



**DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS**  
**DIRECTOR'S OFFICE**  
**OCCUPATIONAL HEALTH STANDARDS**

Filed with the Secretary of State on January 1, 1975 (as amended, May 24, 2007) **(as amended, March 8, 2016)**

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306.

Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 14 and 24 of 1974 PA 154, MCL 408.1014 and 408.1024, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 325.52601 and R 325.52602 of Michigan Administrative Code are amended, as follows:

**PART 526. DIPPING AND COATING OPERATIONS**

Table of Contents:

R 325.52601 Adoption of federal standards. ....	1	1910.122 Table Of Contents .....	4
R 325.52602 Availability of adopted and referenced rules. ....	2	1910.123 Dipping and Coating Operations: Coverage and Definitions.....	5
		1910.124 General Requirements for Dipping and Coating Operations .....	6
		1910.125 Additional Requirements for Dipping and Coating Operations That Use Flammable Liquids or Liquids With Flashpoints Greater Than 199.4 °F (93 °C).....	8
		1910.126 Additional Requirements for Special Dipping and Coating Operations.....	10

**R 325.52601 Adoption of federal standards.**

**Rule 1.** (1) The following federal occupational safety and health administration (OSHA) regulations from the Code of Federal Regulations are adopted by reference in these rules:

(a) 29 C.F.R. §1910.122 “Hazardous Materials – Table of contents,” effective March 23, 1999.

(b) 29 C.F.R. §1910.123 “Dipping and coating operations: Coverage and definitions,” effective March 26, 2012.

(c) 29 C.F.R. §1910.124 “General requirements for dipping and coating operations,” effective March 26, 2012.

(d) 29 C.F.R. §1910.125 “Additional requirements for dipping and coating operations that use flammable liquids or liquids with flashpoints greater than 199.4 °F (93 °C),” effective March 26, 2012.

(e) 29 C.F.R. §1910.126 “Additional requirements for special dipping and coating operations,” effective March 26, 2012.

(2) As of the effective date of these rules, §1910.1200, referenced in 29 C.F.R. §1910.123(d) means Occupational Health Standard Part 430 “Hazard Communication,” as referenced in R 325.52602.

(3) As of the effective date of these rules, Subpart Z, referenced in 29 C.F.R. §1910.124(b)(2) means Occupational Health Standard Part 301 “Air Contaminants for General Industry,” as referenced in R 325.52602.

(4) As of the effective date of these rules, §1910.146, referenced in 29 C.F.R. §1910.124(e), means Occupational Health Standard Part 490 “Permit-Required Confined Spaces,” as referenced in R 325.52602.

(5) As of the effective date of these rules, §1910.141(d), referenced in 29 C.F.R. §1910.124(g)(3), mean Occupational Health Standard Part 474 “Sanitation,” as referenced in R 325.52602.

(6) As of the effective date of these rules, §1910.134, referenced in 29 C.F.R. §1910.124(j)(4) means Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 325.52602.

(7) As of the effective date of these rules, Subpart S, referenced in 29 C.F.R. §1910.125(e)(1)(i) means both of the following:

(a) General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 325.52602.

(b) General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," as referenced in R 325.52602.

(8) As of the effective date of these rules, §1910.157, referenced in 29 C.F.R. §1910.125(f)(2)(i) means General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 325.52602.

(9) As of the effective date of these rules, Subpart L, referenced in 29 C.F.R. §1910.126(g)(7)(ii) means all of the following:

(a) General Industry Safety Standard Part 8 "Portable Fire Extinguishers," as referenced in R 325.52602.

(b) General Industry Safety Standard Part 9 "Fixed Fire Equipment," as referenced in R 325.52602.

(c) General Industry Safety Standard Part 73 "Fire Brigades," as referenced in R 325.52602.

(10) As of the effective date of these rules, National Fire Protection Association NFPA 86A "Standard for Ovens and Furnaces," 1969 edition, as referenced in R 325.52602, is adopted by reference in 29 C.F.R. §1910.125.

