



# **COURSE 13875**

## **Lead In Construction**

### **Exam Material**

**Uscontractorlicense LLC**

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# Summary Of This Course

## Lead In Construction

Approved by the

Wisconsin Department of Safety and Professional Services Safety and Buildings Division

Course Identification Number 13875

Educational Credit Hours: 4 Hours

Course Provider:

USCONTRACTORLICENSE LLC

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Lead was not removed from paint until 1978 (for residential applications). Ordinary renovation and maintenance activities in buildings built before 1978 can create dust that contains lead. This dust can be harmful to children and adults, even if only absorbed in small amounts.

This course is an overview of OSHA's Lead Standards for the construction industry. Employers and employees will benefit from knowing the risks associated with lead in the construction industry and how to minimize the dangers.

This Course is approved for the following electrical Registrations/Certifications or Licenses:

Automatic Fire Sprinkler Contractors License	4 Hours of Continuing Education
Automatic Fire Sprinkler Contractor - Maintenance License	4 Hours of Continuing Education
Boiler Pressure Vessel Inspector	4 Hours of Continuing Education
Commercial Electrical Inspector	4 Hours of Continuing Education
Commercial Plumbing Inspector	4 Hours of Continuing Education
Dwelling Contractor Qualifier	4 Hours of Continuing Education
Industrial Journeyman Electrician	4 Hours of Continuing Education
Journeyman Electrician	4 Hours of Continuing Education
Journeyman Automatic Fire Sprinkler Fitter	4 Hours of Continuing Education
Journeyman Plumber	4 Hours of Continuing Education
Master Electrician	4 Hours of Continuing Education
Master Plumber	4 Hours of Continuing Education
Registered Electrician	4 Hours of Continuing Education
Residential Journeyman Electrician	4 Hours of Continuing Education
Residential Master Electrician	4 Hours of Continuing Education
UDC-HVAC Inspector	4 Hours of Continuing Education
UDC-Plumbing Inspector	4 Hours of Continuing Education

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

## **Course Outline**

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

- OSHA Introduction
- Health Hazards of Lead Exposure
- Symptoms of Chronic Overexposure
- Reproductive Risks
- Chelating Agents
- Worker Exposure
- Construction Workers and Lead Exposure
- Most Vulnerable Workers
- OSHA's Lead Standard
- Exposure Limits
- Applicability to Construction
- Employer Responsibilities
- Elements of a Compliance Program
- Initial Employee Exposure Assessment
- Biological Monitoring Tests
- Pending Employee Exposure Assessment
- Test Results Showing No Overexposures
- Employee Notification of Monitoring Results
- Medical Exams
- Medical Surveillance
- Information for the Examining Physician
- When Monitoring Shows No Employee Exposures After the Medical Examinations
- Medical Removal Provisions
- Worker Protections and Benefits
- Records Requirements Involving Medical Removal
- Recordkeeping
- Employer Requirements
- Exposure Assessment Records
- Medical Surveillance Records
- Documents for Employees Subject to Medical Removal
- Employer Requirements Related to Objective Data
- Documents for OSHA and NIOSH Review
- When Closing a Business
- Exposure Reduction and Employee Protection
- Engineering Controls
- Exhaust Ventilation
- Enclosure or Encapsulation
- Substitution
- Component Replacement
- Process or Equipment Modification
- Isolation
- Housekeeping Practices
- Personal Hygiene Practices
- Change Areas
- Showers and Washing Facilities
- Personal Practices
- End-Of-Day Procedures
- Protective Clothing and Equipment
- Employer Requirements
- Handling Contaminated Protective Clothing
- Preventing Heat Stress
- Respiratory Protection
- Providing Adequate Respiratory Protection
- Respiratory Protection Programs
- Selecting a Respirator
- Employee Information and Training
- Program Requirements
- Warning Signs

OSHA Assistance, Services and Products State Programs

Consultation Assistance

Safety and Health Achievement Recognition Program Voluntary Protection Programs

Cooperative Partnerships

Alliance Program

Strategic Partnership Program

Occupational Safety and Health Training

Training Grants

Other Assistance Materials / In Case of an Emergency Or To File A Complaint / OSHA Regional Offices

Blood Lead Laboratories-Wisconsin

## **Exam**

40 questions related to the reference materials are used to test the attendee on their comprehension of the materials. A 70% score will need to be attained in order to pass this course.

