

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES LICENSING AND REGULATORY AFFAIRS

BUREAU OF SAFETY AND REGULATION DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS COMMISSION

Filed with the Secretary of State on October 28, 2014

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 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** general industry safety standards commission by sections 16 and 21 of ~~1974 Act No. PA 154, of the Public Acts of 1974, as amended, being SS~~ **MCL 408.1016 and 408.1021, of the Michigan Compiled Laws) and Executive Reorganization Order Nos. 1996-2, 2003-18 2003-1, 2008-4, and 2011-4, MCL 408.1016, 408.1021, 445.2001, 445.2011, 445.2025, and 445.2030)**

R 408.18101, R 408.18114, R 408.18115, R 408.18116, R 408.18122, R 408.18125, R 408.18130, R 408.18147, R 408.18156, R 408.18171, R 408.18181, and R 408.18182 of the Michigan Administrative Code are amended, and R 408.18101a, R 408.18149 and R 408.18159a are added, and Occupational Health Rules 3404 and 5003 are rescinded, as follows:

PART 81 BAKING OPERATIONS

GENERAL PROVISIONS

R 408.18101 Scope.

Rule 8101. (1) This part provides for the safe maintenance and operation of bakery machinery and equipment by the employer and their safe use by the employee in, around, and about a place of employment.

(2) **The requirements of this part apply to the design, installation, operation, and maintenance of machinery and equipment used within a bakery.**

R 408.18101a Adopted and referenced standards.

Rule 8101a. (1) This standard is adopted by reference in these rules, American Society of Mechanical Engineers Standard ASME "Boiler and Pressure Vessel Code, Section VIII – Unfired Pressure Vessels" 1974 edition, Division 1 and Division 2 with addenda. This standard is available from IHS Global, 15 Inverness Way East, Englewood, Colorado, USA, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: <http://global.ihs.com>; at a cost as of the time of adoption of these rules of \$514.00.

(2) The following standards are adopted by reference in these rules and are available from the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, Massachusetts, USA, 02169-7471, telephone number: 1-800-344-3555, or via the internet at website: custserv@nfpa.org. At a cost as of the time of adoption of these rules, as stated in this rule.

(a) NFPA 62 "Code for Pulverizing Systems for Sugar and Cocoa," 1967 edition. Cost: \$27.00.

(b) NFPA 656 "Code for the Prevention of Dust Ignitions in Spice Grinding Plants," 1959 edition. Cost: \$27.00.

(3) The standards adopted in these rules are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.

(4) Copies of the standards adopted in these rules may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, 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 this standard. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, or via the internet at: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," R 408.10201 to R 408.10241.

(b) General Industry Safety Standard Part 3 "Fixed Ladders," R 408.10301 to R 408.10372.

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

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

(e) General Industry Safety Standard Part 14 "Conveyors," R 408.11401 to R 408.11461.

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

R 408.18114 Floors, aisles, and platforms.

Rule 8114. (1) ~~An aisle or floor work area shall be maintained free of protruding objects, holes, loose boards, grease, oil, accumulations of water or other objects or material which would create a tripping or slipping hazard.~~

~~(2) An aisle for combined usage of an employee and stock moving equipment shall be 2 feet wider than the widest load moved. In a place of employment having less than 10 employees producing hand crafted products in the production area, the aisle shall be not less than 30 inches wide. The aisle shall be defined.~~

~~(3) A platform, walkway, and stairway, where provided, on storage bins and machinery shall be constructed as prescribed in the General Industry Safety standards commission Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," being R 408.10201 to R 408.10241 of the Michigan Administrative Code. A fixed ladder used in place of a stairway shall be as prescribed in the General Industry Safety standards commission Standard Part 3 "Fixed Ladders," as referenced in R 408.18101a. being R 408.10301 to R 408.10365 of the Michigan Administrative Code.~~

R 408.18115 Power controls and motors.

Rule 8115. (1) ~~If an unexpected start up would cause an injury, the power source of any equipment to be repaired, serviced or set up shall be locked out by the employee doing the work. Any hazardous residual pressure shall be relieved prior to and during the work.~~

~~(2) Provision shall be made to prevent permanently connected machinery and equipment, other than compressors and air moving equipment used for air conditioning and refrigeration, and fire protection and pumps, from automatically restarting upon restoration of power after a power interruption if unexpected start up could cause injury.~~

~~(3) A control device, except a stop button, shall be so arranged or guarded as to prevent accidental activation where activation could cause injury.~~

~~(4) Where a hazard exists, a machine shall be equipped with an emergency stop device, red in color, that which can be activated from an operator's work station.~~

~~(5) When a 2-hand control device is required, it shall require the concurrent use of both hands to activate the machine or equipment. The device shall be located in a manner to prevent bridging. Where more than 1 employee is exposed to the point of operation, a 2-hand control device shall be provided each employee and the controls shall operate concurrently.~~

~~(6) An electric motor, control, and other electrical components used on dry ingredient handling and storage equipment shall be dust ignition tight.~~

R 408.18116 Machine installation.

