



# Pressure Piping System

Plain Ended | Socket Ended | Rubber Ring Joint







## PROFILE

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In 1971, PALING Industries was established to produce uPVC and mPVC pipes and fittings in Malaysia and through the years has expanded its wide range of products from pipes and fittings to sanitary products like plastic cisterns and other accessories for various applications in water and building industries.

In 2001, PALING entered into a global partnership with the Etex Plastics Group, now known as Aliaxis, a world leader in plastic piping systems. With a reputation equally based on the same high principles of customer service, product excellence and technical innovation, a substantial investment program has taken place to support these common aims.

### Stringent factory quality control, key to our success

Strict internal control over our products enables PALING to meet the relevant Malaysian, British, Australian, American and Japanese high standards and to be certified by SIRIM (Standard and Industrial Research Institute of Malaysia). Such certifications enable us to obtain local authorities approvals for use in the public and private projects and such rigor, help us build a reputation of excellence amongst the most demanding international contractors, for products meeting daily the highest demanding architectural and structural requirements.

It is not surprising then that the task of supplying the required pipes and fittings to mega projects such as KLCC (one of the tallest building in the world), KLIA (Kuala Lumpur International Airport) and Putrajaya (the new Administrative Center of the Federal Government of Malaysia) was best awarded to the specialist who has the resources, expertise and experience to meet the intricate and challenging specification requirement.

### Wide range of innovative products, key to your success

The unmistakable reliable quality and adaptability has resulted in PALING products being widely used from classic to high-tech infrastructure projects such as water supply, construction of buildings and telecommunication, qualifying PALING in playing the significant role in national development.

PALING's product ranges from uPVC pressure pipes and fittings, soil, waste and vent (SWV) system, underground sewer system, rainwater piping system to telecom and electrical conduits. Accurate control of dimensions & performance, excellent hydraulic flow characteristics, economical and simple to install features are among the benefits of using PALING products.

It's no wonder the versatile and comprehensive ranges of PALING products receive recognition among authorities and contractors who are discerning in their choice of piping system.



## OUR SERVICES

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Paling Industries has for more than 30 years been directly involved in the manufacture and supply of uPVC & mPVC pipes and fittings for pressure and non-pressure applications as well as plastic sanitary products in the building and construction industries.

Technical and Commercial  
Assistance for  
every technical  
advice on building site

To date, thousands of kilometers of PALING piping are in service in water mains, soil, waste and vent (SWV) system, underground sewage scheme, as well as fibre optic cable network. In line with the company's commitment to product quality, PALING Industries has been continuously engaged in enhancing its material formulation, processing equipment and tools, and testing facilities in order to improve the performance and reliability of its products.

Our technical and sales teams assure an active presence at site and dedicate their time to acquaint clients with our product range. Our technical department answers every special demand and proposes solutions to clients' requirement.

For a quick supply  
to your building site  
delivery within  
72 hours

PALING supplies more than 1200 items through an extensive network of specialized distributors equipped with modern and efficient logistic, ensuring delivery, throughout major towns in peninsular Malaysia within 72 hours.\*

*\* Subject to Terms and Conditions.*

## CUSTOM-MADE PRODUCT SERVICES

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For all your specific needs on parts and fittings, we provide custom-made products to meet your specification.

To meet your specification, our team of engineers studies your special request in order to produce according to your specific needs.





## TRAINING CENTER

In this competitive age where customer's satisfaction prevails, we believe in working hand in hand with our fellow installers to ensure continuous product reliability and excellent workmanship to secure a niche in the market. In Paling, despite offering our customers premium quality products, we are also here to share our years of experience in this industry. Well equipped with technical expertise that has mature jobsite experience, our training centre offers programs that impart invaluable knowledge and introduces practical skills of good work practices to optimize the quality of any installation. In addition, we share insights of standards and regulations to keep our partners in the industry abreast of the latest development.

### Our Concept

- To provide comprehensive knowledge
- To upgrade skills
- To improve qualifications and competencies

### Our Target

PALING is to ensure that the applicant demonstrates his or her ability to properly prepare and assemble plastic plumbing materials used in plumbing systems.

### Subjects

- Plumbing
- Sewerages
- Water Reticulation
- Sanitary



The quality of the solvent cemented joint determines the effectiveness of the plastic pipe system as a whole. For this reason, we offer data sheets, booklets, an installation video, installation training and certification seminars as complete educational packages to those who take good joining techniques as seriously as we do.

## PLEASE CONTACT OUR SALES TEAM

Tel : 603 - 6189 8333 (General)  
603 - 6189 6389 (Sales)  
Fax : 603 - 6188 3810  
Email : [sales@paling.com.my](mailto:sales@paling.com.my)



## OFFICIAL CERTIFICATION

For years, PALING'S range of uPVC & mPVC Pipes and Fittings has its quality controlled, approved and certified by SIRIM and SPAN



## PIPES

TYPE	NOM. SIZE (mm)	SPECIFICATION
PN 6 / Class B	80, 100, 155, 200, 250, 300	BS3506:1969 / BS 4346:PT.2:1970
PN 9 / Class C	80, 100, 155, 200, 250, 300	MS 628:1999 / BS3505 1986 / BS 4346:PT.2:1970
PN 12 / Class D	32, 40, 50, 65, 80, 100, 155, 200, 250 & 300	MS 628:1999 / BS3505 1986 / BS 4346:PT.2:1970
PN 15 / Class E	15, 20, 25, 32, 40, 50, 65, 80, 100, 155, 200, 250 & 300	MS 628:1999 / BS3505 1986 / BS 4346:PT.2:1970
Class 6	15, 20, 25	BS 3506:1969 / BS 4346:PT.2:1970
Class 7	15, 20, 25, 32, 40 & 50	BS 3506:1969 / BS 4346:PT.2:1970

## FITTINGS

TYPE	NOM. SIZE (mm)	SPECIFICATION
Double End Socket		BS 4346: PT.1:1969
Class E	15, 20, 25, 32, 40 & 50	
End Cap		BS 4346: PT.1:1969
Class E	15, 20, 25, 32, 40 & 50	
Equal Elbow		BS 4346: PT.1:1969
Class D	80 & 100	
Class E	15, 20, 25, 32, 40 & 50	
Equal Tee		BS 4346: PT.1:1969
Class D	80 & 100	
Class E	15, 20, 25, 32, 40 & 50	
Faucet Elbow		BS 4346: PT.1:1969
Class D	32, 40 & 50	
Class E	15, 20 & 25	
Faucet Socket		BS 4346: PT.1:1969
Class E	15, 20, 25, 32, 40 & 50	
Reducing Bush		BS 4346: PT.1:1969
Class E	20x15, 25x15, 25x20, 32x25, 40x25, 40x32 & 50x32	
Reducing Socket		BS 4346: PT.1:1969
Class D	80x50, 100x80	
Class E	20x15, 25x15, 25x20, 32x20, 32x25, 40x25, 40x32, 50x32 & 50x40	
Reducing Tee		BS 4346: PT.1:1969
Class D	80x50, 100x80	
Class E	20x15, 25x15, 25x20, 32x20, 32x25, 40x25, 40x32, 50x32 & 50x40	
Tank Connector		BS 4346: PT.1:1969
Class E	15, 20 & 25	
Tap Connector		BS 4346: PT.1:1969
Class E	15	
Valve Socket		BS 4346: PT.1:1969
Class E	15, 20, 25, 32, 40 & 50	

## Standard and Qualification

### Pressure Pipes

- ❖ Dimensions and performance meet the requirement of standards.
- ❖ High quality of finish with smooth internal and external surfaces.
- ❖ Provides low coefficient of flow friction.