## **Answer Sheet(s)**

1 bubble style answer sheets are included. When you are finished with the exam, you may return the answer sheets for grading to:

By Mail: Uscontractorlicense LLC  
PO Box 268  
Platteville, Wisconsin 53818

By Email: michael@uscontractorlicense.com  
By Fax: 608-571-0096

Once we get the answer sheets back, we will grade them, enter your hours into the attendance portal and email or mail you back your certificate of completion(s). You will be responsible for renewing your license with the DSPS at [www.license.wi.gov](http://www.license.wi.gov) website.

Any questions, please contact us at 608.348.6688

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**1. HEALTH HAZARDS OF LEAD EXPOSURE:** Lead can damage the \_\_\_\_\_.

- a. kidneys
- b. hematological and reproductive system
- c. cardiovascular and central nervous system
- d. All of the above

**2. REPRODUCTIVE RISKS:** Lead can alter the structure of sperm cells and there is evidence of miscarriage and stillbirth in women exposed to lead or whose partners have been exposed.

- a. True
- b. False

**3. PERCENT OF CHILDREN WITH ELEVATED BLOOD LEAD LEVELS BY COUNTY - WISCONSIN 2008:** In 2008 Wisconsin had \_\_\_\_\_ counties with children that had an elevated blood lead levels of 1.8 -2.8% percent.

- a. One
- b. Two
- c. Three
- d. Four

**4. WORKER EXPOSURE:** A significant portion of the lead inhaled or ingested gets into the bloodstream. Once in the bloodstream, lead circulates through the body and \_\_\_\_\_. Some of this lead is filtered out of the body quickly and excreted, but some remains in the blood and tissues. As exposure continues, the amount stored will increase if the body absorbs more lead than it excretes.

- a. stored in organs only
- b. stored in body tissue only
- c. stored in organs and body tissue
- d. is filtered out

**5. HOW WIDESPREAD IS LEAD BASED PAINT IN HOUSING?** \_\_\_\_\_ of homes built during 1940 to 1959 have lead based paint components.

- a. 87%
- b. 69%
- c. 24%
- d. None of the above

**6. MOST VULNERABLE WORKERS:** Workers potentially at risk for lead exposure include those involved in iron work; demolition work; painting; lead-based paint abatement; plumbing; heating and air conditioning maintenance and repair; electrical work; and carpentry, renovation, and remodeling work. \_\_\_\_\_ are among those workers most exposed to lead.

- a. Plumbers
- b. Welders
- c. Painters
- d. All of the above

**7. EXPOSURE LIMITS: PEL is the abbreviation for:**

- a. Permissible Exposure Limit
- b. Probable Exposure Limit
- c. Possible Exposure Limit
- d. None of the above

**8. EXPOSURE LIMITS: AL is the abbreviation for:**

- a. Allowable level
- b. Appropriate level
- c. Action Level
- d. Accountability level

**9. WORKER PROTECTION:** Because lead is a cumulative and persistent toxic substance and health effects will result from a onetime exposure, employers may use these precautions where feasible to maximize employee exposure to lead.

- a. True
- b. False

**10. ELEMENTS OF A COMPLIANCE PROGRAM:** For each job where employee exposure is below the PEL, the employer can implement a compliance program to increase employee exposure to stay under the PEL.

- a. True
- b. False

**11. INITIAL EMPLOYEE EXPOSURE ASSESSMENT:** According to the Wisconsin Dept. of Health Services (DHS 163) "Lead exposure" means a level of lead in the blood of 10 or more micrograms per \_\_\_\_\_.

- a. 100 milliliters of blood
- b. 125 milliliters of blood
- c. 150 milliliters of blood
- d. 200 milliliters of blood

**12. BIOLOGICAL MONITORING TESTS:** Analysis of blood lead samples must be conducted by an OSHA approved lab and be accurate (to a confidence level of 95 percent) \_\_\_\_\_, or 6  $\mu\text{g}/\text{dl}$ , whichever is greater.

- a. within plus or minus 10 percent
- b. within plus or minus 15 percent
- c. within plus or minus 20 percent
- d. within plus or minus 25 percent

**13. TEST RESULTS SHOWING NO OVEREXPOSURES:** If the initial assessment indicates that no employee is exposed above the AL, the employer may discontinue monitoring.

- a. True
- b. False

**14. EMPLOYEE NOTIFICATION OF MONITORING RESULTS:** The employer must notify each employee in writing of employee exposure assessment results within \_\_\_\_\_ of receiving them.

