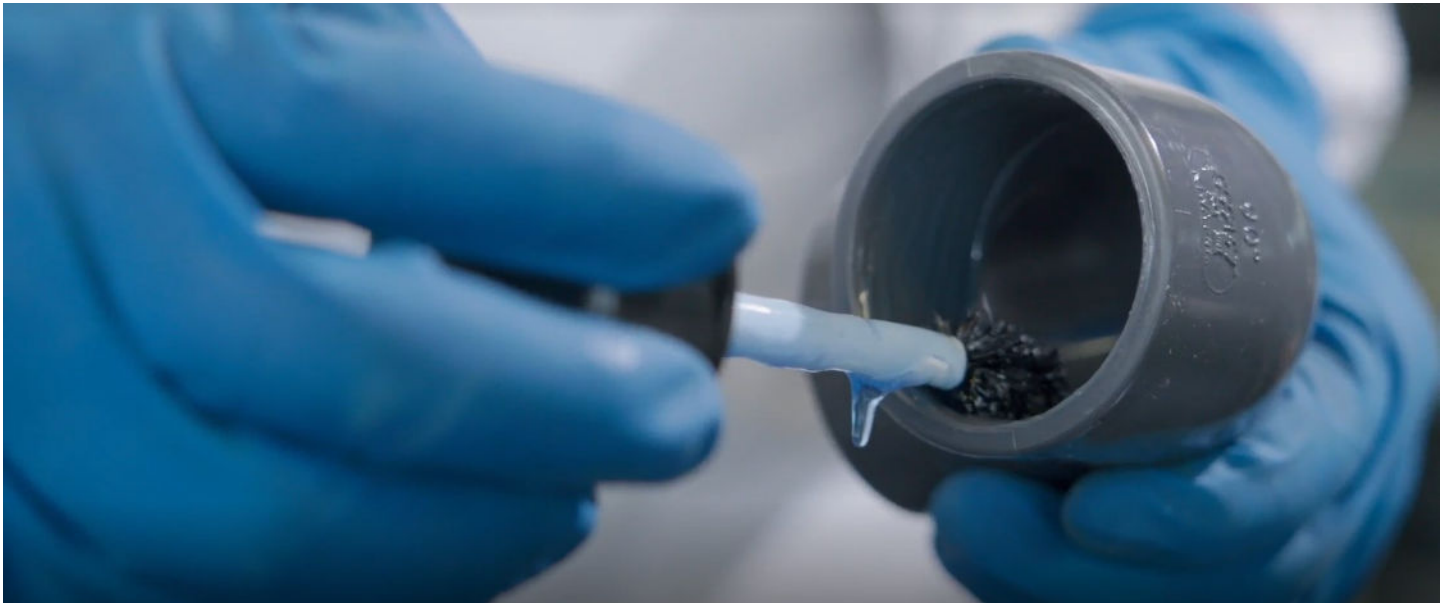


INSTRUCTIONS FOR SOLVENT CEMENTING PROCESS Plastic Piping Systems




Rev.02

INSTRUCTIONS FOR SOLVENT CEMENTING PROCESS

Plastic Piping Systems

Before starting

1. Prevent pipes from breaking or turning oval:
 - Transport pipes correctly: well lined, not in bulk; move them carefully and place them gently.
 - Store pipes correctly: stack them up to a maximum height of 1,50 meters; protect them from direct sunlight.
2. Be ware of local circumstances:
 - Work at temperatures between +5 and +25°C, if possible. **DO NOT use in temperatures below +5°C.**
 - Make sure to work in a clean and dry work place.
 - Work only in a well ventilated area.
 - Prevent risk of condensation.
3. Make sure you have everything you need:
 - Pipes / Fittings
 - Solvent cement / Cleaner
 - Tools
 - Personal protective equipment
4. Check equipment before getting started:
 - Do I have the right solvent cement? (EFFAST TITE for diameters up to 160 mm; EFFAST LARGE TITE for diameters over 160 mm)
 - Do I have the right amount? (See table “Consumption of solvent cement and cleaner”)
 - Is the quality still OK? (Check expiring date; the cement inside the packaging should not be dry)
 - Do pipes fit well into the fittings? (Pipe should enter the fitting and reach the bottom of the socket depth)
5.  Read the safety instructions on the label of the product and consult the safety data sheet (MSDS).

TOOLS:

- PVC saw (and mitre-box) or special pipe cutter
- Chamfer tool, deburring tool or file
- Permanent marker
- Cleaner cloth
- Brush (*brush size varies per packaging volume: use a suitable packaging and the enclosed brush for the diameter to be bonded - see information on datasheets*)

PERSONAL PROTECTIVE EQUIPMENT:

- Gloves
- Eye protection
- Appropriate respiratory equipment

Consumption of solvent cement and cleaner

Number of joints per 1 liter of cement:

EFFAST TITE & EFFAST LARGE TITE

Ø	32	40	50	63	75	90	110	125	160	200	250
#	650	290	160	100	90	70	40	30	20	12	8

EFFAST CLEANER

Ø	32	40	50	63	75	90	110	125	160	200	250
#	800	700	650	550	330	250	160	140	90	50	35

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Plastic Piping Systems

Preparation and Solvent cementing process

For large diameters, see Additional recommendations.