### Safe & Environmental Friendly

- ❖ Lead Free Formulation - our commitment in contributing to a better environment.

## Bell - Mouth Pressure Pipes (Rubber Ring Joint)

The Rubber Ring Joint Pressure Pipe has a watertight joint for use in pressure of 6 to 15 bar applications. The Spigot and socket type joint is formed with a widening of the wall of the pipe on one end. The joint is then sealed with a rubber ring.

The Rubber Ring system is located on the tip of the spigot end of the pipe. When the pipes are joined, the rubbering is compressed from the tip down the barrel. The seal is formed between the Socket and the Spigot end.

Joining rings are supplied with the pipe. We recommend the use of lubricant approved for use with potable water supply lines. Other lubricants may not be suitable for potable water contact and may affect the ring. They should not be substituted without specific knowledge of these effects.



## Solvent Cement Joint

Solvent Cement Jointing is a welding and not a glueing process, applying solvent cement resulting a crosslinking effect between spigot and socket in pipes & fitting respectively. Hence achieving a good Joint is critical in Solvent Cement Jointing. The spigot and socket ends must be free from dust, cracked, damaged and be squared, in order to make a good Joint.

### Socket Ended Pipes



### Plain Ended Pipes

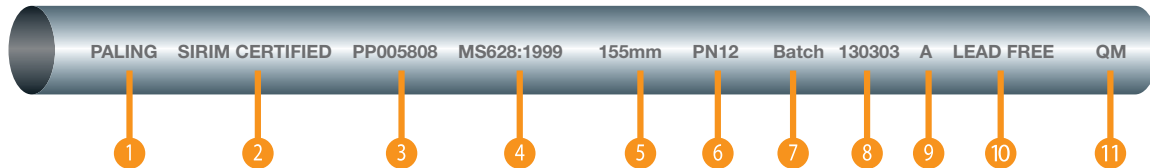




## Standard and Qualification

### Pipe Marking

- |                                                            |                                              |                             |
|------------------------------------------------------------|----------------------------------------------|-----------------------------|
| 1: The word "PALING" or Paling Logo with the word "PALING" | 4: Standard conformance and year of standard | 8: Manufacturing date       |
| 2: The word SIRIM CERTIFIED or MS Logo                     | 5: Nominal size                              | 9: Manufacturing Shift code |
| 3: SIRIM License number                                    | 6: Pressure rating                           | 10: Lead Free               |
|                                                            | 7: Batch                                     | 11: Quality Mark            |



### Official Certification

For years, **PALING's** range of uPVC Pressure Pipes & Fittings has its quality controlled, approved and certified by **SIRIM** and **SPAN**



Supplied in plain end or socket at one end  
for solvent weld connection to pipes or fittings.

**PN6 / CLASS B****BS 3506**

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		WALL THICKNESS e (mm)		LENGTH L (m)	D2	L1		E
		min	max	min	max			min	max	min
* 1100 080 60 B	80	88.7	89.1	2.9	3.4	6	89.4	77	97	20
* 1100 100 60 B	100	114.1	114.5	3.4	4.0	6	114.8	97	117	23
* 1100 155 60 B	155	168.0	168.5	4.5	5.2	6	168.9	140.5	170.5	27
* 1100 200 60 B	200	218.8	219.4	5.3	6.1	6	219.8	187	221	34
* 1100 250 60 B	250	272.6	273.4	6.6	7.6	6	273.9	224	264	41
* 1100 300 60 B	300	323.4	324.3	7.8	9.0	6	324.8	264.5	304.5	47

Available in Solvent Cement Joint & Plain Ended

\* Available in Rubber Ring Joint (Blue & Grey)

**PN 9 / Class C****MS628/BS 3505**

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		WALL THICKNESS e (mm)		LENGTH L (m)	D2	L1		E
		min	max	min	max			min	max	min
* 1100 080 60 C	80	88.7	89.1	3.5	4.1	6	89.4	77	97	20
* 1100 100 60 C	100	114.1	114.5	4.5	5.2	6	114.8	97	117	23
* 1100 155 60 C	155	168.0	168.5	6.6	7.6	6	168.9	140.5	170.5	27
* 1100 200 60 C	200	218.8	219.4	7.8	9.0	6	219.8	187	221	34
* 1100 250 60 C	250	272.6	273.4	9.7	11.2	6	273.9	224	264	41
* 1100 300 60 C	300	323.4	324.3	11.5	13.3	6	324.8	264.5	304.5	47

Available in Solvent Cement Joint & Plain Ended

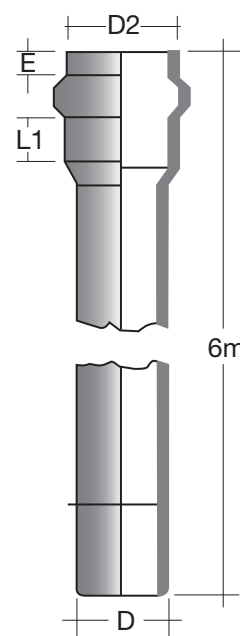
\* Available in Rubber Ring Joint (Blue & Grey)

**PN 12 / Class D****MS628/BS 3505**

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		WALL THICKNESS e (mm)		LENGTH L (m)	D2	L1		E
		min	max	min	max			min	max	min
1100 032 40 D	32	42.1	42.4	2.2	2.7	4	42.5	40	50	
1100 040 40 D	40	48.1	48.4	2.5	3.0	4	48.6	44	64	
1100 050 40 D	50	60.2	60.5	3.1	3.7	4	60.7	48	68	
1102 065 60 D	65	75.0	75.3	3.9	4.5	6	75.5	60	80	
* 1102 080 60 D	80	88.7	89.1	4.6	5.3	6	89.4	77	97	20
* 1102 100 60 D	100	114.1	114.5	6.0	6.9	6	114.8	97	117	23
* 1102 155 60 D	155	168.0	168.5	8.8	10.2	6	168.9	140.5	170.5	27
* 1102 200 60 D	200	218.8	219.4	10.3	11.9	6	219.8	181	221	34
* 1102 250 60 D	250	272.6	273.4	12.8	14.8	6	273.9	224	264	41
* 1100 300 60 D	300	323.4	324.3	15.2	17.5	6	324.8	264.5	304.5	47

Available in Solvent Cement Joint & Plain Ended

\* Available in Rubber Ring Joint (Blue & Grey)



Supplied in plain end or socket at one end  
for solvent weld connection to pipes or fittings.

