

The Pipe Liner NEWSLETTER

December, 2007

By: Pipe Lining Supply, Anaheim, CA Ph: 714-630-6311

1st Los Angeles Greenbook Training Complete

For those of you that do work within the jurisdiction of the City of Los Angeles, the Department of Public Works is enforcing standards that they set many years ago with regard to CIPP lining within their right of way. The regulation calls for the use of products that have passed the Greenbook testing requirements. Those systems that have passed the requirements are listed in the cities records.

Permitting will be as follows:

For any sewer lateral constructed prior to 1965, a mandatory requirement will dictate a CCTV inspection of the line. If the line is defective, the city will direct the owner to fix or replace the line.

If lining is selected as the method of fixing the line, the contractor will submit to the city the tube and resin he chooses to use.

If the product combination is on the list of tested products and the contractor has met his bond requirement, the city will issue a permit to fix the line using CIPP.

They will direct the contractor as to the design thickness to be used in effecting the repair.

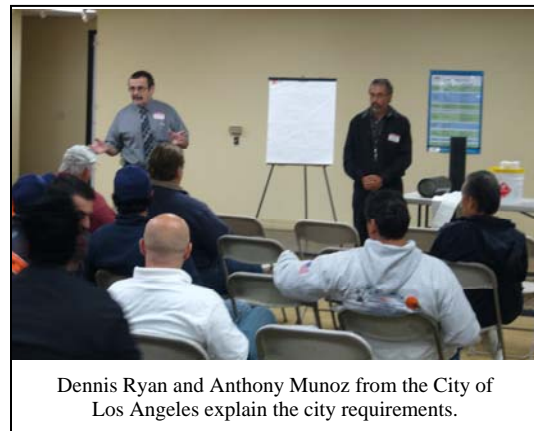
Inspection will occur throughout the process with the final post installation CCTV video and sample given to the city.

For sewer laterals constructed after 1965, the option to repair any sewer defect is the homeowners, however, they will still need to comply with the Los Angeles Greenbook requirements for tube/resin combinations

if CIPP lining is chosen as the repair method.

Pipe Lining Supply, Inc. has a tube and resin systems that meet the requirements. They include *Interplastics CORVE 8190 resin with Applied Felts tube*. The product has been tested and passed the Greenbook testing requirements and is stocked at our offices in Anaheim, CA.

In order to insure the proper storage, handling, mixing and installation of these products, **Pipe Lining Supply** conducted training of installers and inspectors regarding these products on



November 30, 2007 at our facility. We had 13 installer representatives, 7 city of Los Angeles Public Works personnel, 3 product supplier representatives, and 4 people from **Pipe Lining Supply**. The installers will now be able to handle and install these products for the city having received certification for the proper use and requirements of the product and what the city of Los Angeles expects.

Future training sessions will be announced for January and February schedules. If you plan to work within

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the jurisdiction of the City of Los Angeles and expect to install the liner into the city right of way or easements, you will need to get training and use an approved process. If you are currently using products not listed with the city, you will be denied permits in the future.

Pipe Lining Supply is handling products for all types of installation equipment that meet the Greenbook requirements. We can train you on your particular installation equipment with appropriate products that meet the requirements and work with your equipment.

Better, Cheaper, Faster! New Resin Meets All Three

In our search of resin/tube systems that met the LA Greenbook requirements, we found several alternatives to the epoxy resin that is the gold standard for lateral lining. Three of the products tested provided physical properties that are as strong or stronger than the epoxy systems, and the best news of all, all three are less expensive. We tested the three systems using both a heat cure and an ambient cure method. We tested work time, and cure time. We've adjusted the initiators and promoters that would cure the product in 30 minutes at 125F using heat, and would cure the product in 3 hours at 42F for use in colder climates. Our installed cost for material was over \$2 per foot less on 6" pipe using the CORVE 8190 Vinylester product with the 4.5mm Applied Felt tube. Even more savings for the QVE &

QPE resins we developed for the non-Greenbook market. We are stocking the CORVE 8190 resin and corresponding tube for use in the City of Los Angeles, and will have the QVE and QPE resins in stock in early January 2008. **If you are interested in cutting your installation costs, contact us for more information and pricing.** We're so confident that you'll love any one of the new resin blends, we'll trade you 20 pounds of our resin for 20 pounds of yours. If you try it in the subsequent 30 days and don't like it, return the empty pail, and we'll give you your old resin back.

