


PRESENTS...

SOLVENT CEMENTING

PVC CPVC

PLASTIC PIPE and FITTINGS



1

READ THIS BOOK AND FOLLOW DIRECTIONS ON CANS

Even if you have installed PVC or CPVC pipe and fittings before!



DALE R. KING
HALE OX

2

ASSEMBLY MATERIALS NEEDED

Primer
Clean Rags
Miter Box and Saw
Knife

Right cement for the kind and size of pipe and fittings you are installing.

Right size applicator for specific size of pipe being used.



3


CUT PIPE SQUARE

One good way is with a saw and miter box.

A wheel cutter designed for plastic may also be used.

If you use a wheel cutter, be sure to remove the burrs it makes with a file or deburring tool.

These right here.



Cutaway view of pipe

BURRS

4

REMOVE BURRS


Inside and out!



5

CLEAN PIPE WITH RAG

To remove dirt and moisture.




6

CHECK DRY FIT

The pipe must enter at least 1/4 to 3/4 of the way into the socket without forcing it!

A good fit can be assured of by using pipe and fittings that meet applicable ASTM standards and code approvals.

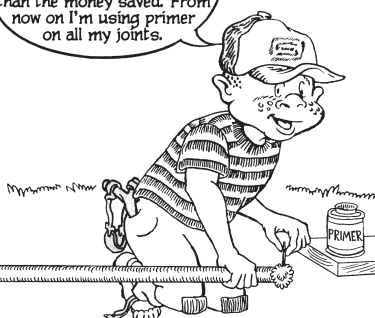
Now you are ready to solvent cement. Turn the page and read on...



7

APPLY PRIMER

I skipped this step once and the cost of fixing the leaks was much greater than the money saved. From now on I'm using primer on all my joints.



8

APPLY CEMENT WHILE PRIMER IS STILL WET...

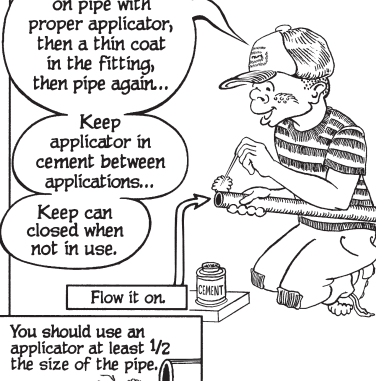
Flow cement on pipe with proper applicator, then a thin coat in the fitting, then pipe again...

Keep applicator in cement between applications...

Keep can closed when not in use.

Flow it on.

You should use an applicator of at least 1/2 the size of the pipe.



9

WORK QUICKLY WHILE APPLYING CEMENT



10

ASSEMBLE IMMEDIATELY

Be sure to bottom pipe in socket while both surfaces are still wet, twist the pipe a 1/4 turn while inserting, then...



11

...HOLD FOR ABOUT 30 SECONDS TO AVOID PUSHOUT

Get help on large sizes or use mechanical helpers!



12

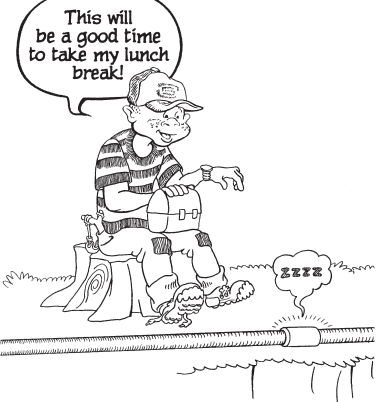
WIPE OFF EXCESS CEMENT



13

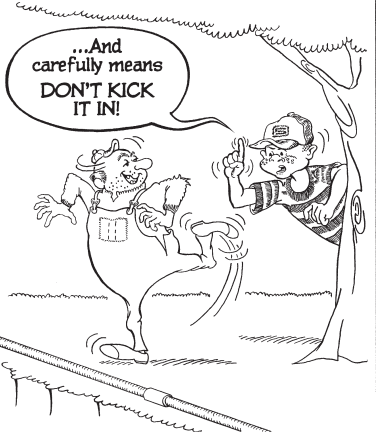
WAIT BEFORE DISTURBING

For recommended set times, see set schedule on page 22.