## PN 15 / Class E

## MS628/BS 3505

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		WALL THICKNESS e (mm)		LENGTH L (m)	D2	L1		E min
		min	max	min	max			min	max	
1100 015 40 E	15	21.2	21.5	1.7	2.1	4	21.6	23	33	
1100 020 40 E	20	26.6	26.9	1.9	2.5	4	27	24	34	
1100 025 40 E	25	33.4	33.7	2.2	2.7	4	33.8	27	37	
1100 032 40 E	32	42.1	42.4	2.7	3.2	4	42.5	40	50	
1100 040 40 E	40	48.1	48.4	3.1	3.7	4	48.6	44	64	
1100 050 40 E	50	60.2	60.5	3.9	4.5	4	60.7	48	68	
1102 065 60 E	65	75.0	75.3	4.8	5.5	6	75.5	60	80	
* 1102 080 60 E	80	88.7	89.1	5.7	6.6	6	89.4	77	97	20
* 1102 100 60 E	100	114.1	114.5	7.3	8.4	6	114.8	97	117	23
* 1102 155 60 E	155	168.0	168.5	10.8	12.5	6	168.9	140.5	170.5	27
* 1102 200 60 E	200	218.8	219.4	12.6	14.5	6	219.8	181	221	34
* 1102 250 60 E	250	272.6	273.4	15.7	18.1	6	273.9	224	264	41
* 1100 300 60 E	300	323.4	324.3	18.7	21.6	6	324.8	264.5	304.5	47

Available in Solvent Cement Joint & Plain Ended

\* Available in Rubber Ring Joint (Blue & Grey)

## PRESSURE PIPE - CLASS 6

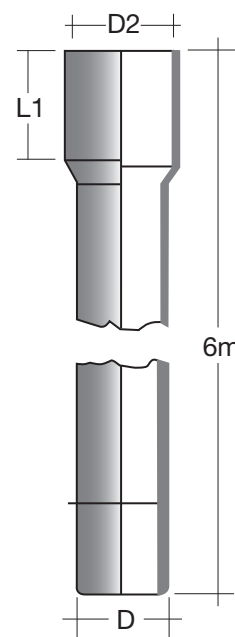
## BS 3506

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		WALL THICKNESS e (mm)		PRESSURE RATING (bar)	LENGTH L (m)	D2	L1	
		min	max	min	max				min	max
1100 015 40 6	15	21.2	21.5	2.8	3.3	28	4	21.6	23	33
1100 020 40 6	20	26.6	26.9	2.9	3.4	22	4	27	24	34
1100 025 40 6	25	33.4	33.7	3.4	4.0	24	4	33.8	27	37

## PRESSURE PIPE - CLASS 7

## BS 3506

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		WALL THICKNESS e (mm)		PRESSURE RATING (bar)	LENGTH L (m)	D2	L1	
		min	max	min	max				min	max
1100 015 40 7	15	21.2	21.5	3.7	4.3	40	4	21.6	23	33
1100 020 40 7	20	26.6	26.9	3.9	4.5	32	4	27	24	34
1100 025 40 7	25	33.4	33.7	4.5	5.2	32	4	33.8	27	37
1100 032 40 7	32	42.1	42.4	4.8	5.5	28	4	42.5	40	50
1100 040 40 7	40	48.1	48.4	5.1	5.9	25	4	48.6	44	64
1100 050 40 7	50	60.2	60.5	5.5	6.3	22	4	60.7	48	68



Available in Solvent Cement Joint & Plain Ended

\* Available in Rubber Ring Joint (Blue & Grey)

## Joining Method for Rubber Ring Joint

1. Clean dirt and grit from socket



2. Clean the exterior of the pipe before applying the lubricant



3. Apply lubricant on spigot



4. Insert the pipe until the white line



## Assembly of Pipes with Rubber Ring Joints

The assembly of one pipe to another may be performed using various methods. One of the most successful methods employs a rubber ring joint. The rubber ring joint may be either of integral socket design (formed as a continuous, homogeneous entity with the pipe) or it may consist of a separate sleeve-type coupling. The joint provides the following advantages:

- ❖ Allowance for expansion and contraction.
- ❖ Reliably assembled in poor weather conditions.
- ❖ Consistent reliability.
- ❖ Flexibility and resiliency.
- ❖ Labour saving and overall economical.
- ❖ Ease of installation.

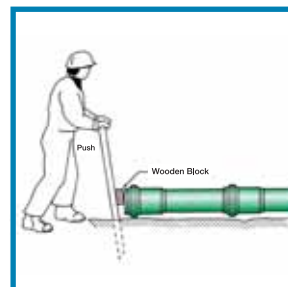
## Joining Method

When the rings are colour coded, be sure to consult the pipe manufacturer or their literature for the difference. In all cases, clean the ring, the socket or the coupling interior, especially the groove (except when the ring is permanently installed) and the spigot with a rag, brush or paper towel to remove any dirt or foreign material before assembling. Inspect the ring, pipe spigot chamber, ring groove and sealing surfaces for damages or deformation. Use only rings which are designed for and supplied with the pipe. Insert them as recommended by the manufacturer.

Lubricant should be applied as specified by the pipe manufacturer. Bacterial growth, damage to gaskets or the pipe, may result from the use of non-approved lubricants. Use only the lubricant supplied by the pipe manufacturer.



*Use only the lubricant supplied by Paling Industries Sdn Bhd*



*While keeping the lengths in proper alignment, brace the socket and push the spigot into the bell. The spigot should be inserted until the reference mark on the pipe barrel is even with the edge of the socket.*

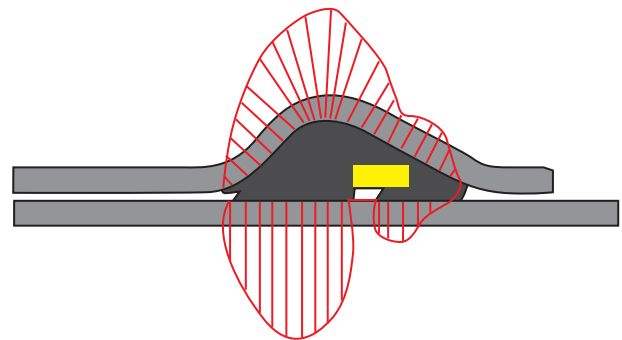
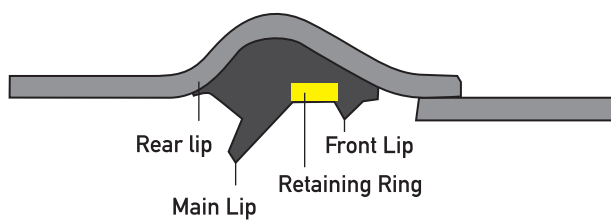


## Advantages of Bell-Mouth

### Joint with Locked-in Pipe Seal

Application advantages of Paling Bell-Mouth Rubber Ring Joint (RRJ) piping fitted with the locked-in pipe seal:

