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201 NORTH FIGUEROA STREET  
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.  
INTERIM GENERAL MANAGER

November 23, 2009

Cisco Cenicerros  
Pipe Lining Supply, Inc.  
2970 E La Palma Ave, Suite J  
Anaheim, CA 92806

RESEARCH REPORT: RR 5704  
EFFECTIVE DATE: 12/01/09  
EXPIRATION DATE: 12/01/10  
Telephone: 714-630-6311

**GENERAL APPROVAL** - MaxLiner Cured-In-Place Pipe (CIPP) lateral lining system, models MAX POX: 15,16, 32NH, 48, 64, offered by Pipe Lining Supply, Inc.

#### DETAILS

This research report approves MaxLiner Cured-In-Place Pipe (CIPP) lateral lining system for 4" to 108" diameter existing Drainage, Waste & Vent (DWV) pipes. The pipe lining system is a trenchless sewer rehabilitation method. The tubular material is impregnated with epoxy resin. The impregnated tube (liner) is inverted inside out using an air launching system (Air Inversion Unit) forcing the resin to bond and seal with the existing pipe wall. A calibration tube is then inverted inside the liner. The calibration tube which is sealed at the sewer main is pressurized to secure the liner against the existing host pipe until the liner is fully cured. After the liner is fully cured the calibration tube is removed. The liner is ambient cured for a minimum 3 hours. Once cured, the pipes are inspected and ready for use.

The approval is subject to the following conditions:

1. This process is approved only for rehabilitation of existing DWV pipe lines (Clay, Cast Iron, PVC) from a house or a building to a property line (Building Sewer) for both commercial and residential applications. This process is NOT approved for Chemical Waste System and City Main Sewer Lines.
2. Only Pipe Lining Supply, Inc. and contractors certified by Pipe Lining Supply, Inc. are allowed to use the process approved under this research report.
3. Pipes shall be fully cleaned and prepared prior to applying lining per manufacturer's recommendations and suggestions. The cleaning, lining and curing process shall be performed in accordance with the manufacturer's printed instructions and the requirements of the Los Angeles Plumbing Code (LAPC), 2008 Edition.
4. The process shall utilize manufacturer's supplied two-part ambient cure epoxy resin, polyester needle felt liner tube reinforced with a reinforced scrim, air inversion unit and other recommended accessories. Transition liner for change in pipe diameters shall be

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RE: MaxLiner CIPP Lateral Lining System

made to order for each project or as per manufacturer's recommendations.

5. The installer (contractor) shall obtain all necessary permits and schedule all inspections as required. A Miscellaneous Plumbing Permit shall be obtained for each installation of this product prior to beginning construction. The building sewer up to property line shall be CCTV inspected and recorded on VHS or DVD before and after the liner installation for the property owner and City of Los Angeles inspector's approval/review and documentation. The new lined sewer pipe shall be free of any foreign objects providing a smooth, seamless and continuous lined pipe from entry point to lateral (property line) connection. At no time shall the liner extend into the City's sewer lateral and main sewer line. The existing sewer pipe shall be properly repaired at any location that is dug up to insert the liner. Photographs will not be accepted in lieu of inspection by City inspector.
6. Process for coating piping systems, repair, or replacement of coated pipes shall be performed in accordance with the manufacturer's written instructions, and shall be performed by contractors certified by Pipe Lining Supply, Inc. Repairs on coated pipes or new installations utilizing pre-coated pipes shall be joined with threaded, compressed fittings or by other approved mechanical means. Joints shall not be made with techniques utilizing heat.
7. The lining shall only be used in rigid piping systems. It shall not be applied across fittings or joints designed to allow mechanical flexibility in the system.
8. Lined pipes shall be labeled. The labels shall indicate the name "Pipe Lining Supply, Inc.," "MaxLiner," model number, and include a disclaimer not to repair the pipe without contacting Pipe Lining Supply, Inc. The labels shall be tags or decals which shall be attached to the outside of the pipe at locations acceptable to inspector and installer. Resin Liner shall be labeled as "MaxLiner," model number, and nominal sizes.

## **DISCUSSION**

A system installation demonstration, product literature and test reports were reviewed and examined by the Mechanical Testing Laboratory. The materials and construction are equivalent to that prescribed by the Los Angeles Municipal Code in quality, strength, effectiveness, durability and safety. The Product has been tested and received a listing from International Association of Plumbing and Mechanical Officials (IAPMO) in accordance with ASTM F 1216-2003, "Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube," IAPMO R&T File No. C-4337.

For this General Approval to be valid on any individual construction project in the City of Los Angeles, an engineer or inspector of the Department of Building and Safety must make a determination that all conditions of the General Approval required to provide equivalency have been met in the case of each construction project under consideration.

The approval is granted under Sections 94.301, 94.310, 94.311, 94.315, 94.316, 94.319, 94.705 and 94.712 of the Los Angeles Plumbing Code (LAPC), 2008 Edition.

Pipe Lining Supply, Inc.  
RE: MaxLiner CIPP Lateral Lining System

Prepared by:



Jason Tran, Test Engineer  
Mechanical Testing Laboratory  
Engineering Bureau

Recommended by:



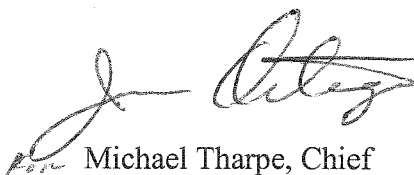
Thomas Liu, Director  
Mechanical Testing Laboratory  
Engineering Bureau

Approved by:



Osama Younan, Chief  
Mechanical Engineering Section  
Engineering Bureau

Concurred by:



Michael Tharpe, Chief  
Plumbing / Mechanical Inspection  
Inspection Bureau