Rule 8116. (1) Electrically powered machinery and equipment shall be grounded.

(2) Stationary type machinery and equipment shall be secured to a floor, foundation, bench, table, or stand of such strength and design to prevent overturning or unintentional movement.

(3) Permanent machinery and equipment shall not be placed so as to require an operator to stand in an aisle. Temporary equipment shall not be placed ~~so as as so~~ to require an operator to stand in an aisle, unless the employee is protected with a barrier as prescribed in ~~rules 231 and 232 of the General Industry Safety standards commission~~ Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," **as referenced in R 408.18101a.** ~~being R 408.10231 and R 408.10232 of the Michigan Administrative Code.~~

(4) Machinery or equipment having an access door for body entry shall be equipped with a means of opening the door inside and out.

R 408.18122 Bag-arm conveyors.

Rule 8122. A bag-arm conveyor used for transporting bags of flour or sugar with manual takeoff shall be equipped with a device installed so as to stop the conveyor automatically if any bag fails to clear the bar-arms at the discharge end. The conveyor shall be equipped with a rollback device as prescribed in ~~rule 1429 of the General Industry Safety standards commission~~ Standard Part 14 "Conveyors," **as referenced in R 408.18101a.** ~~being R 408.11429 of the Michigan Administrative Code.~~

R 408.18125 Sifters.

Rule 8125. (1) A sifter shall **have both of the following:**

- (a) ~~Have~~ All openings constructed with dust tight closures ~~that which~~ are readily accessible for inspection purposes.
- (b) ~~Have~~ Refuse tailing receptacles for all types of sifters readily accessible and located at a safe distance from unguarded moving parts.

(2) Oscillating and vibrating sifters shall have all moving parts within the outer frame of the sifter or the machine located within a standard barrier as prescribed in ~~rule 231 of the General Industry Safety standards commission~~ Standard Part 2 "Floor and Wall Openings, Stairways and Skylights," **as referenced in R 408.18101a.**

R 408.18130 Vertical batch mixers.

Rule 8130. (1) A bowl locking device on a vertical batch mixer, including an artoflex mixer, shall be designed to require a positive action of the operator to unlock the bowl.

- (2) If an employee can reach into a vertical mixing bowl, a warning sign shall be installed to caution the employee.

~~(3) A mixer with external power application shall have all belts, chains, gears, pulleys, sprockets, clutches, and other moving parts completely enclosed as prescribed in general industry safety standard, Part 7. Guards for Power Transmission, being R 408.10701 et seq. of the Michigan Administrative Code.~~

~~(4) A mixer with a built-in power unit shall have all drive elements enclosed in such a manner as to prevent injury to an operator or a maintenance employee performing his or her normal duties.~~

~~(4)(5) A mixer shall be equipped with an individual motor and control, and with a conveniently located manual switch, to prevent the mixer from being started in the usual manner while the machine is being serviced and cleaned.~~

~~(5)(6) A loose access door and cover weighing more than 2 pounds shall not be used on a mixer. The door or cover shall be hinged or otherwise held in proximity to the openings that which they cover.~~

~~(6)(7) An overhead cover or door that which is subject to accidental closure shall be counterbalanced to remain in an open position, or shall be provided with a means to hold it open until positively released by the operator.~~

~~(7)(8) An electrical pilot or control circuit shall not be employed at a potential in excess of 240 volts.~~

~~(8)(9) A device shall be made available for moving a bowl, weighing more than 80 pounds with contents, into and out of the mixing position of the machine.~~

R 408.18147 Steam kettles.

Rule 8147. (1) A steam kettle shall have a positive locking device capable of holding the kettle at any desired position.

(2) A kettle with a steam jacket shall be provided with safety valves as prescribed in the ASME Pressure Vessel Code, Section VIII, Unfired Pressure Vessels, 1974 edition, as adopted in R 408.18101a. ~~which is herein incorporated by reference and may be inspected at the Lansing office of the Michigan Department of Consumer and Industry Services. This standard may be purchased at a cost of \$40.00 from American Society of Mechanical Engineers, 345 E. 47th Street, New York, New York 10017, or from the Michigan Department of Consumer and Industry Services, State Secondary Complex, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.~~

R 408.18149 Doughnut machines.