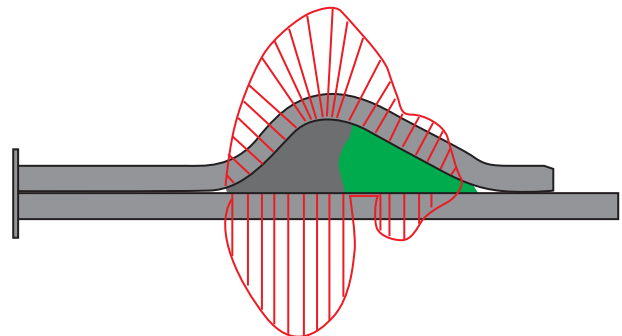
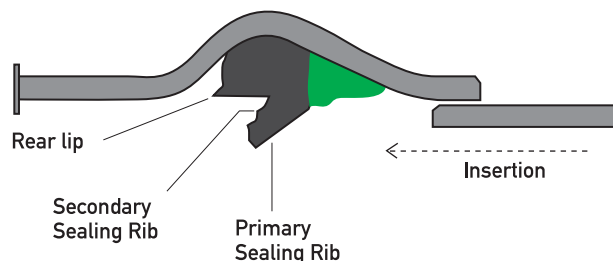
- ❖ High burst strength and high impact strength.
- ❖ Thickened pipe wall at the socket ensures rigidity and circularity are maintained under high external load and internal pressure.
- ❖ The seal is fitted in the pipe socket at the factory, making pipe-laying work easier and faster.
- ❖ Accurately formed seal groove ensures that the locked-in seal is securely positioned in the groove during transport and assembly. Risk of seal displacement during installation is eliminated.
- ❖ Exclusive seal design maximizes the advantages of both sealing principles in a combined lip and compression seal. It reduces the assembly force required and absorbs any permissible variations in the groove.
- ❖ Sealing can withstand extremely high pressure without the seal being dislodged. No risk of pulsation leak due to wide pressure fluctuations in the pipeline.



### Joint with Dual Hardness Pipe Seal

Application advantages of Paling Bell-Mouth Rubber Ring Joint (RRJ) piping fitted with dual hardness pipe seal:

- ❖ One piece construction seal with Hard and Soft rubber bonded firmly together.
- ❖ Hard rubber for retaining. Soft rubber for sealing.
- ❖ No loose retaining ring of device needed.
- ❖ Designed to be retained tightly in the socket groove and yet, can be removed for cleaning purposes prior to assembly.
- ❖ The exclusive "DOUBLE COMPRESSION LIPS" design gives extra compression, hence provides additional sealing performance against spigot and socket.
- ❖ The sealing lip is designed to prevent sand and / or other foreign particles from penetrating the joint.



## Standard and Qualification

### Pressure Pipes

- ❖ Dimensions and performance meet the requirement of standards.
- ❖ High quality of finish with smooth internal and external surfaces.
- ❖ Provides low coefficient of flow friction.

### Safe & Environmentally Friendly

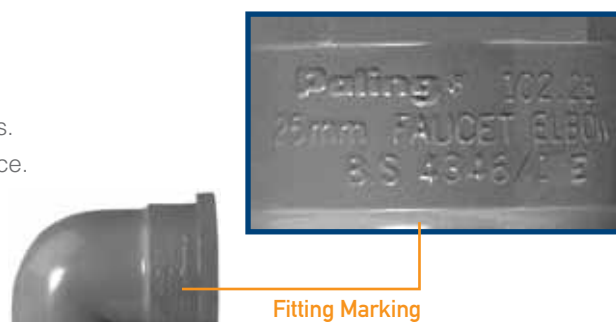
- ❖ Lead Free Formulation - our commitment in contributing to a better environment.

### Pressure Fittings

- ❖ Wall thickness of fittings and materials are formulated to achieve strength that exceeds the performance of standards.
- ❖ High quality of finish with smooth internal and external surface.
- ❖ Provides low coefficient of flow friction.

PALING products are accurately designed and formulated to consistently and continuously exceed the performance aspects of standards, especially in terms of hydrostatic pressure resistance.

With SIRIM and ISO 9001:2008 certifications, they undoubtedly provide an independent assurance to users or customers that PALING products are manufactured under an effective system of inspection, testing, supervision and control.



Fitting Marking

*Paling • The word "Paling" or Paling Logo  
25mm • Nominal Size  
BS 4346/1 • Standard Conformance  
E • Pressure Rating*

## Official Certification

For years, **PALING's** range of uPVC Pressure Pipes & Fittings has its quality controlled, approved and certified by

**SIRIM** and **SPAN**

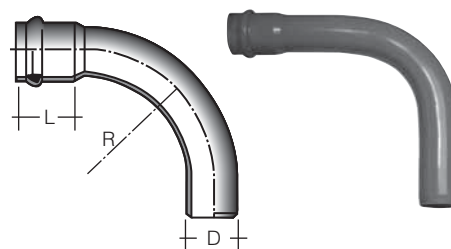


CERTIFIED TO ISO 9001:2008  
CERT. NO. : AR 3012

## 90° BEND

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		SOCKET LENGTH L (mm)	RADIUS R (mm)
		min	max		
2130 080	80	88.7	89.1	135.0	262
2130 100	100	114.1	114.5	145.0	385
2130 155	155	168.0	168.5	165.0	700

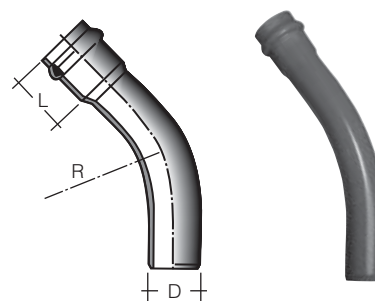
Fabricated from pipe



## 45° BEND

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		SOCKET LENGTH L (mm)	RADIUS R (mm)
		min	max		
2131 080	80	88.7	89.1	135.0	262
2131 100	100	114.1	114.5	145.0	385
2131 155	155	168.0	168.5	165.0	700

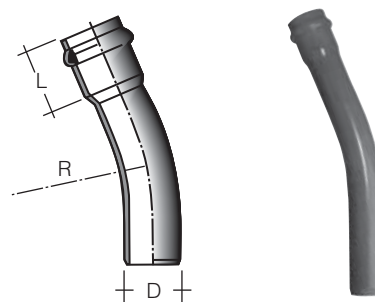
Fabricated from pipe



## 22.5° BEND

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		SOCKET LENGTH L (mm)	RADIUS R (mm)
		min	max		
2132 080	80	88.7	89.1	135.0	262
2132 100	100	114.1	114.5	145.0	385
2132 155	155	168.0	168.5	165.0	700

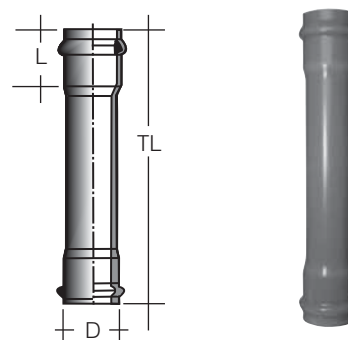
Fabricated from pipe



## DOUBLE END SOCKET

CODE NO.	NOM. SIZE (mm)	MEAN OUTSIDE DIAMETER D (mm)		SOCKET LENGTH L (mm)	RADIUS TL (mm)
		min	max		
2133 080	80	88.7	89.1	135.0	293.0
2133 100	100	114.1	114.5	145.0	341.0
2133 155	155	168.0	168.5	165.0	382.0
2133 200	200	218.8	219.4	185.0	425.0
2133 250	250	272.6	273.4	210.5	481.0
2133 300	300	323.4	324.3	227.9	526.0

Fabricated from pipe

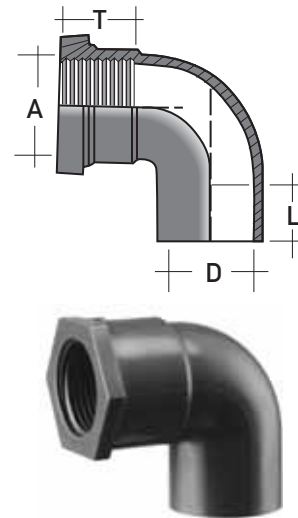


## FAUCET ELBOW

To connect faucet or ball valve to uPVC water supply line.  
Threaded at one end and solvent weld to pipe on the other end.

