

MAINLINE® SOLVENT CEMENT AVERAGE SET AND CURE TIMES

AVERAGE INITIAL SET SCHEDULE FOR MAINLINE® PVC/CPVC SOLVENT CEMENTS**

Temperature Range	Pipe Sizes ½" to 1¼" 20mm to 40mm	Pipe Sizes 1½" to 2" 50mm to 63mm	Pipe Sizes 2½" to 8" 75mm to 200mm	Pipe Sizes 10" to 15" 250mm to 380mm	Pipe Sizes 15"+ 380mm +
60°-100°F/16°-38°C	2 minutes	5 minutes	30 minutes	2 hours	4 hours
40°-60°F/5°-16°C	5 minutes	10 minutes	2 hours	8 hours	16 hours
0°-40°F/-18°-5°C	10 minutes	15 minutes	12 hours	24 hours	48 hours

Note - Initial set schedule is the necessary time to allow before the joint can be carefully handled.
In damp or humid weather allow 50% more set time.

AVERAGE JOINT CURE SCHEDULE FOR MAINLINE® PVC/CPVC SOLVENT CEMENTS**

Relative Humidity 60% or Less	Pipe Sizes ½" to 1¼" 20mm to 40mm		Pipe Sizes 1½" to 2" 50mm to 63mm		Pipe Sizes 2½" to 8" 75mm to 200mm		Pipe Sizes 10" to 15" 250mm to 380mm	Pipe Sizes 15"+ 380mm +
Temperature range during assembly and cure periods	up to 160 psi/ 11 Bar	160 to 370 psi/ 11 to 26 Bar	up to 160 psi/ 11 Bar	160 to 315 psi/ 11 to 22 Bar	up to 160 psi/ 11 Bar	160 to 315 psi/ 11 to 22 Bar	up to 100 psi/ 7 Bar	up to 100 psi/ 7 Bar
60°-100°F/16°-38°C	15 min	6 hrs	30 min	12 hrs	1½ hrs	24 hrs	48 hrs	72 hrs
40°-60°F/5°-16°C	20 min	12 hrs	45 min	24 hrs	4 hrs	48 hrs	96 hrs	6 days
0°-40°F/-18°-5°C	30 min	48 hrs	1 hour	96 hrs	72 hrs	8 days	8 days	14 days

Note - Joint cure schedule is the necessary time to allow before pressurizing system.
In damp or humid weather allow 50% more cure time.

** These figures are estimates based on testing done under laboratory conditions. Field working conditions can vary significantly. This chart should be used as a general reference only.

AVERAGE NUMBER OF JOINTS/QUART (1Kg) OF WELD-ON CEMENT*

Pipe Diameters	½" 20mm	¾" 25mm	1" 32mm	1½" 50mm	2" 63mm	3" 90mm	4" 110mm	6" 160mm	8" 200mm	10" 250mm	12" 315mm	15" 380mm	18" 450mm
Number of Joints	300	200	125	90	60	40	30	10	5	2-3	1-2	¾	½

Note - For Primer: Double the number of joints shown for cement.

* These figures are estimates based on our laboratory tests. Due to the many variables in the field, these figures should be used as a general guide only. **Note: 1 Joint = 1 Socket**

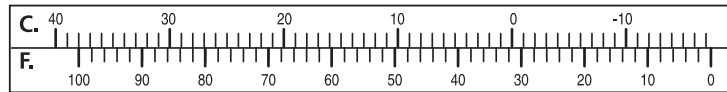
PIPE SIZE EQUIVALENT CHART - INCHES/MILLIMETERS

in.	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	8"	10"	12"	14"	18"	24"	30"
mm.	20	25	32	40	50	63	75	90	110	160	200	250	315	355	450	600	800

PRODUCT SHELF LIFE

Mainline Products	Shelf-life
Primers / Cleaners	3 years
PVC Solvent Cement	3 years
CPVC Solvent Cement	2 years

FAHRENHEIT TO CELSIUS CONVERSION CHART



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 **COLD WEATHER TIPS**

Good joints can be made with Mainline® solvent cement at sub-zero temperatures.