(11) As of the effective date of these rules, the following consensus standards are adopted by reference in 29 C.F.R. §1910.124:

(a) American National Standard Institute ANSI Z9.2 "Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems," 1979 edition, as referenced in R 325.52602.

(b) National Fire Protection Association NFPA 34 "Standard for Dip Tanks Containing Flammable or Combustible Liquids," 1995 edition, as referenced in R 325.52602.

(c) American Conference of Governmental Industrial Hygienist ACGIH "Industrial Ventilation: A Manual of Recommended Practice," 22nd edition, 1995 edition, as referenced in R 325.52602.

(d) ANSI Z9.1 "Open-Surface Tanks--Ventilation and Operation," 1971 edition, as referenced in R 325.52602.

## **R 325.52602 Availability of adopted and referenced rules.**

**Rule 2.** (1) The following standards are adopted by reference and are available from the United States Department of Labor, Occupational Safety and Health Administration website: [www.osha.gov](http://www.osha.gov), at no charge, as of the time of adoption of these rules:

(a) 29 C.F.R. §1910.122 "Hazardous Materials – Table of contents," effective March 23, 1999.

(b) 29 C.F.R. §1910.123 "Dipping and coating operations: Coverage and definitions," effective March 26, 2012.

(c) 29 C.F.R. §1910.124 "General requirements for dipping and coating operations," effective March 26, 2012.

(d) 29 C.F.R. §1910.125 "Additional requirements for dipping and coating operations that use flammable liquids or liquids with flashpoints greater than 199.4 °F (93 °C)," effective March 26, 2012.

(e) 29 C.F.R. §1910.126 "Additional requirements for special dipping and coating operations," effective March 26, 2012.

(2) The following standards are adopted by reference and are available from IHS Standards Store, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-447-2273 or via the internet at website: [www.global.ihs.com](http://www.global.ihs.com); at a cost as of the time of adoption of these rules, as stated in this subrule:

(a) ANSI Z9.1 "Open-Surface Tanks--Ventilation and Operation," 1971 edition. Cost \$25.00.

(b) ANSI Z9.2 "Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems," 1979 edition. Cost: \$73.00.

(c) NFPA 34 "Standard for Dip Tanks Containing Flammable or Combustible Liquids," 1995 edition. Cost: \$28.00.

(d) NFPA 86A "Standard for Ovens and Furnaces," 1969 edition. Cost: \$25.00.

(e) ACGIH "Industrial Ventilation: A Manual of Recommended Practice," 22nd edition, 1995 edition. Cost: \$118.00.

(3) The standards adopted by reference in these rules are available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(4) The standards adopted by reference in these rules may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

(5) The following Michigan occupational safety and health administrative standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143; or via the internet at website:

[www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards).

For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.

(a) General Industry Safety Standard Part 6 "Fire Exits," R 408.10601 to R 408.10697.

(b) General Industry Safety Standard Part 8 "Portable Fire Extinguishers," R 408.10801 to R 408.10839.

(c) General Industry Safety Standard Part 9 "Fixed Fire Equipment," R 408.10901 to R 408.10999.

(d) General Industry Safety Standard Part 39 "Design Safety Standards for Electrical Systems," R 408.13901 to R 408.13902.

(e) General Industry Safety Standard Part 40 "Electrical Safety-Related Work Practices," R 408.14001 to R 408.14009.

(f) General Industry Safety Standard Part 73 "Fire Brigades," R 408.17301 to R 408.17320.

(g) Occupational Health Standard Part 301 "Air Contaminants for General Industry," R 325.51101 to R 325.51108.

(h) Occupational Health Standard Part 430 "Hazard Communication," R 325.77001 to R 325.77003.

(i) Occupational Health Standard Part 451 "Respiratory Protection," R 325.60051 to R 325.60052.