CODE NO.	NOM. SIZE (mm)	L	DIMENSIONS (mm)		
			A	T	D
2102 015	15	24.5	17.5	28.0	21.6
2102 020	20	23.0	21.0	28.0	27.0
2102 025	25	26.0	26.0	37.0	33.8
2102 032	32	29.0	26.0	37.0	42.5
2102 040	40	34.5	25.5	35.0	48.6
2102 050	50	33.0	34.0	43.0	60.7
* 2EGGHFVNN	65	44.0	64 +	30.2	65 +
* 2EGGLFVPP	80	51.0	76 +	33.3	80 +
* 2EGGLFVQQ	100	63.0	102 +	39.3	100 +

\* Imported fittings from Aliaxis  
+ Nominal Dimensions

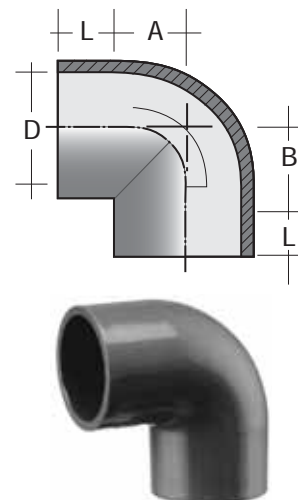


## EQUAL ELBOW

To solvent weld pipes at both ends.

CODE NO.	NOM. SIZE (mm)	L	DIMENSIONS (mm)		
			A	B	D
2103 015	15	24.0	12.0	15.0	21.6
2103 020	20	26.0	28.0	28.0	27.0
2103 025	25	26.0	21.0	18.0	33.8
2103 032	32	32.0	33.5	33.5	42.5
2103 040	40	37.5	25.0	27.0	48.6
2103 050	50	43.0	43.0	43.0	60.7
* 2EGGHVNN	65	44.0	40.5	40.5	65 +
2103 080	80	51.0	44.0	53.0	89.4
2103 100	100	64.0	73.0	70.0	114.8
* 2EGGLVTT	155	90.0	90.0	90.0	155 +
* 2EGGLVVV	200	115.5	169.5	169.5	200 +

\* Imported fittings from Aliaxis  
+ Nominal Dimensions

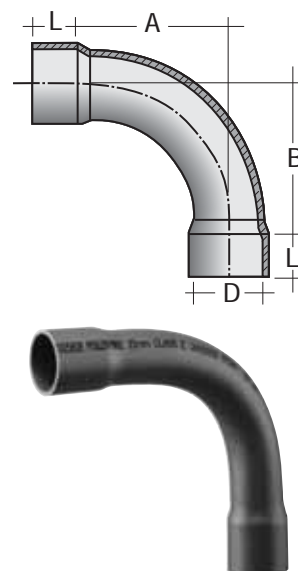


## 90° BEND

To solvent weld to pipes at both ends.

CODE NO.	NOM. SIZE (mm)	L	DIMENSIONS (mm)		
			A	B	D
2104 015	15	23.0	78.0	79.0	21.6
2104 020	20	24.0	79.0	79.0	27.0
2104 025	25	27.0	106.0	108.0	33.8
2104 032	32	40.0	72.0	83.0	42.5
2104 040	40	44.0	168.5	171.4	48.6
2104 050	50	48.0	233.0	220.0	60.7
2104 065	65	60.0	245.9	244.3	75.5
2104 080	80	77.0	245.0	227.0	89.4
2104 100	100	97.0	311.0	315.9	114.8
2104 155	155	140.5	559.0	650.5	168.9
2104 200	200	181.0	1200.0	1200.0	219.8
2104 250	250	224.0	1463.1	1463.1	273.9
2104 300	300	264.5	1661.3	1161.3	324.8

Fabricated from pipe



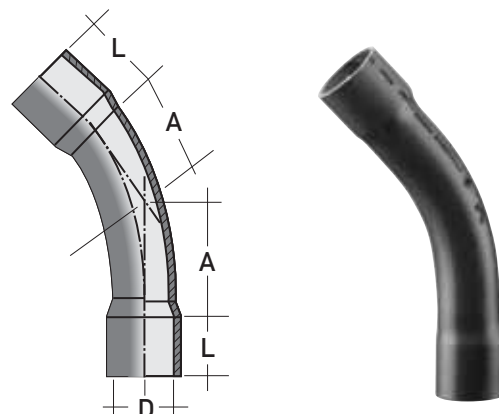


## 45° BEND

To solvent weld to pipes at both ends.

CODE NO.	NOM. SIZE (mm)	L	DIMENSIONS (mm)	
			A	D
2105 015	15	23.0	39.0	21.6
2105 020	20	24.0	50.0	27.0
2105 025	25	27.0	65.0	33.8
2105 032	32	40.0	130.0	42.5
2105 040	40	44.0	103.3	48.6
2105 050	50	48.0	160.0	60.7
2105 065	65	60.0	152.9	75.5
2105 080	80	77.0	210.0	89.4
2105 100	100	97.0	186.5	114.8
2105 155	155	140.5	247.0	168.9

Fabricated from pipe



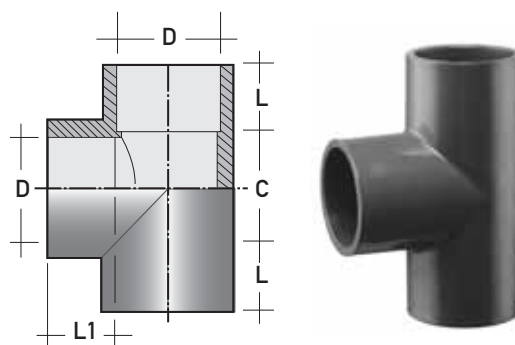
## EQUAL TEE

To solvent weld to pipes at both ends.

CODE NO.	NOM. SIZE (mm)	L	DIMENSIONS (mm)		
			C	L1	D
2106 015	15	24.5	27.0	25.0	21.6
2106 020	20	28.0	32.0	27.0	27.0
2106 025	25	26.0	32.0	25.0	33.8
2106 032	32	34.0	57.0	31.0	42.5
2106 040	40	38.0	50.0	35.0	48.6
2106 050	50	43.0	71.0	37.0	60.7
* 2ETTHVNN	65	44.0	81.0	44.0	65 +
2106 080	80	51.0	92.0	50.0	89.4
2106 100	100	61.0	129.0	62.0	114.8
* 2ETLLVTT	155	90.0	180.0	90.0	155 +
* 2ETLLVVV	200	115.5	232.0	155.5	200 +

\* Imported fittings from Aliaxis

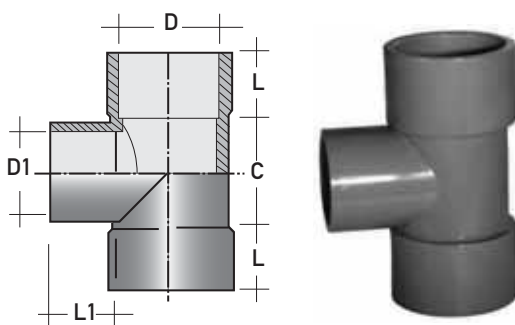
+ Nominal Dimensions



## REDUCING TEE

To solvent weld to pipes or fittings at each end.