Rule 8149. Separate flues shall be provided for doughnut machines as follows:

(a) For venting vapors from the frying section.

(b) For venting products of combustion from the combustion chamber used to heat the fat.

R 408.18156 Frying machines and vats; installation.

Rule 8156. (1) A frying machine or vat shall be installed on a noncombustible floor, or a metal pan flanged on 4 sides shall be installed underneath the entire machine. The capacity of the pan shall be not less than the frying tank.

(2) A frying machine or vat shall have not less than 30 inches of work space on all exposed sides, except where other equipment is connected to the machine.

(3) A frying machine or vat shall be protected by a fixed fire extinguishing system as prescribed in the General Industry Safety standards commission Standard Part 9 "Fixed Fire Equipment," being R 408.10901 to R 408.10983 of the Michigan Administrative Code, or portable fire extinguishers as prescribed in the General Industry Safety standards commission Standard Part 8 "Portable Fire Extinguishers," as referenced in R 408.18101a. ~~being R 408.10801 to R 408.10839 of the Michigan Administrative Code.~~

(4) Where a non-pressure type of indirect heat is used with a frying machine or vat, the welded seams of the plate coils on the frying kettle shall not make contact with the welded seams of the kettle proper.

R 408.18159a Sugar and spice pulverizers.

Rule 8159a. (1) All drive belts used in connection with sugar and spice pulverizers shall be grounded by means of metal combs or other effective means of removing static electricity.

(2) All pulverizing of sugar or spice grinding shall comply with the requirements of NFPA 62 "Code for Pulverizing Systems for Sugar and Cocoa," 1967 edition and NFPA 656 "Code for the Prevention of Dust Ignitions in Spice Grinding Plants," 1959 edition, as adopted in R 408.18101a.

R 408.18171 Wrapping machines.

Rule 8171. (1) An electric sealing heater on a wrapping machine shall have the exposed heated surfaces guarded to prevent burns from accidental contact.

(2) Where more than 1 operator is feeding a wrapping machine, each operator shall have an emergency stop button as prescribed in R 408.18115(4), but there shall be only 1 start button station.

(3) A pouch-wrapping machine shall be equipped with a trip gate or interlocked enclosure ahead of or over the sealing jaws and wrapper guide.

(4) Electric wiring for the wrapper heaters shall be arranged so that a minimum number of wires are used to connect the movable heaters assembly to the permanent wiring of the machine.

This wiring shall be the heat resisting type as prescribed in the General Industry Safety standards commission Standards, **Part 39 "Design Safety Standards for Electrical Systems," as referenced in R 408.18101a.** ~~1910.308 Application and 1910.309 National Electrical Code.~~

R 408.18181 Ovens.

Rule 8181. (1) **With the exception of** ~~Except~~ a range or cabinet type oven without moving parts installed before **November 16, 1974**, ~~the effective date of this part~~, a combustible fueled oven shall be provided devices to protect against **all of** the following hazards:

- (a) Ignition failure.
- (b) Abnormal fuel pressure.
- (c) Combustion air failure.
- (d) Electrical power failure.
- (e) Exhaust system failure.
- (f) Excessive temperature.

(2) Preventilation purge shall be arranged in the safety control circuit and set so as to require operation of the exhaust and recirculating fans to provide not less than 4 complete oven heating chamber air changes with fresh air before the burner ignition system may be operated and fuel turned on.

(3) If a combustible fuel is used **that** ~~which~~ is heavier than air, a bottom exhaust system shall be provided and used during the purge cycle.

(4) A direct-fired oven installed after **November 16, 1974**, ~~the effective date of this part~~ shall be equipped with relief vents for freely relieving internal explosion pressures. The vents shall be proportioned in the ratio of their area to the area of explosion containing volume of the oven which shall be not less than 1 square foot of relief area to 30 cubic feet of oven volume.

(5) All safety controls shall be inspected not less than monthly as prescribed in Table 1 "**Safety Control Inspection Guide for Washers and Ovens**" of R 408.18142(5).

R 408.18182 Range and cabinet type ovens.

Rule 8182. (1) A range or cabinet type oven without moving parts installed before **November 16, 1974** ~~the effective date of this part~~ shall be equipped with fuel failure safety device for the pilot and burner.