1. Cut pipes square, using PVC saw (with mitre box if possible) or special pipe cutter (*a diagonal cut reduces bonding area in the most effective and critical part of the joint*).
2. Chamfer the edges of the pipes at an angle of 15°, using a special chamfer tool, a deburring tool or a file (*it makes mounting more easy, it prevents scraping away of cement*). Deburr pipe edges if necessary, using a deburring tool or a file.
3. Measure put-in depth and mark this measure on the pipe: this will indicate where to apply cement. Mark the right assembly positions.



4. Clean surfaces with EFAST CLEANER and cleaner cloth (*cleaner prepares surfaces of pipes and fittings, and it cleans dirt, grease, or any foreign material that can prevent proper cementing*). Sanding is not necessary, especially on new PVC pipes and fittings (see more about sanding in the *Additional Recommendations*).
5. Let parts dry well (*prevent risk for condensation*).



6. Stir or shake the cement before using.
7. Apply cement rapidly and evenly all around (4-6x) on both surfaces (pipe thickly, socket thinly).
8. Assemble joint immediately, while cement is still wet. **DO NOT** assemble partially cured surfaces.
9. Hold the pipe and fitting together for a minimum of 30 seconds.



10. Remove excess cement with cleaner cloth and cleaner, avoiding moving the joint.
11. Close packaging immediately after use.
12. Respect drying times:
 - **DO NOT** load the joint mechanically for the first 10 minutes.
 - Wait until the curing time has elapsed before handling or testing the piping system (see "Curing time" tables).
13. Visually check the joint: after assembly, a joint should have a ring of cement completely around the juncture of the pipe and fitting. If gaps in this ring are present, sufficient cement was not applied and the joint may be defective.

INSTRUCTIONS FOR SOLVENT CEMENTING PROCESS

Plastic Piping Systems

Curing time

Curing time may vary depending on a.o. surface, product quantity used, humidity level and ambient temperature.

EFFAST TITE

	16 - 50 mm			63 - 110 mm			125 - 160 mm		
	5 bar	10 bar	16 bar	5 bar	10 bar	16 bar	5 bar	10 bar	16 bar
5 - 15 °C	30 min	1 h	4 h	1 h	2 h	8 h	4 h	16 h	32 h
> 15 °C	15 min	30 min	2 h	30 min	1 h	4 h	2 h	8 h	16 h

EFFAST LARGE TITE

	16 - 63 mm			75 - 110 mm			125 - 400 mm	
	5 bar	10 bar	16 bar	5 bar	10 bar	16 bar	5 bar	10 bar
5 - 10 °C	6 h	12 h	24 h	12 h	24 h	48 h	36 h	72 h
> 10 °C	2 h	4 h	8 h	4 h	8 h	16 h	12 h	24 h

Additional recommendations

Large diameters (over 160 mm)

following the instructions in the beginning of this guide along with the following additional recommendations:

- Use a flat brush to apply the cement.
- We recommend to use EFFAST LARGE TITE solvent cement.
- Increase size of joining crew: diameters from 160 mm to 225 mm: 2-3 people per joint; diameters over 250 mm: 3-4 people per joint. It is important that the cement is applied to pipe and fittings at the same time.

Extreme conditions - High temperatures (> 25°C)

- If possible, store fittings and pipe, or at least the ends to be joined, in a shady area before cementing.
- Cool the surfaces to be joined by wiping with a damp rag. Make sure that the surfaces are dry before applying solvent cement.
- It is preferable to do the solvent cementing during the cooler morning hours.
- Make sure that cement on both surfaces to be joined is still wet when you join them. Operations should be executed fast, so more people on the crew may be necessary.

Condensation

Condensation could cause adhesive failure. Prevent risk for condensation:

- Work fast (the longer the parts are exposed, the higher the risk)
- Dry surfaces well after cleaning with cleaner
- Make sure that the temperature of the cement, pipe and fittings is higher than the temperature of the work space

Sanding

Sanding itself is not necessary, especially on new PVC pipes and fittings. Cleaning with a proper PVC CLEANER will do the proper preparation (cleaning and pre-welding surfaces). Cleaning is much more important than sanding!



An exception to be judged carefully (important skills of the end-user) could be, e.g., on very old, discolored, or very dirty PVC pipe fitting surfaces.



In case of exceptional sanding, it is recommended to use soft sanding-pads, or light sandpaper with a high grit number (> 220). It is also recommended to sand the surfaces as little as necessary, so that the tolerances between the sanded surfaces of the pipe and fitting are not altered.

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Plastic Piping Systems

Safety

	Solvent cements and cleaners contain solvents: <ul style="list-style-type: none">• Read the safety instructions on the label of the product and consult the safety data sheet (MSDS).• Respect these safety instructions.
	Minimize the risk of getting exposed to solvents: <ul style="list-style-type: none">• Ventilate well, at the lowest place possible (solvents are heavier than air).• Immediate close packaging after use and deposit cleaning-rags etc. in a closed container.

	Use appropriate personal protection equipment.
	Work under normal hygienic conditions: <ul style="list-style-type: none">• Do not smoke, eat or drink during work.• Before breaks (eat, drink) take off work clothes and wash hands with water and soap.

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