CODE NO.	NOM. SIZE (mm)	L	C	DIMENSIONS (mm)		
				L1	D	D1
2107 020 015	20x15	23.0	29.0	22.0	27.0	21.6
2107 025 015	25x15	26.0	42.0	22.0	33.8	21.6
2107 025 020	25x20	26.0	32.5	23.0	33.8	27.0
2107 032 020	32x20	32.0	25.0	23.0	42.5	27.0
2107 032 025	32x25	32.0	54.0	26.0	42.5	33.8
2107 040 025	40x25	38.0	18.8	28.0	48.6	33.8
2107 040 032	40x32	38.0	42.0	34.0	48.6	42.5
2107 050 032	50x32	41.5	44.0	32.5	60.7	42.5
2107 050 040	50x40	41.5	65.0	35.6	60.7	48.6
2107 080 050	80x50	60.0	65.0	43.5	89.4	60.7
2107 100 080	100x80	72.0	89.0	60.0	114.8	89.4

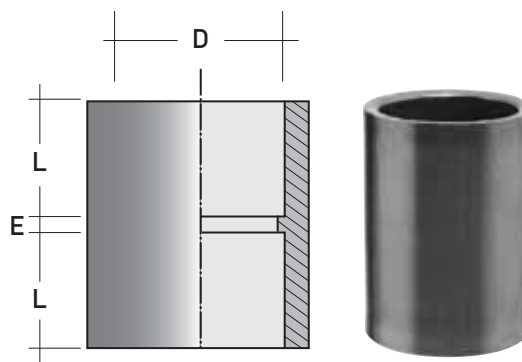


## DOUBLE END SOCKET

To solvent weld to pipes.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)		
		L	E	D
2108 015	15	24.0	2.0	21.6
2108 020	20	26.0	2.0	27.0
2108 025	25	28.0	2.0	33.8
2108 032	32	35.0	8.0	42.5
2108 040	40	36.0	8.0	48.6
2108 050	50	39.0	8.0	60.7
2108 065 (F)	65	75.0	22.0	75.5
2108 080 (F)	80	76.5	22.5	89.4
2108 100 (F)	100	92.0	51.0	114.8
2108 155 (F)	155	144.0	52.0	168.9
2108 200 (F)	200	240.0	55.0	219.8

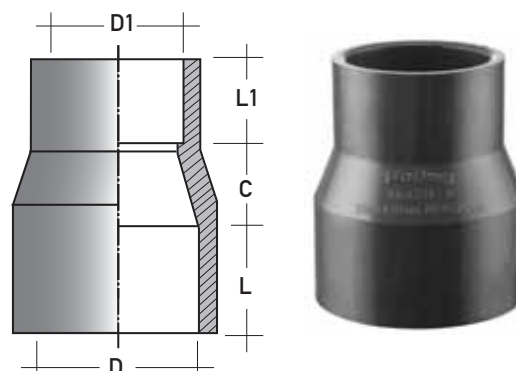
(F) Fabricated from pipe



## REDUCING SOCKET

To solvent weld two pipes of different diameters.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)				
		L	L1	C	D	D1
2109 020 015	20x15	22.0	22.0	15.0	27.0	21.6
2109 025 015	25x15	23.0	16.5	14.5	33.8	21.6
2109 025 020	25x20	26.0	23.0	16.5	33.8	27.0
2109 032 020	32x20	30.0	22.0	21.0	42.5	27.0
2109 032 025	32x25	26.0	21.0	19.0	42.5	33.8
2109 040 025	40x25	33.0	26.0	18.0	48.6	33.8
2109 040 032	40x32	29.0	24.0	19.0	48.6	42.5
2109 050 032	50x32	39.0	21.0	25.0	60.7	42.5
2109 050 040	50x40	35.0	28.0	20.0	60.7	48.6
2109 080 050	80x50	55.0	41.5	31.5	89.4	60.7
2109 100 080	100x80	71.0	58.5	25.0	114.8	89.4



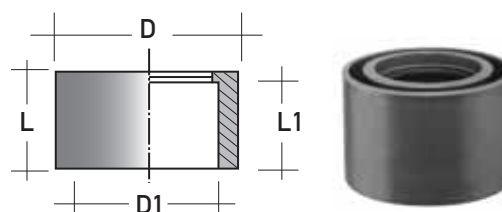
## REDUCING BUSH

To solvent weld two pipes or fittings of different diameters.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)			
		L	L1	D	D1
2110 020 015	20x15	16.0	20.0	26.7	21.6
2110 025 015	25x15	19.0	28.0	33.5	21.6
2110 025 020	25x20	18.5	28.0	33.5	27.0
2110 032 025	32x25	27.5	31.0	42.2	33.8
2110 040 025	40x25	26.0	35.0	48.2	33.8
2110 040 032	40x32	30.0	35.0	48.2	42.5
2110 050 032	50x32	30.0	40.0	60.3	42.5
* 2EDRMLVLJ	50x40	31.0	38.0	50 +	40 +
* 2EDRMLVPL	80x50	38.0	51.0	80 +	50 +
* 2EDRMLVQP	100x80	51.0	63.0	100 +	80 +
* 2EDRMLVTQ	155x100	63.0	90.0	155 +	100 +
* 2EDRMLVVT	200x155	90.0	115.5	200 +	155 +

\* Imported fittings from Aliaxis

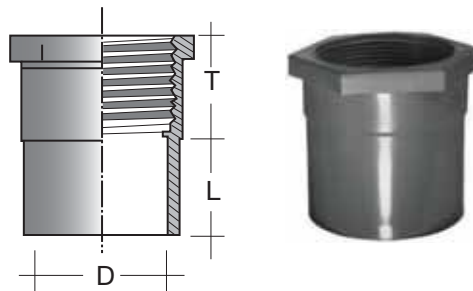
+ Nominal Dimensions



## FAUCET SOCKET

To connect faucet or ball valves directly to uPVC pipe.

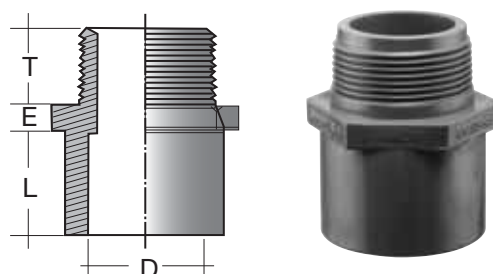
CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)		
		L	T	D
2111 015	15	22.0	25.0	21.6
2111 020	20	23.0	28.0	27.0
2111 025	25	26.5	29.0	33.8
2111 032	32	35.0	30.0	42.5
2111 040	40	42.0	34.0	48.6
2111 050	50	36.5	32.0	60.7



## VALVE SOCKET

To connect stop-valves to uPVC pipe.

