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RESEARCH REPORT: RR 5679
EFFECTIVE DATE: 10/01/13
EXPIRATION DATE: 10/01/14
Telephone: 330-562-2930

GENERAL APPROVAL - Renewal - CuraFlo Engineered Flow Lining System™ offered by CuraFlo. See attached list of approved coatings.

DETAILS

This research report approves a proprietary process of cleaning and lining the inside surface of hot and cold water piping systems with non-toxic ANSI/NSF Standard 61 epoxy barrier coatings. The lining is applied by CuraFlo using a proprietary process. The coating increases the corrosion resistance of new or existing metallic pipes. The process involves first preparing the inside of the pipes by cleaning with a non-toxic abrasive to remove corrosive buildup and other agents that can affect the adhesion of the epoxy. The epoxy barrier coating material is applied in accordance with the manufacturer's specifications with thicknesses ranging from 10 to 120 mils depending on application. Once cured, the pipes are flushed and ready for use.

The approval is subject to the following conditions:

1. This process is approved only for hot and cold water applications inside and outside the building, for metallic piping systems in all types of constructions. This process is NOT approved for fire protection applications.
2. Existing systems to be lined shall be in good conditions, free from cracks, holes, or other imperfections in the piping systems. Piping materials with leaks, visual signs of corrosion or damage shall be replaced prior to being lined per Section 94.310.2 of the Los Angeles Plumbing Code (LAPC), 2011 Edition.
3. Only CuraFlo and contractors with written authorization issued by CuraFlo are allowed to use the process approved under this research report. The pipe cleaning and coating process shall be performed in accordance with ANSI/AWWA C210-97 "Liquid-Epoxy Coating Systems for the Interior and Exterior of Special Sections, Connections, and Fittings for

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Steel Water Pipes," and the manufacturer's printed instructions.

4. Pipes shall be fully cleaned and prepared prior to applying any coatings. The cleaning of pipes, piping systems, lining and curing process shall be performed in accordance with the manufacturer's printed instructions. After the barrier coating is applied, it shall be allowed to cure and then flushed in the amount of time indicated in the attached list of approved coatings.
5. A Miscellaneous Plumbing Permit shall be obtained for each installation of this product prior to beginning construction. After the pipe lining is completed, the system shall be pressure tested to the satisfaction of the plumbing inspector. Coated new plumbing systems shall be pressure tested in accordance with Section 94.609.4 of the LAPC, 2011 Edition. Existing plumbing that have already been in service and have recently been coated shall be tested in accordance with the same requirements of Section 94.609.4, except that the system shall be pressure tested at 100 percent of the operating pressure. The piping shall withstand the test without leaking for a period of not less than fifteen (15) minutes (2.5-3.5 gallons/minute) at 180°F. Additional inspections may be required at the discretion of the 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 with written authorization issued by CuraFlo. 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. Coated pipes shall be labeled. The labels shall indicate the name "CuraFlo", "CuraPoxy" or "CuraPoxy XL" or "CuraPoxy LS", "NSF-PW" for potable water applications, and include a disclaimer not to repair the pipe without contacting CuraFlo. The labels shall be either tags or decals which shall be attached to the outside of coated pipes at following locations:
 - a. At all valve change outs.
 - b. At fixture access points.
 - c. At water service shutoff valve.
 - d. At water heater inlet and outlet shutoff valves.
 - e. Every 20 feet of exposed, coated piping.
 - f. At piping access points.

DISCUSSION

Current production samples were examined, and test reports were reviewed 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.

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The Product has been tested and received a listing from International Association of Plumbing and Mechanical Officials (IAPMO) in accordance with NSF/ANSI 61-2005, "Drinking Water System Components - Health Effects," IAPMO R&T File No. N-4917.

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 and 94.604 of the Los Angeles Plumbing Code (LAPC), 2011 Edition.

Approved by:



Manuel Hernandez
Mechanical Testing Laboratory
Engineering Bureau

List of Approved Coatings:

Name of Coatings	Water Contact Size Restriction	Water Contact Temperature	Water Contact Material
CuraPoxy [1]	1/2" to 4"	Hot/Cold	Epoxy
CuraPoxy XL [2]	2" to 36"	Hot/Cold	Epoxy
CuraPoxy LS [3]	1/2" to 4"	Hot/Cold	Epoxy

Notes:

- [1] Colors: Blue
Number of Coats: 1
Maximum Field Use Dry Film Thickness (mils): 120
Cure Time: 1 hour at 100 °F followed by 4 hours at 72 °F
15 minutes flush is required prior to being placed in service
- [2] Colors: Blue
Number of Coats: 1
Maximum Field Use Dry Film Thickness (mils): 120
Cure Time: 1 hour at 100 °F followed by 4 hours at 72 °F
15 minutes flush is required prior to being placed in service
- [3] Colors: Blue
Number of Coats: 1
Maximum Field Use Dry Film Thickness (mils): 20
Cure Time: 1 hour at 100 °F followed by 4 hours at 72 °F
15 minutes flush is required prior to being placed in service