(j) Occupational Health Standard Part 474 "Sanitation," R 325.47401 to R 325.47425.

(k) Occupational Health Standard Part 490 "Permit-Required Confined Spaces," R 325.63001 to R 325.63049.

**1910.122**  
**TABLE OF CONTENTS**

This section lists the paragraph headings contained in §§1910.123 through 1910.126.

**§ 1910.123 Dipping and coating operations: Coverage and definitions.**

- (a) Does this rule apply to me?
- (b) What operations are covered?
- (c) What operations are not covered?
- (d) How are terms used in §§1910.123 through 1910.126 defined?

**§ 1910.124 General requirements for dipping and coating operations.**

- (a) What construction requirements apply to dip tanks?
- (b) What ventilation requirements apply to vapor areas?
- (c) What requirements must I follow to recirculate exhaust air into the workplace?
- (d) What must I do when I use an exhaust hood?
- (e) What requirements must I follow when an employee enters a dip tank?
- (f) What first-aid procedures must my employees know?
- (g) What hygiene facilities must I provide?
- (h) What treatment and first aid must I provide?
- (i) What must I do before an employee cleans a dip tank?
- (j) What must I do to inspect and maintain my dipping or coating operation?

**§ 1910.125 Additional requirements for dipping and coating operations that use flammable or combustible liquids.**

- (a) What type of construction material must be used in making my dip tank?
- (b) When must I provide overflow piping?
- (c) When must I provide a bottom drain?
- (d) When must my conveyer system shut down automatically?
- (e) What ignition and fuel sources must be controlled?
- (f) What fire protection must I provide?
- (g) To what temperature may I heat a liquid in a dip tank?

**§ 1910.126 Additional requirements for special dipping and coating applications.**

- (a) What additional requirements apply to hardening or tempering tanks?
- (b) What additional requirements apply to flow coating?
- (c) What additional requirements apply to roll coating, roll spreading, or roll impregnating?
- (d) What additional requirements apply to vapor degreasing tanks?
- (e) What additional requirements apply to cyanide tanks?
- (f) What additional requirements apply to spray cleaning tanks and spray degreasing tanks?
- (g) What additional requirements apply to electrostatic paint detearing?

[64 FR 13909, March 23, 1999]

## 1910.123

### DIPPING AND COATING OPERATIONS: COVERAGE AND DEFINITIONS

#### 1910.123(a) Does this rule apply to me?

**1910.123(a)(1)** This rule (§§1910.123 through 1910.126) applies when you use a dip tank containing a liquid other than water. It applies when you use the liquid in the tank or its vapor to:

**1910.123(a)(1)(i)** Clean an object;

**1910.123(a)(1)(ii)** Coat an object;

**1910.123(a)(1)(iii)** Alter the surface of an object; or

**1910.123(a)(1)(iv)** Change the character of an object.

**1910.123(a)(2)** This rule also applies to the draining or drying of an object you have dipped or coated.

#### 1910.123(b) What operations are covered?

Examples of covered operations are paint dipping, electroplating, pickling, quenching, tanning, degreasing, stripping, cleaning, roll coating, flow coating, and curtain coating.

#### 1910.123(c) What operations are not covered?

You are not covered by this rule if your dip-tank operation only uses a molten material (a molten metal, alloy, or salt, for example).

#### 1910.123(d) How are terms used in §§1910.123 through 1910.126 defined?

*Adjacent area* means any area within 20 feet (6.1 m) of a vapor area that is not separated from the vapor area by tight partitions.

*Approved* means that the equipment so designated is listed or approved by a nationally recognized testing laboratory, as defined by §1910.7.

*Autoignition temperature* means the minimum temperature required to cause self-sustained combustion, independent of any other source of heat.

*Dip tank* means a container holding a liquid other than water and that is used for dipping or coating. An object may be immersed (or partially immersed) in a dip tank or it may be suspended in a vapor coming from the tank.

*Flammable liquid* means any liquid having a flashpoint at or below 199.4 °F (93 °C).