- a. ten working days
- b. ten days
- c. five working days
- d. five days

**15. MEDICAL SURVEILLANCE:** When an employee's airborne exposure is at or above the AL for more than 30 days in any consecutive 12 months, an immediate medical consultation is required when the employee notifies the employer that he or she:

- a. Has developed signs or symptoms commonly associated with lead-related disease;
- b. Has demonstrated difficulty in breathing during respirator use or a fit test;
- c. Desires medical advice concerning the effects of past or current lead exposure on the employee's ability to have a healthy child.
- d. All of the above

**16. WHEN MONITORING SHOWS NO EMPLOYEE EXPOSURES ABOVE THE AL:** Which renovation activity creates the most airborne leaded dust?

- a. Hand Sanding
- b. Interior Demolition
- c. Power Sanding
- d. All of the above

**17. WORKER PROTECTIONS AND BENEFITS:** The employer must provide up to 6 months of medical removal protection (MRP) benefits only the first time an employee is removed from lead exposure or medically limited.

- a. True
- b. False

**18. RECORDS REQUIREMENTS INVOLVING MEDICAL REMOVAL: In the case of medical removal, the employer's records must include:**

- a. The worker's name and social security number,
- b. The date of each occasion that the worker was removed from current exposure to lead and the date when the worker was returned to the former job status,
- c. A brief explanation of how each removal was or is being accomplished, and a statement indicating whether the reason for the removal was an elevated blood lead level.
- d. All of the above

**19. EMPLOYER REQUIREMENTS: The employer must maintain any employee exposure and medical records to document ongoing employee exposure, medical monitoring, and medical removal of workers. This data provides a baseline to evaluate the employee's health properly.**

- a. True
- b. False

**20. EMPLOYER REQUIREMENTS RELATED TO OBJECTIVE DATA: The employer must maintain the record of objective data relied on for \_\_\_\_\_.**

- a. at least 7 years
- b. at least 15 years
- c. at least 20 years
- d. at least 30 years

**21. WHEN CLOSING A BUSINESS: When an employer ceases to do business, the successor employer must receive and retain all required records. If no successor is available, these records must be sent to the Director of NIOSH.**

- a. True
- b. False

**22. EXHAUST VENTILATION: Equip power tools used to remove lead-based paint with dust collection shrouds or other attachments so that paint is exhausted through a \_\_\_\_\_.**

- a. Central Air vacuum system
- b. high-efficiency particulate air (HEPA) vacuum system
- c. Shop vac system
- d. None of the above

**23. ENCLOSURE OR ENCAPSULATION: One way to reduce the lead inhalation or ingestion hazard posed by lead-based paint is to encapsulate it with a material that bonds to the surface, such as \_\_\_\_\_(1)\_\_\_\_\_ or flexible wall coverings. Another option is to enclose it using systems such as gypsum wallboard, plywood paneling, and aluminum, \_\_\_\_\_(2)\_\_\_\_\_. Floors coated with lead-based paint can be covered using \_\_\_\_\_(3)\_\_\_\_\_.**

	1	2	3
a.	acrylic and epoxy coating	vinyl tile or linoleum	carpeting
b.	vinyl tile or linoleum	fiber cement siding	6 mil plastic
c.	vinyl or wood exterior siding	or Tyvek	fiber cement
d.	acrylic or epoxy coating	vinyl or wood exterior siding	vinyl tile or linoleum

**24. SUBSTITUTION: Using a paint stripper containing methylene chloride is a prohibited practice in Wisconsin.**

- a. True
- b. False

**25. PROCESS OR EQUIPMENT MODIFICATION:** When using a heat gun to remove lead-based paints in \_\_\_\_\_, be sure it is of the flameless electrical softener type. Heat guns should have electronically controlled temperature settings to allow usage below 700 degrees F. Equip heat guns with various nozzles to cover all common applications and to limit the size of the heated work area.

- a. Commercial units
- b. Residential housing units
- c. Commercial and residential units
- d. None of the above

**26. HOUSEKEEPING PRACTICES:** An effective housekeeping program involves a regular schedule to remove accumulations of lead dust and lead-containing debris.

- a. True
- b. False

**27. HOUSEKEEPING PRACTICES:** Put all lead-containing debris and contaminated items accumulated for disposal into \_\_\_\_\_. Label bags and containers as lead-containing waste.

- a. Sealed, impermeable bags only
- b. closed impermeable containers only
- c. Sealed, impermeable bags or other closed impermeable containers
- d. None of the above

**28. PERSONAL HYGIENE PRACTICES:** Provide and ensure that workers \_\_\_\_\_ washing facilities.

- a. are aware of
- b. know about
- c. are informed about the
- d. use

**29. CHANGE AREAS:** The employer \_\_\_\_\_ provide a clean change area for employees whose airborne exposure to lead is above the PEL. The area \_\_\_\_\_ be equipped with storage facilities for street clothes and a separate area with facilities for the removal and storage of lead-contaminated protective work clothing and equipment.