The products are easy to use and safer than the handling and storage issues of previous styrene based resin systems. There is no requirement for refrigeration, or a degree in chemical engineering to measure and calculate quantities of mix. If you or your techs can pour and weight resin, add in a premixed catalyst, and mix for 10 minutes, you can use these resins. We've pre measured everything you would need to give you performance times that you can use in the field.

Heater Technology

We've witnessed several methods to heat the liners you are installing, and we thought we'd share those with you. Some are good, some great, some not so hot. **Let's talk about the great ones we've seen.** 1. The system we sell, that packages the pump, boiler, manifold, hoses and controls 2. Our next favorite heat source has been an

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instantaneous LPG driven water heater mounted on a 2 wheel cart, Grundfos hot water pump, and propane tank. The units are portable, easy to build, and provides 125F water to cure the liner in a



Hot Kick

short period of time. The residential models generally produce 120,000 to 160,000 Btuh heating capacity. To give you an idea of heating btuh's you'd need to cure a 100' x 4" diameter pipe, it calculates to approximate 1 gallon of propane in energy in ground temperatures hovering near 52F. A tank from a gas grill holds about 4 gallons, so you'd have plenty to cure a couple of liners before refilling.

3. Hot water pressure washers provide more than enough capacity to cure liners. They offer an additional benefit of cleaning the lateral lines by using a 1/4" hose and specialty jetter nozzles designed for this use. When buying these units, most will provide more capacity than you need, but you can dial down the capacity with a thermostat that is usually built in to the unit.

4. Small steam generators can also produce heat to cure the liner. They provide the heat without the mess

associated with disposal of the hot water at the end of a cure.

Two of the "not so great" heating devices:

1. Hot air units promising to deliver over 100,000 btuh heating capacity through a 1/4" diameter hole is virtually impossible. With friction loss and capacity, you can move roughly 10,000 btuh through an 8" pipe about 25'. Now imagine moving 100,000 btuh through a 1/4" hole perhaps 100' away. Physics don't allow the promises.

2. Filling the line with 150F water and waiting for the liner to cure. Relying on my earlier example of needing the btuh of a gallon of propane to cure a 4" line 100 feet long, dumping 180F water into that same line will provide about 1/2 the amount of btuh needed to cure the liner, leaving you short and ultimately lengthening your cure time to ambient cure levels.

We can provide the manifold and hoses you will need to run your heat source, or can provide you with all of the equipment you need. Let us know how we can help.

When To Use Pre-Liner?

First of all let's define pre-liner. Pre-liner is any material you use prior to lining a pipe that acts as a vapor barrier between the liner and the host pipe.

Pre-liner is used for many reasons. The initial use was to prevent running ground water from washing away resin during

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the lining/curing process. If you discover the presence of running ground water, pre-liners successfully prevent water from washing away resin from the liner tube.

The second reason for using pre-liner is to smooth a rough or broken pipe where you have a concern about your liner getting hung up and stalled part way into the pipe. If you install a pre-liner through the host pipe and it makes it through, you can then line through the pre-liner with confidence that your liner will make it through. If the pre-liner

doesn't make it, you're only out the cost of the pre-liner rather than tube, resin, and cal-tube. Additionally, rather than face a failure, you can explore other repair or replacement methods, make a customer happy and have a profitable job.



Roll of 6" and 4" Pre-liner

Call today to sign up for our 2008 Los Angeles Greenbook Certification Classes!



2970 E. La Palma Ave, #J
Anaheim, CA 92806
714-630-6311

www.pipeliningssupply.com