3	8.310	11.9	13.200	18.6	19.900
315	2.5	3.780	6.2	9.020	9.2	13.200	15.0	20.900	23.4	31.500
400	3.2	6.100	7.9	14.500	11.7	21.100	19.1	33.700	29.7	50.800
450	3.6	7.650	8.9	18.300	13.2	26.800	21.5	42.700		
500	4.0	9.370	9.8	22.400	14.6	32.900	23.9	52.600		
630	5.0	14.700	12.4	35.700	18.4	52.200	30.0	83.200		



MPF UPVC Pipes Based on DIN EN 1329 -1 & ISO 3633

Applications: Pipes for Soil & Waste discharge inside the buildings

Nominal Size mm	32	40	50	63	75	82	90	110	125	140	160	200	250	315
Type: B Nominal wall Thickness, mm	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.2	3.2	3.2	3.2	-	-	-
Type: BD Nominal Wall Thickness, mm	-	-	-	-	3.0	3.0	3.0	3.2	3.2	3.5	4.0	4.9	6.2	7.7

• Length: 3.0 & 6.0 Meters

• Color: Dark Grey

• SOCKET TYPE: Rubber Joint R/J type - supplied from size 50 mm up to 315 mm. Solvent cement (SC/J) type - supplied from size 32 mm up to 315 mm.

• None Standard lengths & Colors are available on request.

MPF UPVC Pipes Based on DIN EN 1401-1 & ISO 4435

Applications: Pipes for Underground Drainage & Sewerage

Nominal Size mm	50	75	110	125	160	200	250	315	400	450	500	630	710
SDR 51 (SN 2) Nominal Wall Thickness, mm	1.8	2.2	2.7	3.0	3.6	4.0	4.9	6.2	7.9	-	-	-	-
SDR 41 (SN 4) Nominal Wall Thickness, mm	-	-	3.2	3.2	4.0	4.9	6.2	7.7	9.8	11.0	12.3	15.4	17.4
SDR 34 (SN 8) Nominal Wall Thickness, mm	-	-	3.2	3.7	4.7	5.9	7.3	9.2	11.7	13.2	14.6	18.4	-

• Length: 3.0 & 6.0 Meters

• Color: Dark Grey

• SOCKET TYPE: Rubber Joint R/J type - supplied from size 50 mm up to 315 mm. Solvent cement (SC/J) type - supplied from size 32 mm up to 315 mm.

• None Standard lengths & Colors are available on request.

MPF UPVC Pipes According to BS 3505/3506

Applications: Water Supply, Irrigation Systems & Industrial use.

Nominal Size Inch.	Outside Diameter mm		Class 'B'		Class 'C'		Class 'D'		Class 'E'		Class 'O'		Class '6'		Class '7'	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
3/8	17	17.3							1.5	1.9			2.3	2.8	3.2	3.8
1/2	21.2	21.5							1.7	2.1			2.8	3.3	3.7	4.3
3/4	26.6	26.9							1.9	2.5			2.9	3.4	3.9	4.5
1	33.4	33.7							2.2	2.7			3.4	4	4.5	5.2
1 1/4	42.1	42.4					2.2	2.7	2.7	3.2			3.6	4.2	4.8	5.5
1 1/2	48.1	48.4					2.5	3	3.1	3.7	1.8	2.2	3.7	4.3	5.1	5.9
2	60.2	60.5			2.5	3	3.1	3.7	3.9	4.5	1.8	2.2			5.5	6.3
2 1/2	75	75.3			3	3.5	3.9	4.5	4.8	5.5	1.8	2.2				
3	88.7	89.1	2.9	3.4	3.5	4.1	4.6	5.3	5.7	6.6	1.8	2.2				
4	114.1	114.5	3.4	4	4.5	5.2	6	6.9	7.3	8.4	2.3	2.8				
5	140	140.4	3.8	4.4	5.5	6.4	7.3	8.4	9	10.4	2.6	3.1				
6	168	168.5	4.5	5.2	6.6	7.6	8.8	10.2	10.8	12.5	3.1	3.7				
8	218.8	219.4	5.3	6.1	7.8	9	10.3	11.9	12.6	14.5	3.1	3.7				

Note: The maximum pressure rating given above is based on water 73° F or 23 C° & for unthreaded pipes.

• Length: 5.8 & 6.0 Meters

• Color: White

• SOCKET TYPE: Plain, Solvent cement (SC/J)

• None Standard lengths & Colors are available on request.

MPF UPVC Pressure Pipes According to EN 1452 & ISO 4422
Applications: Pressure Pipes

Nominal Outside Diameter	Nominal (minimum) Wall Thickness							
	Pipe Series S							
	S 20 (SDR 41)	S 16,7 (SDR 34,4)	S 16 (SDR 33)	S 12,5 (SDR 26)	S 10 (SDR 21)	S 8 (SDR 17)	S 6,3 (SDR 13,6)	S 5 (SDR 11)
	Nominal Pressure PN Based On Service (Design) Coefficient C=2,5							
dn		PN 6	PN 6	PN 8	PN 10	PN 12,5	PN 16	PN 20
12		-	-	-	-	-	-	1,5
16		-	-	-	-	-	-	1,5
20		-	-	-	-	-	-	1,9
25		-	-	-	-	-	-	2,3
32		-	-	1,5	1,6	1,9	2,4	2,9
40		-	1,5	1,6	1,9	2,4	3,0	3,7
50		1,5	1,6	2,0	2,4	3,0	3,7	4,6
63		1,9	2,0	2,5	3,0	3,8	4,7	5,8
75		2,2	2,3	2,9	3,6	4,5	5,6	6,8
90		2,7	2,8	3,5	4,3	5,4	6,7	8,2
		PN 6	PN 7,5	PN 8	PN 10	PN 12,5	PN 16	PN 20
110		2,7	3,2	3,4	4,2	5,3	6,6	8,1
125		3,1	3,7	3,9	4,8	6,0	7,4	9,2
140		3,5	4,1	4,3	5,4	6,7	8,3	10,3
160		4,0	4,7	4,9	6,2	7,7	9,5	11,8
180		4,4	5,3	5,5	6,9	8,6	10,7	13,3
200		4,9	5,9	6,2	7,7	9,6	11,9	14,7
225		5,5	6,6	6,9	8,6	10,8	13,4	16,6
250		6,2	7,3	7,7	9,6	11,9	14,8	18,4
280		6,9	8,2	8,6	10,7	13,4	16,6	20,6
315		7,7	9,2	9,7	12,1	15,0	18,7	23,2
355		8,7	10,4	10,9	13,6	16,9	21,2	26,1
400		9,8	11,7	12,3	15,3	19,1	23,7	29,4
450		11,0	13,2	13,8	17,2	21,5	26,7	33,1
500		12,3	14,6	15,3	19,1	23,9	29,7	36,8
560		13,7	16,4	17,2	21,4	26,7	-	-
630		15,4	18,4	19,3	24,1	-	-	-
710		17,4	20,7	21,8	27,2	-	-	-
800		19,6	23,3	24,5	30,6	-	-	-
900		22,0	26,3	27,6	-	-	-	-
1000		24,5	29,2	30,6	-	-	-	-

- * Length: 3.0 & 6.0 Meters
- * Color: Grey
- * SOCKET TYPE: Rubber Joint R/J type - supplied from size 50 mm up to 630 mm.
Solvent Cement (SC/J) type - supplied from size 16 mm to 630 mm.
- * None Standard lengths & Colors are available on request.
- * Sequence with ASTM & European standards BS 3506, DIN 8062, ASTM 1785.