CODE NO.	NOM. SIZE (mm)	L	DIMENSIONS (mm)		
			E	T	D
2112 015	15	25.0	4.0	19.0	21.6
2112 020	20	26.0	8.0	19.0	27.0
2112 025	25	30.0	8.0	23.0	33.8
2112 032	32	35.0	8.0	25.0	42.5
2112 040	40	38.0	7.0	26.0	48.6
2112 050	50	44.0	11.0	29.0	60.7



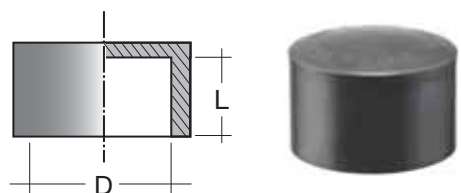
## END CAP

To cap or seal end of uPVC pipe with solvent cement.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)	
		L	D
2113 015	15	22.0	21.6
2113 020	20	20.0	27.0
2113 025	25	25.0	33.8
2113 032	32	16.5	42.5
2113 040	40	33.0	48.6
2113 050	50	36.0	60.7
* 2ECCHVNN	65	44.0	65 +
* 2ECCLVPP	80	51.0	80 +
* 2ECCLVQQ	100	63.5	100 +

\* Imported fittings from Aliaxis

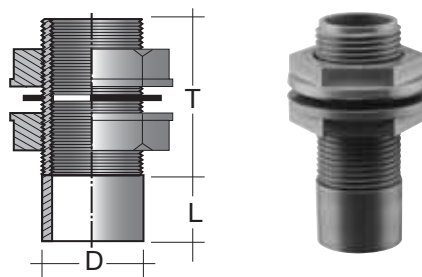
+ Nominal Dimension



## TANK CONNECTOR with Straight Backnut

To connect tank to faucet socket or G.I. socket.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)		
		L	T	D
2114 015	15	22.0	46.0	21.3
2114 020	20	23.0	51.0	26.7
2114 025	25	25.0	60.0	33.5

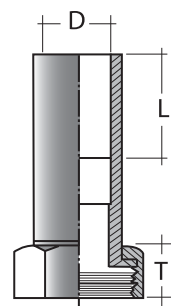


## TAP CONNECTOR

To connect to basin faucets or valve socket of pipeline for easy maintenance and repair.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)		
		L	T	D
2115 015	15	67.2	20.0	21.6

Also available in other configuration  
i.e. Tap Connector Elbow

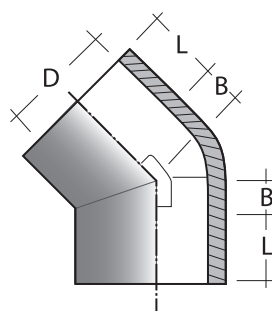


## 45° Elbow

To solvent weld pipes at both ends.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)		
		L	B	D
2117 015	15	21.5	7.5	21.6
* 2EHLLVGG	20	19.5	5.5	20 +
* 2EHLLVHH	25	22.5	7.0	25 +
* 2EHLLVHII	32	26.0	10.5	32 +
* 2EHLLVJJ	40	31.0	11.5	40 +
* 2EHLLVLL	50	38.0	14.0	50 +
* 2EHLLVNN	65	44.0	17.0	65 +
* 2EHLLVPP	80	51.0	21.0	80 +
* 2EHLLVQQ	100	61.0	26.0	100 +

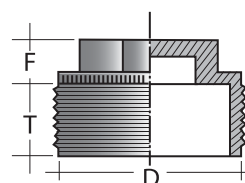
\* Imported fittings from Aliaxis  
+ Nominal Dimensions



## THREADED PLUG

To cap or seal end of uPVC pipe.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)		
		F	T	D
2118 015	15	11.0	15.8	23.7
2118 040	40	18.2	25.3	49.2

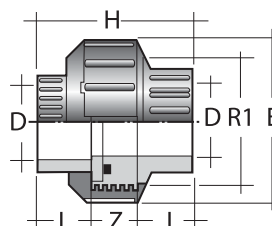


## SOCKET UNION

To connect faucet or ball valves directly to uPVC pipe.

CODE NO.	NOM. SIZE (mm)	DIMENSIONS (mm)						
		H	L	Z	E	R1	D	
* 2EBLLVFF	15	45	16	13	40.5	25 +	15 +	
* 2EBLLVGG	20	51	19	13	50.0	32 +	20 +	
* 2EBLLVHH	25	57	22	13	57.5	38 +	25 +	
* 2EBLLVHII	32	67	26	15	71.5	51 +	32 +	
* 2EBLLVJJ	40	79	31	17	79.0	57 +	40 +	
* 2EBLLVLL	50	98	38	21	98.0	70 +	50 +	

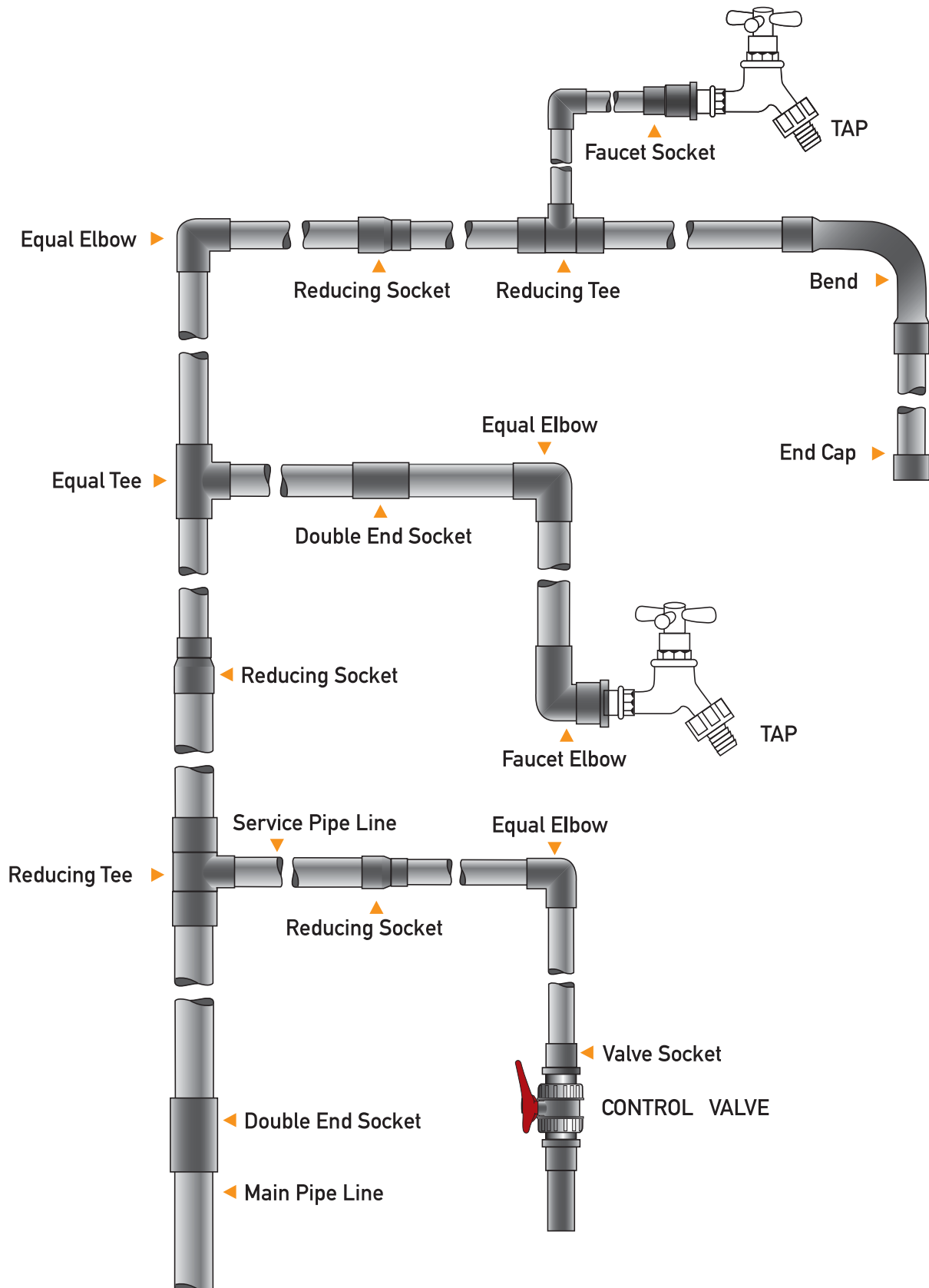
\* Imported fittings from Aliaxis  
+ Nominal Dimensions