Working in freezing temperatures is never easy, but sometimes the job is necessary. If that unavoidable job includes solvent cementing plastic pipe, you can do it successfully with Mainline® solvent cements.

Mainline® solvent cements have excellent cold weather stability for virtually all practical applications. Our cements are formulated to have well-balanced drying characteristics and to have good stability in sub-freezing temperatures. In addition to our regular and low VOC cements, Mainline® offers a solvent cement specially formulated for cold weather applications.

By following our standard instructions and using a little extra care and patience, successful solvent cemented joints can be made at temperatures as low as -15°F (-26°C). In cold weather, solvent cements penetrate and soften the surfaces of plastic pipe and fittings more slowly than in warm weather. The plastic is also more resistant to solvent attack. Therefore, it is very important to pre-soften surfaces with an aggressive primer. A longer cure time is necessary due to a slower evaporation rate in cold weather.

Tips to follow when solvent cementing in cold weather

1. Prefabricate as much of the system as possible in a heated work area.
2. Store bulk quantities of primer & cement in a warm location above 40°F (4°C) when not in use and make sure they remain fluid. We recommend the use of smaller containers to transport the fluid products to the joint assembly work-site.
3. If Mainline® solvent cement is stored at a very cold temperature and gels, it can be reconstituted by bringing it into a warm environment (60°F - 90°F / 15°C - 32°C) and allowing it to sit for 24 hours. Do not try to artificially heat it in order to speed up the process. Before use, vigorously shake the solvent cement.
4. Take special care to remove moisture including ice and snow from the surfaces to be joined, especially from the ends of the pipe as well as fittings and valve sockets.
5. Ensure that the pipe, fittings, and valves are at the same temperature prior to priming and solvent cementing.
6. Use Mainline® Purple Primer for PVC CPVC to soften the joining surfaces before applying the solvent cement. More than one application may be necessary. Surfaces are sufficiently "primed" when scraping a blade on the treated part will result in the effortless removal of some plastic material.
7. Allow a longer cure period before the system is pressure tested. A heat blanket may be used to speed up the set and cure times.
8. Read and follow



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 **HOT WEATHER TIPS**

Good joints can be made with Mainline® solvent cements in the most extreme hot weather conditions.

There are many occasions when solvent cementing plastic pipe in 95°F (35°C) temperature and above cannot be avoided. However, by using Mainline® solvent cements and by following our standard instructions with a little extra care as outlined below, successful leak-proof joints can be made in even the most extreme hot weather conditions.

Solvent cements for plastic pipe contain high strength chemical solvents which evaporate faster at elevated temperatures. This is especially true when there is a hot wind blowing. If the pipe is stored in direct sunlight, the pipe surface temperature may be 20°- 30°F (10°-16°C) higher than the ambient temperature. The chemical solvents attack these hot surfaces faster and deeper, especially inside a joint. Therefore, it is very important to avoid puddling the solvent cement inside the fitting socket and to wipe off any excess solvent cement outside the joint.

Tips to follow when solvent cementing in hot weather

1. Store solvent cements and primers in a cool or shaded area prior to use.
2. If possible, store pipe and fittings, or at least the ends to be solvent cemented, in a shady area before solvent cementing.
3. Cool surfaces to be joined by wiping with a damp rag. Be sure that the surface is dry prior to applying the solvent cement.
4. Try solvent welding the joints during the cooler morning hours.
5. Make sure that both surfaces to be joined are still wet with the solvent cement when putting them together. With larger size pipe, more people on the crew may be necessary.
6. Using a primer and heavier, high viscosity solvent cement will provide a little more working time. Vigorously shake or stir the solvent cement before use.
7. There can be a greater expansion-contraction factor affecting the pipe in hot weather. We suggest you follow the advice of the pipe manufacturer regarding this condition. Anchored and final connections should be made during the cooler hours of the day.