*Flashpoint* means the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite if tested in accordance with the test methods in Appendix B to § 1910.1200—Physical Hazard Criteria.

*Lower flammable limit (LFL)* means the lowest concentration of a material that will propagate a flame. The LFL is usually expressed as a percent by volume of the material in air (or other oxidant).

*Vapor area* means any space containing a dip tank, including its drain boards, associated drying or conveying equipment, and any surrounding area where the vapor concentration exceeds 25% of the LFL of the liquid in the tank.

*You* means the employer, as defined by the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*).

[64 FR 13909, March 23, 1999; 77 FR 17777, March 26, 2012]

## 1910.124

### GENERAL REQUIREMENTS FOR DIPPING AND COATING OPERATIONS

#### **1910.124(a) What construction requirements apply to dip tanks?**

Any container that you use as a dip tank must be strong enough to withstand any expected load.

#### **1910.124(b) What ventilation requirements apply to vapor areas?**

**1910.124(b)(1)** The ventilation that you provide to a vapor area must keep the airborne concentration of any substance below 25% of its LFL.

**1910.124(b)(2)** When a liquid in a dip tank creates an exposure hazard covered by a standard listed in subpart Z of this part, you must control worker exposure as required by that standard.

**1910.124(b)(3)** You may use a tank cover or material that floats on the surface of the liquid in a dip tank to replace or supplement ventilation. The method or combination of methods you choose must maintain the airborne concentration of the hazardous material and the worker's exposure within the limits specified in paragraphs (b)(1) and (b)(2) of this section.

**1910.124(b)(4)** When you use mechanical ventilation, it must conform to the following standards that are incorporated by reference as specified in §1910.6:

**1910.124(b)(4)(i)** ANSI Z9.2-1979, Fundamentals Governing the Design and Operation of Local Exhaust Systems;

**1910.124(b)(4)(ii)**

FPA 34-1995, Standard for Dip Tanks Containing Flammable or Combustible Liquids;

**1910.124(b)(4)(iii)** ACGIH's "Industrial Ventilation: A Manual of Recommended Practice" (22nd ed., 1995); or

**1910.124(b)(4)(iv)** ANSI Z9.1-1971, Practices for Ventilation and Operation of Open-Surface Tanks, and NFPA 34-1966, Standard for Dip Tanks Containing Flammable or Combustible Liquids.

**1910.124(b)(5)** When you use mechanical ventilation, it must draw the flow of air into a hood or exhaust duct.

**1910.124(b)(6)** When you use mechanical ventilation, each dip tank must have an independent exhaust system unless the combination of substances being removed will not cause a:

**1910.124(b)(6)(i)** Fire;

**1910.124(b)(6)(ii)** Explosion; or

**1910.124(b)(6)(iii)** Chemical reaction.

#### **1910.124(c) What requirements must I follow to recirculate exhaust air into the workplace?**

**1910.124(c)(1)** You may not recirculate exhaust air when any substance in that air poses a health hazard to employees or exceeds 25% of its LFL.

**1910.124(c)(2)** You must ensure that any exhaust air re-circulated from a dipping or coating operation using flammable liquids or liquids with flashpoints greater than 199.4 °F (93 °C) is:

**1910.124(c)(2)(i)** Free of any solid particulate that poses a health or safety hazard for employees; and

**1910.124(c)(2)(ii)** Monitored by approved equipment.

**1910.124(c)(3)** You must have a system that sounds an alarm and automatically shuts down the operation when the vapor concentration for any substance in the exhaust airstream exceeds 25% of its LFL.

#### **1910.124(d) What must I do when I use an exhaust hood?**

You must:

**1910.124(d)(1)** Provide each room having exhaust hoods with a volume of outside air that is at least 90 percent of the volume of the exhaust air; and

**1910.124(d)(2)** Ensure that the outside air supply does not damage exhaust hoods.

#### **1910.124(e) What requirements must I follow when an employee enters a dip tank?**

When an employee enters a dip tank, you must meet the entry requirements of §1910.146, OSHA's standard for Permit-Required Confined Spaces, as applicable.

