

Laborers Cement Mason

## Introduction to Epoxy & Epoxy Injection Syllabus

**Time:** 24 hours

**Maximum Class Size:** 12

**Prerequisites/Requirements:** 1. 8-hour Respiratory Awareness 2. 8-hour Air Tools Awareness 3. Participants must have successfully completed a Pulmonary Function Test (PFT) within one year of the first day of class and be able to provide documentation 4. Participants must be clean shaven

**Course Description:** This course is designed to give the participant a thorough overview of how epoxy is used in the concrete industry. This course presents an overview of the types of epoxy available today and covers the methods and techniques that are used to repair cracks in a variety of forms such as slabs, walls and columns. Identifying concrete problems, the reasons they occur, and how to prevent them are also covered. Extensive hands-on training in injecting epoxy to repair concrete prepares the participant to be a valued employee in this scope of work.

### Goals/Objectives/Student Learning Outcomes:

- Identify the PPE used to prevent skin exposure to epoxy.
- Demonstrate the process involved in repairing damaged concrete using epoxy resin/injection.
- Demonstrate the proper surface preparation for concrete substrates using the proper tools, PPE and equipment.
- Describe the primary health effect caused by skin exposure to epoxy.
- List and identify at least three tools used in epoxy installation.
- Identify three types of epoxy.
- Successfully complete a Hands-On Performance evaluation with a score of 80% or above.

### Standards

- |                    |                               |
|--------------------|-------------------------------|
| • 29 CFR 1926.28   | Personal Protective Equipment |
| • 29 CFR 1926.21   | Safety Training and Education |
| • 29 CFR 1910.1200 | Hazard Communication          |

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- 29 CFR 1926.52 Occupational Noise Exposure
- 29 CFR 1926.152 Flammable and Combustible Liquids
- 29 CFR 1926.300 Tools: Hand and Power
- 29 CFR 1926.1153 Silica Standard

### Classroom Rules and Procedures

- All classes begin at 6:30 am and end at 3:00 pm
- Upon entering classroom, all participants must sign in and be seated by 6:30 am
- Class will consist of a combination of lecture, video, demonstration, coached group exercises, individual exercises and assessment.
- Students are required to report to class ready to work and maintain the provided PPE

### Textbooks/Readings/Materials

- *Concrete Repair*-LIUNA Training (Instructor Guide, Participant Guide, DVD and Instructor Materials CD)
- DVD: How to Use Crack Pak
- How to Use Crack Pak User Manual
- Handout: Portland Cement Concrete Information
- Handout: Crack Pak
- Handouts: Types, Grades and Classes of Epoxy Handouts (2)
- OSHA Silica Standard 1926.1153 Handout

### Tools/Equipment/Other Materials

- Roller
- Brush or spray equipment
- Low speed electric drill motor
- Mixing paddle
- Wire brush
- Margin trowel
- Air Compressor
- Angle grinder
- Vacuum

## **Introduction to Epoxy & Epoxy Injection Syllabus**

### **Personal Protective Equipment**

- 12 pairs of rubber gloves
- 12 pair of rubber boots
- 12 pairs of safety glasses
- 20 pairs of ear plugs
- 12 hard hats

### **Course Requirements**

To receive credit for the course, participants must:

- Be present for full 24 hours
- Participate in all classroom exercises
- Pass a written exam
- Pass a hands-on exam

### **Course Policies**

- Participants must be on-time and ready to work.
- Participants must return from breaks on-time.
- Participants must participate in each exercise and assignment
- Participants who are on “light duty” are not allowed to take this course due to the physically demanding requirements.

### **Assessment and Grading**

Participants will be assessed on the following:

- All written exams must be passed with a score of 80% or above.
- All hands-on exercises are graded on performance and participation. They are pass/fail and must be passed with a score of 80% or above.

### **Safety**

Failure to maintain and use PPE may result in dismissal from the course.