(2) A range or cabinet type oven without moving parts installed after **November 16, 1974** ~~the effective date of this part~~ shall be as prescribed in ~~rule~~ **R 408.18181**.

Rule 3404 **Rescinded**. ~~Ventilation controls in: Bakery Equipment~~

(1) ~~Applicability. This rule applies to all equipment, processes and establishments subject to Rule 5003.~~

(2) ~~Definitions applicable to this rule.~~

(a) ~~Direct fired ovens. Direct fired ovens are ovens which burn fuel directly inside the baking chamber. [1910.263(b)(8)]~~

(b) ~~Direct-recirculating ovens. Direct-recirculating ovens are ovens which have heating systems consisting of one or more heaters (located inside or outside the baking chamber), each heater being equipped with a burner, the products of combustion of which are mixed with spent gases returned from the oven. Combustion gases are circulated through the heater and oven chamber by a fan. An overflow or vent removes part of the spent combustion gases to compensate for fresh combustion gases added by the burner. [1910.263(b)(9)]~~

(c) ~~Flue-type ovens. Flue-type ovens are ovens which burn fuel in a furnace which is connected through flues which carry the combustion gases to a stack. [1910.263(b)(10)]~~

(d) ~~Indirect multiple-burner ovens. Indirect multiple-burner ovens are ovens which are heated by burners (usually gas) which are totally enclosed in such a way that unburned gases or products of combustion cannot enter the baking chamber. [1910.263(b)(11)]~~

(e) ~~Steam-tube ovens. Steam-tube ovens are ovens which are heated by a group of tubes which are partially filled with liquid and sealed at both ends. A small part of each tube is exposed to the heat of a furnace and the larger part placed inside the baking chamber. Heat is transmitted by evaporating liquid in the furnace and of the tube. Steam thus formed travels to the other end of the tube where the steam condenses and returns to the furnace by gravity. [1910.263(b)(12)]~~

(f) ~~Indirect-recirculating ovens. Indirect-recirculating ovens are ovens which are equipped with a gas-tight duct system, a furnace, and a circulating fan. Gases of combustion are circulated through this enclosed system and mixed with fresh combustion gases generated by the burner in the combustion chamber. A vent or overflow removes a portion of the gases to compensate for the fresh gases added by the burner. No unburned gases or products of combustion have access to the baking chamber. [1910.263(b)(13)]~~

(g) ~~Electric ovens. Electric ovens are ovens which are heated entirely by passing an electric current through resistance elements. [1910.263(b)(14)]~~

(3) ~~Flour-handling equipment.~~

(a) ~~Dumpbin and blender. The term "dumpbin" and "blender" applies to those elements of a flour-handling system in which flour in bags is first emptied for distribution. [1910.263(b)(1)]~~

(b) ~~All dumpbin and blender hoods shall be of sufficient capacity to prevent circulation of flour dust outside the hoods. [1910.263(d)(3)(v)]~~

(4) ~~Miscellaneous equipment.~~

(a) ~~Pan-washing tanks. Power ventilated exhaust hoods shall be provided over the tanks. [1910.263(i)(15)(v)]~~

(b) ~~Doughnut machines. Separate flues shall be provided.~~

(i) ~~For venting vapors from the frying section, and [1910.263(i)(22)(i)]~~

~~(ii) For venting products of combustion from the combustion chamber used to heat the fat. 1910.263(i)(22)(ii)]~~

~~(5) Biscuit and cracker equipment. Sugar and spice pulverizers.~~

~~All drive belts used in connection with sugar and spice pulverizers shall be grounded by means of metal combs or other effective means of removing static electricity. All pulverizing of sugar or spice grinding shall be done in accordance with NFPA 62-1967 (Standard for Dust Hazards of Sugar and Cocoa) and NFPA 656-1959 (Standard for Dust Hazards in Spice Grinding Plants). [1910.263(k)(2)]~~

Rule 5003 Rescinded. General requirements in: Bakery Equipment

~~(1) General requirements.~~

~~(a) Application.~~

~~The requirements of this rule shall apply to the design, installation, operation and maintenance of machinery and equipment used within a bakery. [1910.263(a)(1)]~~

~~(b) Standards incorporated by reference. Standards covering issues of occupational health which are of general application without regard to any specific industry are incorporated by reference in this rule and made applicable to bakeries. All such standards shall be construed according to the rules of construction set out in Rule 1106(3). [1910.263(a)(2)]~~

~~(2) Ventilation. For specific standards supplementing the general standards for ventilation and contaminant control -- see Rule 3404.~~