DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS

FILED WITH THE SECRETARY OF STATE ON APRIL 6, 2015

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
by sections 16 and 21 of 1974 PA 154, **MCL 408.1016 and 408.1021,**
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 408.16204, R 408.16223, R 408.16227, R 408.16234, R 408.16237, and R 408.16251
of the Michigan Administrative Code are amended, and R 408.16202 is added, as follows:

PART 62. PLASTIC MOLDING

R 408.16202 Referenced standards.

Rule 6202. The following Michigan occupational safety and health standards (MIOSHA) 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 Services Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143 or via the internet at website: 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 4 "Portable Ladders," R 408.10401 to R 408.10456.

(d) General Industry Safety Standard Part 27 "Woodworking Machinery," R 408.12701 to R 408.12799.

(e) General Industry Safety Standard Part 85 "The Control of Hazardous Energy Sources," R 408.18501 to R 408.18599.

R 408.16204 Definitions; B to E.

Rule 6204. (1) "Blow molding machine" means a plasticizer and a clamping unit that work in conjunction with each other so that the plasticizer produces molten plastic which is blown by air, gas, or liquid and the clamping unit performs the manufacture of hollow products.

(2) "Compression molding machine" means a machine that uses **temperature-controlled** ~~temperaturecontrolled~~ molds for pressing plastic material into the shape of a mold cavity.

(3) "Device" means a machine control that is designed and installed to perform either of the following functions:

(a) Prevent normal machine operation if the operator's hands are within the point of operation.

(b) Require the concurrent use of both hands of the operator to actuate the machine.

(4) "Dielectric sealing" means a process for bonding plastic films using high-frequency energy.

(5) "Expansion molding" means to make plastic shapes by expanding polystyrene beads with a heating medium within a mold.

(6) "Extrusion machine" means a plasticizer which is mounted on a base and which takes raw plastic material, changes it into a molten state, and extrudes it through a die into a predetermined shape.

R 408.16223 Platforms and ladders.

Rule 6223. **(1)** If it is necessary for an employee to mount a machine to perform assigned duties, a platform or ladder, or both, shall be provided and used. The floor of the platform shall have an open design or slip-resistant surface. ~~A platform shall be as prescribed in the general industry safety standards commission standard, Part 2. Floor and Wall Openings, Stairways, and Skylights, being R 408.10201 et seq. of the Michigan Administrative Code. A fixed ladder shall be as prescribed in the general industry safety standards commission standard, Part 3. Fixed Ladders, being R 408.10301 et seq. of the Michigan Administrative Code. A portable ladder shall be as prescribed in the general industry safety standards commission standard, Part 4. Portable Ladders, being R 408.10401 et seq. of the Michigan Administrative Code.~~

(2) A platform shall be as prescribed in General Industry Safety Standard Part 2 "Floor and Wall Openings, Stairways, and Skylights," as referenced in R 408.16202.

(3) A fixed ladder shall be as prescribed in General Industry Safety Standard Part 3 "Fixed Ladders," as referenced in R 408.16202.

(4) A portable ladder shall be as prescribed in General Industry Safety Standard Part 4 "Portable Ladders," as referenced in R 408.16202.

R 408.16227 Lubrication and maintenance

Rule 6227. (1) Lubrication of a machine shall be accomplished by 1 of the following:

(a) Manually when the machine can be shut off and locked out.

(b) An automatic pressure or gravity feed system.

(c) An extension pipe leading to an area outside of the guards or away from any hazard.

(2) ~~Except as permitted in R 408.16234(10), each~~ **Each** employee doing the work shall lock out the power source of the machine or equipment to be repaired or serviced if unexpected motion would cause injury. Any residual pressure which would be hazardous shall be relieved before and remain relieved during work by an employee doing the work.

R 408.16234 Injection molding machinery.

Rule 6234. (1) An injection molding machine, except for one with a movable table that is subject to the provisions of subrule (4) of this rule, shall be equipped with a safety gate that is designed and constructed to prevent an employee from reaching into the point of operation, except when the gate is open.

(2) A safety gate on an injection molding machine that was manufactured after August 28, 1973, shall be interlocked with electrical, mechanical, and hydraulic or pneumatic devices, except as noted in subrule (9) of this rule.

(3) An injection molding machine that was manufactured on or before August 28, 1973, shall have the safety gate interlocked by any 2 of the following:

(a) An electrical mold-closing control.