#### **1910.124(f) What first-aid procedures must my employees know?**

Your employees must know the first-aid procedures that are appropriate to the dipping or coating hazards to which they are exposed.

**1910.124(g) What hygiene facilities must I provide?**

When your employees work with liquids that may burn, irritate, or otherwise harm their skin, you must provide:

- 1910.124(g)(1)** Locker space or other storage space to prevent contamination of the employee's street clothes;
- 1910.124(g)(2)** An emergency shower and eye-wash station close to the dipping or coating operation. In place of this equipment, you may use a water hose that is at least 4 feet (1.22 m) long and at least 3/4 of an inch (18 mm) thick with a quick-opening valve and carrying a pressure of 25 pounds per square inch (1.62 k/cm<sup>2</sup>) or less; and
- 1910.124(g)(3)** At least one basin with a hot-water faucet for every 10 employees who work with such liquids. (See paragraph (d) of §1910.141.)

**1910.124(h) What treatment and first aid must I provide?**

When your employees work with liquids that may burn, irritate, or otherwise harm their skin, you must provide:

- 1910.124(h)(1)** A physician's approval before an employee with a sore, burn, or other skin lesion that requires medical treatment works in a vapor area;
- 1910.124(h)(2)** Treatment by a properly designated person of any small skin abrasion, cut, rash, or open sore;
- 1910.124(h)(3)** Appropriate first-aid supplies that are located near the dipping or coating operation; and
- 1910.124(h)(4)** For employees who work with chromic acid, periodic examinations of their exposed body parts, especially their nostrils.

**1910.124(i) What must I do before an employee cleans a dip tank?**

Before permitting an employee to clean the interior of a dip tank, you must:

- 1910.124(i)(1)** Drain the contents of the tank and open the cleanout doors; and
- 1910.124(i)(2)** Ventilate and clear any pockets where hazardous vapors may have accumulated.

**1910.124(j) What must I do to inspect and maintain my dipping or coating operation?**

You must:

- 1910.124(j)(1)** Inspect the hoods and ductwork of the ventilation system for corrosion or damage:
  - 1910.124(j)(1)(i)** At least quarterly during operation; and
  - 1910.124(j)(1)(ii)** Prior to operation after a prolonged shutdown.
- 1910.124(j)(2)** Ensure that the airflow is adequate:
  - 1910.124(j)(2)(i)** At least quarterly during operation; and
  - 1910.124(j)(2)(ii)** Prior to operation after a prolonged shutdown.
- 1910.124(j)(3)** Periodically inspect all dipping and coating equipment, including covers, drains, overflow piping, and electrical and fire-extinguishing systems, and promptly correct any deficiencies;
- 1910.124(j)(4)** Provide mechanical ventilation or respirators (selected and used as specified in § 1910.134, OSHA's Respiratory Protection standard) to protect employees in the vapor area from exposure to toxic substances released during welding, burning, or open-flame work; and
- 1910.124(j)(5)** Have dip tanks thoroughly cleaned of solvents and vapors before permitting welding, burning, or open-flame work on them.

[77 FR 17777, March 26, 2012]

1910.125

**ADDITIONAL REQUIREMENTS FOR DIPPING AND COATING OPERATIONS**

**THAT USE FLAMMABLE LIQUIDS OR LIQUIDS WITH FLASHPOINTS GREATER THAN 199.4 °F (93 °C)**

If you use flammable liquids, you must comply with the requirements of this section as well as the requirements of § 1910.123, 1910.124, and 1910.126, as applicable.

<b>You must also comply with this section if:</b>	<b>And:</b>
• The flashpoint of the liquid is 199.4 °F (93 °C) or above .....	• The liquid is heated as part of the operation; or • A heated object is placed in the liquid.