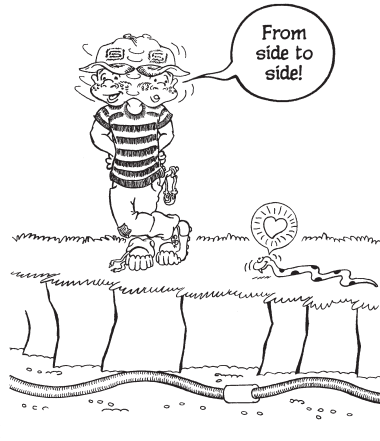
14

PUT IN DITCH CAREFULLY



15

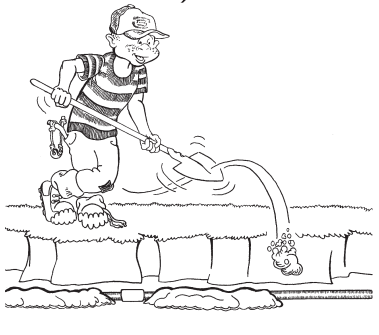
SNAKE PIPE IN DITCH



16

SHADE PIPE WITH BACKFILL

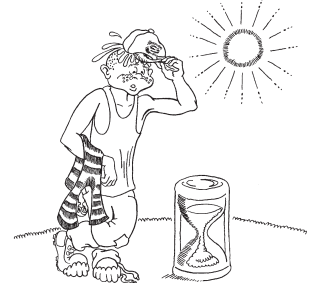
Leaving joints exposed for inspection!



17

CURE PERIOD WILL DEPEND ON...

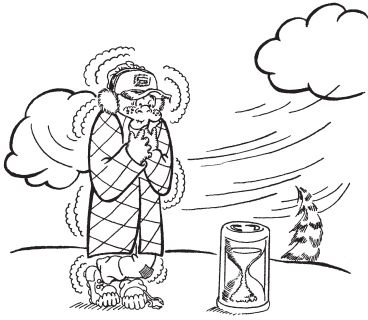
- 1 Type of cement
- 2 Size of pipe
- 3 Air temperature / humidity
- 4 Dry joint tightness



For recommended cure times, see cure schedule on page 22.



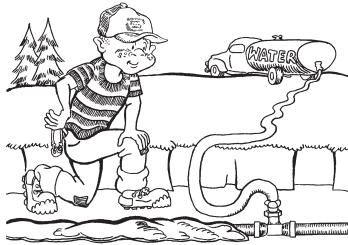
REMEMBER...



LONGER SET AND CURE PERIODS are required for large sizes of pipe, slow-drying cements, loose fit joints, chemical applications and in damp or humid weather conditions.



BRING PIPE TO ABOUT IT'S OPERATING TEMPERATURE BEFORE TESTING & BACKFILLING



- This can be done by...
- 1 Shading with backfill
 - 2 Filling with water at about operating temperature
 - 3 Letting it stand overnight

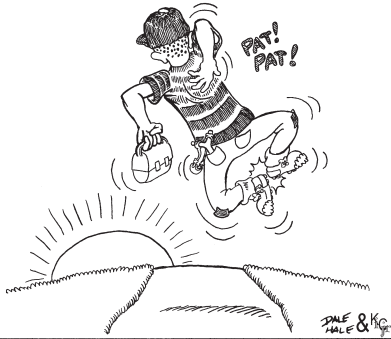


PRESSURE TEST



CONGRATULATIONS

... If you've followed instructions correctly, you owe yourself a pat on the back for a job well done...



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

Temperature Range	Pipe Sizes 1/2" to 1 1/4"	Pipe Sizes 1 1/2" to 2"	Pipe Sizes 2 1/2" to 8"	Pipe Sizes 10" to 15"	Pipe Sizes 15"+
60°-100°F	2 minutes	5 minutes	30 minutes	2 hours	4 hours
40°-60°F	5 minutes	10 minutes	2 hours	8 hours	16 hours
0°-40°F	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.

** These figures are estimates based on our laboratory tests using water; extended set times are required for chemical applications. Due to the many variables in the field, these figures should be used as a general guide only.

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

Relative Humidity 60% or Less	Cure Time Pipe Sizes 1/2" to 1 1/4"		Cure Time Pipe Sizes 1 1/2" to 2"		Cure Time Pipe Sizes 2 1/2" to 8"		Cure Time Pipe Sizes 10" to 15"	Cure Time Pipe Sizes 15"+
	up to 160 psi	above 160 to 370 psi	up to 160 psi	above 160 to 315 psi	up to 160 psi	above 160 to 315 psi	up to 100 psi	up to 100 psi
60°-100°F	15 min	6 hrs	30 min	12 hrs	1 1/2 hrs	24 hrs	48 hrs	72 hrs
40°-60°F	20 min	12 hrs	45 min	24 hrs	4 hrs	48 hrs	96 hrs	6 days
0°-40°F	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 our laboratory tests; extended cure times are required for chemical applications. Due to the many variables in the field, these figures should be used as a general guide only.

AVERAGE NUMBER OF JOINTS/QT. OF CEMENT*

Pipe Diameter	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	15"	18"
Number of Joints	300	200	125	90	60	40	30	10	5	2-3	1-2	3/4	1/2

*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.

WARNING - SPEARS products must never be used in PVC and CPVC systems using or being tested by compressed air or gases.



WE TAKE IT SERIOUSLY...

We hope you benefit from our lighthearted approach to a serious subject and we do take it seriously. 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.



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