(b) Hydraulic or pneumatic valves that control mold closing.

(c) A mechanical device that prevents mold closing.

(4) An injection molding machine that uses a movable table to hold the lower mold shall be provided with a guard or device that is designed and constructed to deny an operator access to the point of operation during machine cycle.

(5) An injection molding machine shall be equipped with a fixed or an interlocked removable barrier that is designed and constructed to prevent an employee from reaching into the clamping mechanism.

(6) When purging an injection molding machine, an employee shall be protected from the purging splatter by a shield that is fixed, portable, or worn on the employee. The same guarding shall be used when servicing a heated runner manifold nozzle.

(7) An injection molding machine that uses an extruding machine that has an exposed feed screw shall have the screw guarded as prescribed by the provisions of R 408.16233(4).

(8) An electrically interlocked barrier shall be provided to cover the mold area opposite the operator on an injection molding machine that was manufactured after August 28, 1973. An injection molding machine that was manufactured on or before August 28, 1973, shall be provided with an interlocked or fixed barrier to cover the mold area opposite the operator.

(9) On injection molding machines that are powered by sources other than hydraulics or pneumatics, at least 1 additional electrical interlock shall also be provided. The interlock shall be independent of, and perform the same function as, the control specified in subrule (3)(a) of this rule.

(10) **Mold changes on horizontal plastic injection molding machines may continue to be conducted using the procedures specified in subrule (11) of this rule through December 31, 2016. Effective January 1, 2017, employers engaged in mold changes on horizontal injection molding machines shall comply with General Industry Safety Standard Part 85 "The Control of Hazardous Energy Sources," (Lockout/Tagout) (29 C.F.R. § 1910.147), as referenced in R 408.16202.**

(11) An employer shall ensure that routine mold changes on a horizontal injection molding machine are conducted in accordance with either of the following if the machine has an interlocked safety gate **that** ~~which~~ complies with subrule (2) of this rule and an electrically interlocked barrier covering the mold area opposite the operator:

(a) On a horizontal injection molding machine **that** ~~which~~ has a functional mechanical safety device plus **2** ~~two~~ independent interlocks on the operator's gate and an emergency or other stop which shuts off the motor or motors which activate the clamping mechanism, the person changing the mold shall activate the emergency or other stop and lock the operator's gate in the open position. An employer shall ensure that the interlocks **are** ~~shall be~~ checked and found to be functional and properly adjusted before beginning the mold change.

(b) On a horizontal injection molding machine which has **2** ~~two~~ independent interlocks on the rear barrier **that** ~~which~~ shut off the motor or motors **that** ~~which~~ activate the clamping mechanism, the person changing the mold shall lock the rear barrier in the open position. An employer shall ensure that the interlocks are checked and found to be functional and properly adjusted before beginning the mold change.

R 408.16237 Rotational molding.

Rule 6237. (1) A pinch point created where the revolving drive wheel of a rotational molding machine meets the driving surface shall be guarded.

(2) The perimeter of the patch of travel of the rotating molds shall be guarded by a standard barrier as prescribed in ~~rule 231 of the occupational safety standards commission standard, Part 2. Floor~~ **General Industry Safety Standard Part 2 "Floor** and Wall Openings, Stairways, and **Skylights," as referenced in R 408.16202.** ~~Skylights, being R 408.10231 of the Michigan Administrative Code.~~ Access into the area shall be by a gate or door. If the gate or door is interlocked to the power source, the guarding required in subrule (1) **of this rule** need not be installed. The interlocked gate or door on the standard barrier shall not be used as an operating control.

(3) Such a machine, having each movement of the mold manually controlled by an operator, may substitute a yellow line 4 inches wide for a standard barrier around the perimeter of the patch of travel of the rotating molds, except the perimeter between the heating and cooling chambers. However, movement of the molds shall be preceded by automatic activation of a warning device, such as a flashing light, bell, horn, or siren for 5 seconds before the movement.

(4) The operating controls for a manually operated machine shall be so located that the operator cannot reach into the path of or be struck by the moving mold.

R 408.16251 Other machinery.

Rule 6251. Where woodworking machinery is used in the processing of plastics, the machinery shall be as prescribed in **General Industry Safety Standard Part 27 "Woodworking Machinery," as referenced in R 408.16202.** ~~the general industry safety standards commission standard, Part 27. Woodworking Machinery, being R 408.12701 et seq. of the Michigan Administrative Code.~~