**1910.125(a) What type of construction material must be used in making my dip tank?**

Your dip tank must be made of noncombustible material.

**1910.125(b) When must I provide overflow piping?**

**1910.125(b)(1)** You must provide properly trapped overflow piping that discharges to a safe location for any dip tank having:

**1910.125(b)(1)(i)** A capacity greater than 150 gallons (568 L); or

**1910.125(b)(1)(ii)** A liquid surface area greater than 10 feet<sup>2</sup> (0.95 m<sup>2</sup>).

**1910.125(b)(2)** You must also ensure that:

**1910.125(b)(2)(i)** Any overflow piping is at least 3 inches (7.6 cm) in diameter and has sufficient capacity to prevent the dip tank from overflowing;

**1910.125(b)(2)(ii)** Piping connections on drains and overflow pipes allow ready access to the interior of the pipe for inspection and cleaning; and

**1910.125(b)(2)(iii)** The bottom of the overflow connection is at least 6 inches (15.2 cm) below the top of the dip tank.

**1910.125(c) When must I provide a bottom drain?**

**1910.125(c)(1)** You must provide a bottom drain for dip tanks that contain more than 500 gallons (1893 L) of liquid, unless:

**1910.125(c)(1)(i)** The dip tank is equipped with an automatic closing cover meeting the requirements of paragraph (f)(3) of this section; or

**1910.125(c)(1)(ii)** The viscosity of the liquid at normal atmospheric temperature does not allow the liquid to flow or be pumped easily.

**1910.125(c)(2)** You must ensure that the bottom drain required by this section:

**1910.125(c)(2)(i)** Will empty the dip tank during a fire;

**1910.125(c)(2)(ii)** Is properly trapped;

**1910.125(c)(2)(iii)** Has pipes that permit the dip tank's contents to be removed within five minutes after a fire begins; and

**1910.125(c)(2)(iv)** Discharges to a safe location.

**1910.125(c)(3)** Any bottom drain you provide must be capable of manual and automatic operation, and manual operation must be from a safe and accessible location.

**1910.125(c)(4)** You must ensure that automatic pumps are used when gravity flow from the bottom drain is impractical.

**1910.125(d) When must my conveyor system shut down automatically?**

If your conveyor system is used with a dip tank, the system must shut down automatically:

**1910.125(d)(1)** If there is a fire; or

**1910.125(d)(2)** If the ventilation rate drops below what is required by paragraph (b) of §1910.124.



**1910.125(e) What ignition and fuel sources must be controlled?**

**1910.125(e)(1)** In each vapor area and any adjacent area, you must ensure that:

**1910.125(e)(1)(i)** All electrical wiring and equipment conform to the applicable hazardous (classified)-area requirements of subpart S of this part (except as specifically permitted in paragraph (g) of §1910.126); and

**1910.125(e)(1)(ii)** There are no flames, spark-producing devices, or other surfaces that are hot enough to ignite vapors.

**1910.125(e)(2)** You must ensure that any portable container used to add liquid to the tank is electrically bonded to the dip tank and positively grounded to prevent static electrical sparks or arcs.

**1910.125(e)(3)** You must ensure that a heating system that is used in a drying operation and could cause ignition:

**1910.125(e)(3)(i)** Is installed in accordance with NFPA 86A-1969, Standard for Ovens and Furnaces (which is incorporated by reference in §1910.6 of this part);

**1910.125(e)(3)(ii)** Has adequate mechanical ventilation that operates before and during the drying operation; and

**1910.125(e)(3)(iii)** Shuts down automatically if any ventilating fan fails to maintain adequate ventilation.

**1910.125(e)(4)** You also must ensure that:

**1910.125(e)(4)(i)** All vapor areas are free of combustible debris and as free as practicable of combustible stock;

**1910.125(e)(4)(ii)** Rags and other material contaminated with liquids from dipping or coating operations are placed in approved waste cans immediately after use; and

**1910.125(e)(4)(iii)** Waste can contents are properly disposed of at the end of each shift.

**1910.125(e)(5)** You must prohibit smoking in a vapor area and must post a readily visible "No Smoking" sign near each dip tank.

