

## Effast PVCu and ABS

Performance under pressure



## Solvent Jointing Guide

EFFAST from Polypipe is a well-established brand name that is recognised throughout both the industrial process market and construction industries for its market-leading range of thermoplastic pipework systems suitable for use within industrial applications.

The company now provides these components to customers all over the world and leads the way in the research and development of advanced new solutions that satisfy the specific needs of the market.

Polypipe, with its large UK based manufacturing capabilities, has developed Effast's comprehensive product portfolio such that it now offers a proven and effective solution to virtually any requirement.

No matter what the project, the Effast range can offer the perfect combination of pressure pipe fittings, ball, butterfly, diaphragm and actuated valves, compression joints, adaptors and other fittings.

Normally available in both metric and imperial dimensions these products are suited to many different commercial applications in such areas as food and beverage processing, chemical manufacture, water treatment and agriculture.

Outstanding performance and reliability have come to represent the hallmarks by which Polypipe EFFAST products are recognised and with these products also carrying BSI Kite Mark accreditation and conforming to various other European standards they can be specified with complete confidence.

Dedicated to supporting its customers at every stage the company also complements its products and systems with a full technical information and support service, while a nationwide distribution network means that products are readily available, even when needed next day.

For further information please see our contact details on the back cover of this leaflet.

# PVCu and ABS solvent jointing procedure

## Important Information

- Always use Personal Protective Equipment - gloves and eye protection
- Always carry out work in a well ventilated area
- Always refer to Material Safety Data Sheets
- Dispose of waste responsibly
- Failure to follow the jointing procedure may invalidate any warranties given

PROCEDURE		EQUIPMENT								
<p>1. Cut the pipe at right angles to its axis and to the required length.</p> <p>Deburr the cut end of the pipe with a sharp knife or scraper.</p>		<p>Pipe cutter Saw Scraper or knife</p>								
<p>2. Chamfer the leading edge of the pipe at approximately 15° to 30°.</p> <p>This will prevent the solvent cement being wiped from both the pipe and fitting when mated together and will also help to build up a ring of solvent around the chamfer, thus ensuring a proper seal.</p>	 <table border="1" data-bbox="508 821 798 927"> <thead> <tr> <th>Pipe Size</th> <th>Chamfer size (mm)</th> </tr> </thead> <tbody> <tr> <td>3/8" (16mm)</td> <td>2</td> </tr> <tr> <td>1/2" - 1 1/2" (20 - 50mm)</td> <td>3 - 4</td> </tr> <tr> <td>2" - 8" (63 - 225mm)</td> <td>5 - 6</td> </tr> </tbody> </table>	Pipe Size	Chamfer size (mm)	3/8" (16mm)	2	1/2" - 1 1/2" (20 - 50mm)	3 - 4	2" - 8" (63 - 225mm)	5 - 6	<p>Chamfering tool Fine disc angle grinder, file or abrasive paper (80 - 100 grit)</p>
Pipe Size	Chamfer size (mm)									
3/8" (16mm)	2									
1/2" - 1 1/2" (20 - 50mm)	3 - 4									
2" - 8" (63 - 225mm)	5 - 6									
<p>3. Mark the pipe back from the chamfered end to a length equal to the socket depth plus 5mm.</p> <p>This mark will act as a visual indicator to show that the pipe is fully inserted into the socket.</p>		<p>Marker pen</p>								
<p>4. Roughen or clean the pipe surface with solvent cleaner (up to the indicator mark) and the inside of the socket. Do not roughen the pipe and fitting to the extent that the clearance between them is noticeably increased.</p>		<p>Abrasive paper / cloth (80 - 100 grit)</p>								
<p>5. Clean the inner surface of the socket and the surface of the pipe up to the mark using a lint free cloth or absorbent paper dampened with Effast solvent cleaner.</p>		<p>Lint free cloth or absorbent paper Effast solvent cleaner</p>								

**PROCEDURE**

**EQUIPMENT**

6. Select the correct solvent cement, PVCu to PVCu, ABS to ABS (failure to use the recommended solvent cement may invalidate any warranties given).
- Apply the cement straight from the tin and ensure all relevant surfaces are covered.
- Read the instructions on the tin. Avoid using excessive amounts of solvent cement.