## Typical Layout

### Pressure Pipe & Fittings System







# Schedule 80



## Schedule 80 Pipes

### Standards & Quality

- Sch. 80 pipe is manufactured to comply with NSF Standard 61, CSA B 137.3 and ASTM D1785, consistently meeting the Quality Assurance test requirements of the standard with regards to burst pressure, flattening and extrusion quality.



### Applications

- Sch. 80 pipe is resistant to most acids, alkalis, salts, fats, oxidants and halogens. However, Sch. 80 pipe should not be used with ester, ketones, ethers and aromatic or chlorinated hydrocarbons.
- Typical applications include:
  - Chemical processing
  - Agricultural
  - Potable water
  - Treated and untreated effluent
  - Cooling water
  - Irrigation
  - Industrial process piping

### Temperature Consideration

- Being a thermoplastic material, Sch. 80 pipe will display variations in its physical properties as the temperature changes. As the temperature falls, the pipe's stiffness and tensile strength increase, thereby increasing the pipe's pressure capacity. Conversely, as the operating temperature rises, the pipe decreases in stiffness and tensile strength; consequently, the pressure capacity of the pipe will be reduced. With the drop in temperature, Sch. 80 pipe decreases in impact strength and becomes less ductile. As the temperature rises, the impact strength and flexibility of the pipe increase.

#### Thermal Linear Expansion

Sch. 80 pipe expands and contracts with change in temperature. The coefficient of thermal expansion is  $7 \times 10^{-5}$  mm/mm/C°. This is equivalent to 7mm change in length for every 10 meters for every 10°C change in temperature.

#### Pressure De-rating Factor

The pressure ratings given are for operating temperature of water at 73°F (23°C). For operating temperature above 73°F (23°C), the working pressure has to be de-rated by multiplying the working pressure of the selected pipe at 73°F (23°C), by the appropriate de-rating factor to determine the maximum permissible working pressure of the pipes at the elevated temperature chosen. Nevertheless, Sch. 80 pipe should not be used at temperature in excess of 140°F (60°C).

OPERATING F°	TEMP C°	DE-RATING FACTOR
73	23	1.00
80	26	0.88
90	32	0.76
100	38	0.64
110	43	0.54
120	49	0.42
130	54	0.32
140	60	0.20



## Schedule 80 Pipes (Plain Ended)

## Pipes Dimensions &amp; Working Pressures

PRODUCT CODE	NOMINAL DIAMETER		PIPE LENGTH L (M)	OUTSIDE DIAMETER		WALL THICKNESS		MAX WORKING PRESS	
	(in)	(mm)		(in)	(mm)	(in)	(mm)	(psi)	(MPa)
1100 015 60 80	½	15	6.0	0.836 - 0.844	21.2 - 21.4	0.147 - 0.167	3.7 - 4.2	850	5.86
1100 020 60 80	¾	20	6.0	1.046 - 1.054	26.6 - 26.8	0.154 - 0.17	3.9 - 4.4	690	4.76
1100 025 60 80	1	25	6.0	1.310 - 1.320	33.3 - 33.5	0.179 - 0.200	4.6 - 5.1	630	4.34
1100 032 60 80	1¼	32	6.0	1.655 - 1.665	42.0 - 42.3	0.191 - 0.214	4.9 - 5.4	520	3.59
1100 040 60 80	1½	40	6.0	1.894 - 1.906	48.1 - 48.4	0.200 - 0.224	5.1 - 5.7	470	3.24
1100 050 60 80	2	50	6.0	2.369 - 2.381	60.2 - 60.5	0.218 - 0.244	5.5 - 6.2	400	2.76
1100 065 60 80	2½	65	6.0	2.868 - 2.882	72.8 - 73.2	0.276 - 0.309	7.0 - 7.8	420	2.90
1100 080 60 80	3	80	6.0	3.492 - 3.508	88.7 - 89.1	0.300 - 0.336	7.6 - 8.5	370	2.55
1100 100 60 80	4	100	6.0	4.491 - 4.509	114.1 - 114.5	0.337 - 0.377	8.6 - 9.6	320	2.21
1100 155 60 80	6	155	6.0	6.614 - 6.636	168.0 - 168.6	0.432 - 0.484	11.0 - 12.3	280	1.93
1100 200 60 80	8	200	6.0	8.610 - 8.640	218.7 - 219.5	0.500 - 0.560	12.7 - 14.2	250	1.72
1100 250 60 80	10	250	6.0	10.735 - 10.765	272.7 - 273.4	0.593 - 0.664	15.1 - 16.9	230	1.59
1100 300 60 80	12	300	6.0	12.735 - 12.765	323.5 - 324.2	0.687 - 0.769	17.5 - 19.5	230	1.59

## ADVANTAGES

**Chemical resistance:**

Sch. 80 pipes have excellent chemical resistance which allows the transportation of many acids, alkalis and chemical concentrates without fear of corrosion and environmental pollution.

**Abrasion resistance:**

Sch. 80 pipes offer good resistance to abrasion and erosion from aggressive slurries, which can rapidly damage steel or other traditional pipe materials.

**Smooth bore:**

The exceptionally smooth bore results in low friction head losses and also inhibits the formation of scale, with consequent savings in pump energy consumption and reduced pressure drops.

**Light weight:**

At 5 times lighter than steel pipe, Sch. 80 pipes are much easier to handle, especially during installation at site.

**Easy to join:**

Solvent welding gives fast and trouble free installation and allows simple modifications to existing systems.



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*The Expert in Water Delivery System*

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