**1910.125(f) What fire protection must I provide?**

**1910.125(f)(1)** You must provide the fire protection required by this paragraph (f) for:

**1910.125(f)(1)(i)** Any dip tank having a capacity of at least 150 gallons (568 L) or a liquid surface area of at least 4 feet<sup>2</sup> (0.38 m<sup>1</sup>); and

**1910.125(f)(1)(ii)** Any hardening or tempering tank having a capacity of at least 500 gallons (1893 L) or a liquid surface area of at least 25 feet<sup>2</sup> (2.37 m<sup>2</sup>).

**1910.125(f)(2)** For every vapor area, you must provide:

**1910.125(f)(2)(i)** Manual fire extinguishers that are suitable for flammable and combustible liquid fires and that conform to the requirements of §1910.157; and

**1910.125(f)(2)(ii)** An automatic fire-extinguishing system that conforms to the requirements of subpart L of this part.

**1910.125(f)(3)** You may substitute a cover that is closed by an approved automatic device for the automatic fire-extinguishing system if the cover:

**1910.125(f)(3)(i)** Can also be activated manually;

**1910.125(f)(3)(ii)** Is noncombustible or tin-clad, with the enclosing metal applied with locked joints; and

**1910.125(f)(3)(iii)** Is kept closed when the dip tank is not in use.

**1910.125(g)** To what temperature may I heat a liquid in a dip tank? You must maintain the temperature of the liquid in a dip tank:

**1910.125(g)(1) Below the liquid's boiling point; and**

**1910.125(g)(2) At least 100 deg. F (37.8° C) below the liquid's auto-ignition temperature.**

[64 FR 13909, March 23, 1999; 77 FR 17777, March 26, 2012]

## 1910.126

### ADDITIONAL REQUIREMENTS FOR SPECIAL DIPPING AND COATING OPERATIONS

In addition to the requirements in §§1910.123 through 1910.125, you must comply with any requirement in this section that applies to your operation.

#### **1910.126(a) What additional requirements apply to hardening or tempering tanks?**

**1910.126(a)(1)** You must ensure that hardening or tempering tanks:

**1910.126(a)(1)(i)** Are located as far as practicable from furnaces;

**1910.126(a)(1)(ii)** Are on noncombustible flooring; and

**1910.126(a)(1)(iii)** Have noncombustible hoods and vents (or equivalent devices) for venting to the outside. For this purpose, vent ducts must be treated as flues and kept away from combustible materials, particularly roofs.

**1910.126(a)(2)** You must equip each tank with an alarm that will sound if the temperature of the liquid comes within 50° F (10° C) of its flashpoint (the alarm set point).

**1910.126(a)(3)** When practicable, you must also provide each tank with a limit switch to shut down the conveyor supplying work to the tank.

**1910.126(a)(4)** If the temperature of the liquid can exceed the alarm set point, you must equip the tank with a circulating cooling system.

**1910.126(a)(5)** If the tank has a bottom drain, the bottom drain may be combined with the oil-circulating system.

**1910.126(a)(6)** You must not use air under pressure when you fill the dip tank or agitate the liquid in the dip tank.

#### **1910.126(b) What additional requirements apply to flow coating?**

**1910.126(b)(1)** You must use a direct low-pressure pumping system or a 10-gallon (38 L) or smaller gravity tank to supply the paint for flow coating. In case of fire, an approved heat-actuated device must shut down the pumping system.

**1910.126(b)(2)** You must ensure that the piping is substantial and rigidly supported.

#### **1910.126(c) What additional requirements apply to roll coating, roll spreading, or roll impregnating?**

When these operations use a flammable liquid that has a flashpoint below 140° F (60° C), you must prevent sparking of static electricity by:

**1910.126(c)(1)** Bonding and grounding all metallic parts (including rotating parts) and installing static collectors; or

**1910.126(c)(2)** Maintaining a conductive atmosphere (for example, one with a high relative humidity) in the vapor area.