- Effast PVCu cement
- Effast ABS cement
- Brush (half the diameter of the socket)

Joints are normally made in temperatures between 5 - 25°C. The maximum time before the cement is too dry for jointing is approximately 3 minutes. In hot weather this time is reduced, but the joint must still be made whilst the cement is wet. At temperatures below 5°C the curing time will be considerably increased.

7. Push fittings/pipe together without twisting and ensure that they are aligned and fully engaged (the indicator mark should be in line with the edge of the socket) then hold the assembly for a short time as specified.	Pipe Size	Holding Time (minutes)
	3/8" - 2" (16mm - 63mm)	½
	2½" - 4" (75 - 119mm)	¾
	5" - 8" (140 - 225mm)	1
	10" - 12" (250 - 315mm)	2

When the joint is made, an O-ring of cement is formed between the pipe chamfer and the internal socket wall. This ring helps to ensure seal integrity. A bead of cement will show around the external junction of the pipe and fitting, this should be wiped off leaving the outer part of the joint clean. Do not disturb for at least 10 - 15 minutes to ensure that the weld integrity is maintained. After this period, the assembly can be carefully handled, prepared for further jointing or left for the recommended curing time which is:

Up to 8" (225mm)

After 24 hours      The pipe system can be fully pressure tested

The number of operators:

For joints of up to 2½" (75mm) 1 person is required, from 3" (90mm) up to 6" (160mm) 2 persons are needed, for 8" (225mm) and above 3 people are required.

Pipe work should be ventilated during the joining and curing processes. Never seal a pipe system which has been newly jointed as the trapped vapours can cause damage. Positive ventilation with a small air blower is recommended to purge systems with multiple joints.

# Information

## RECOMMENDED JOINTS PER LITRE OF EFFAST CEMENT

Inch	Pipe Size		Thermoplastic Material	
	mm	PVCu	ABS	
3/8" - 1"	16 - 32	300	400	
1 1/4 - 2	40 - 63	120	175	
2 1/2 - 3	75 - 90	50	70	
4	110	30	45	
5	140	20	30	
6	160	15	25	
8	200 - 225	8	15	
10	250 - 280	3	4	
12	315	3	4	

### Important points

- Heavy equipment should be supported independently from the pipeline. i.e. valves, strainers, etc
- Pipe clips should be made to allow linear expansion of the pipeline, and if lined the lining should be of a material compatible with the pipeline.
- Mastics, intumescent mastics, adhesive tapes and labels should not be used (as many degrade plastics), unless manufacturers provide documents of adhesive or mastic compatibility.
- Insulation must be considered very carefully, as a number of foam rubber insulation products and their adhesives may not be compatible with plastic pipes. Adhesives should only be used to bond the foam edges together, and should never be used to bond the insulation to the pipeline. Refer to manufacturers for compatibility data. For example, compatible insulations are fibre wools (Rockwool), polystyrene, etc.
- Trace heating tapes: Don't use tapes covered with plasticised PVC as this can react with thermoplastic pipes. Tapes with sheaths made from woven wire, polyester, or silicone rubber are acceptable.
- Oils: A number of synthetic oils are not suitable for use with plastic pipelines. Oils such as esters, organic phosphates, and polyalkylene glycols should be avoided.
- Health and safety: Solvent cement and cleaning fluid give off vapours that are dangerous to health. During jointing the work place must be well ventilated.

### Solvent Jointing - Do Not

- Make joints in rain or wet conditions.
- Use dirty brushes or cleaning rags.
- Use the same brushes with different solvent cements.
- Dilute or thin solvent cements with cleaner.
- Leave solvent cement tins open as the contents will evaporate and the cement performance will be reduced.
- Use near naked lights or smoke whilst jointing as solvents are highly inflammable.
- Make joints in a confined space as solvents emit hazardous vapours.