- a. must/must
- b. may / can
- c. should/ may
- d. can/ may

**30. PERSONAL PRACTICES:** In all areas where employees are exposed to lead above the \_\_\_\_\_, employees must observe the prohibition on the presence and consumption or use of food, beverages, tobacco products, and cosmetics.

- a. AL
- b. PEL
- c. MSDS
- d. None of the above

**31. END-OF-DAY PROCEDURES:** Employers must ensure that workers who are exposed to lead above the permissible exposure limit follow these procedures at the end of their workday:

- a. Place contaminated clothes, including work shoes and personal protective equipment to be cleaned, laundered, or disposed of, in a properly labeled closed container.
- b. Take a shower and wash their hair. Where showers are not provided, employees must wash their hands and face at the end of the work shift.
- c. Change into street clothes in clean change areas.
- d. All of the above

**32. EMPLOYER REQUIREMENTS:** Employers must provide workers who are exposed to lead above the PEL or for whom the possibility of skin or eye irritation exists with clean, dry protective work clothing and equipment that are appropriate for the hazard. Employers must \_\_\_\_\_ to employees.

- a. provide these items at no cost
- b. offer these items at a reduced rate
- c. provide a vendor name
- d. None of the above

**33. PREVENTING HEAT STRESS:** When heat stress is a concern, the employer should choose lighter, less insulating protective clothing over heavier clothing, as long as it provides adequate protection. Other measures the employer \_\_\_\_\_ take include: discussing the possibility of heat stress and its signs and symptoms with all workers; using appropriate work/rest regimens; and providing heat stress monitoring that includes measuring employees' heart rates, body temperatures, and weight loss.

- a. shall
- b. will
- c. can
- d. must

**34. RESPIRATORY PROTECTION:** Respirators also must be provided upon employee request. A requested respirator is included as a requirement to provide increased protection for those employees who wish to reduce their lead burden below what is required by the standard, particularly if they intend to have children in the near future. In addition, respirators must be used when performing previously indicated high exposure or "trigger" tasks, before completion of the initial assessment.

- a. True
- b. False

**35. PROVIDING ADEQUATE RESPIRATORY PROTECTION:** Before any employee first starts wearing a respirator in the work environment, the employer must perform a fit test. For all employees wearing \_\_\_\_\_ tight-fitting face piece respirators, the employer must perform either qualitative or quantitative fit tests using an OSHA-accepted fit testing protocol.

- a. only negative pressure
- b. only positive pressure
- c. negative or positive pressure
- d. None of the above

**36. SELECTING A RESPIRATOR:** A NIOSH-certified respirator may be selected and may be used in compliance with the conditions of its certification.

- a. True
- b. False

**37. WARNING SIGNS:** Employers are required to post warning signs in each work area where employee exposure to lead is above the PEL:

- a. Warning / Lead Work Area
- b. Poison / No Smoking or Eating
- c. Both a. and b. are needed
- d. No special signs are needed

**38. CONSULTATION ASSISTANCE:** Consultation assistance is available on request to employers who want help establishing and maintaining a safe and healthful workplace. Funded largely by OSHA, the service is provided \_\_\_\_\_ to small employers and is delivered by state authorities through professional safety and health consultants.

- a. for a minimal fee
- b. at no cost
- c. at a \$25.00 per hour fee
- d. in conjunction with a larger employer

**39. COOPERATIVE PARTNERSHIPS:** OSHA has learned firsthand that voluntary, cooperative partnerships with employers, employees, and unions can be a useful alternative to traditional enforcement and an \_\_\_\_\_ way to reduce worker deaths, injuries, and illnesses. This is especially true when a partnership leads to the development and implementation of a comprehensive workplace safety and health management system.

- a. effective
- b. forceful
- c. weak
- d. unproductive

**40. BLOOD LEAD LABORATORIES - WISCONSIN (AS OF 2/17/2012): Monitoring \_\_\_\_\_ for lead and zinc protoporphyrin (or free erythrocyte protoporphyrin) in blood. The employer is required to have these analyses performed by a laboratory that meets accuracy requirements specified by OSHA.**

- a. must be provided
- b. can be provided
- c. should be provided
- d. may be provided

**This Is The End Of The Exam**