#### **1910.126(d) What additional requirements apply to vapor degreasing tanks?**

**1910.126(d)(1)** You must ensure that the condenser or vapor-level thermostat keeps the vapor level at least 36 inches (91 cm) or one-half the tank width, whichever is less, below the top of the vapor degreasing tank.

**1910.126(d)(2)** When you use gas as a fuel to heat the tank liquid, you must prevent solvent vapors from entering the air-fuel mixture. To do this, you must make the combustion chamber airtight (except for the flue opening).

**1910.126(d)(3)** The flue must be made of corrosion-resistant material, and it must extend to the outside. You must install a draft diverter if mechanical exhaust is used on the flue.

**1910.126(d)(4)** You must not allow the temperature of the heating element to cause a solvent or mixture to decompose or to generate an excessive amount of vapor.

#### **1910.126(e) What additional requirements apply to cyanide tanks?**

You must ensure that cyanide tanks have a dike or other safeguard to prevent cyanide from mixing with an acid if a dip tank fails.

#### **1910.126(f) What additional requirements apply to spray cleaning tanks and spray degreasing tanks?**

If you spray a liquid in the air over an open-surface cleaning or degreasing tank, you must control the spraying to the extent feasible by:

**1910.126(f)(1)** Enclosing the spraying operation; and

**1910.126(f)(2)** Using mechanical ventilation to provide enough inward air velocity to prevent the spray from leaving the vapor area.

**1910.126(g) What additional requirements apply to electrostatic paint detearing?**

**1910.126(g)(1)** You must use only approved electrostatic equipment in paint-detearing operations. Electrodes in such equipment must be substantial, rigidly supported, permanently located, and effectively insulated from ground by nonporous, noncombustible, clean, dry insulators.

**1910.126(g)(2)** You must use conveyors to support any goods being paint deteared.

**1910.126(g)(3)** You must ensure that goods being electrostatically deteared are not manually handled.

**1910.126(g)(4)** Between goods being electrostatically deteared and the electrodes or conductors of the electrostatic equipment, you must maintain a minimum distance of twice the sparking distance. This minimum distance must be displayed conspicuously on a sign located near the equipment.

**1910.126(g)(5)** You must ensure that the electrostatic equipment has automatic controls that immediately disconnect the power supply to the high-voltage transformer and signal the operator if:

**1910.126(g)(5)(i)** Ventilation or the conveyors fail to operate;

**1910.126(g)(5)(ii)** A ground (or imminent ground) occurs anywhere in the high-voltage system; or

**1910.126(g)(5)(iii)** Goods being electrostatically deteared come within twice the sparking distance of the electrodes or conductors of the equipment.

**1910.126(g)(6)** You must use fences, rails, or guards, made of conducting material and adequately grounded, to separate paint-detearing operations from storage areas and from personnel.

**1910.126(g)(7)** To protect paint-detearing operations from fire, you must have in place:

**1910.126(g)(7)(i)** Automatic sprinklers; or

**1910.126(g)(7)(ii)** An automatic fire-extinguishing system conforming to the requirements of subpart L of this part.

**1910.126(g)(8)** To collect paint deposits, you must:

**1910.126(g)(8)(i)** Provide drip plates and screens; and

**1910.126(g)(8)(ii)** Clean these plates and screens in a safe location.

[64 FR 13911, March 23, 1999; 77 FR 17777, March 26, 2012]



Michigan Occupational Safety and Health Administration  
PO Box 30643  
Lansing, Michigan 48909-8143  
Ph: 517-284-7740

The Department of Licensing and Regulatory Affairs will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Auxiliary aids, services and other reasonable accommodations are available upon request to individuals with disabilities.