

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS DEPARTMENT  
OF LABOR AND ECONOMIC OPPORTUNITY

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY AND HEALTH STANDARD

Filed with the secretary of state on

These rules take effect immediately upon filing with the secretary of state unless adopted under section 33, 44, or 45a(6) of the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a. 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~~ **department of labor and economic opportunity** by sections 16 and 21 of the Michigan occupational safety and health act, 1974 PA 154, MCL 408.1016 and 408.1021, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, **and 2019-3**, MCL 445.2001, 445.2011, 445.2025, ~~and 445.2030~~, **and 125.1998**)

R 408.16202, R 408.16207, R 408.16211, R 408.16226, and R 408.16234 of the Michigan Administrative Code are amended and R 408.16223, R 408.16227, and R 408.16251 are rescinded, as follows:

PART 62. PLASTIC MOLDING

R 408.16202 Referenced standards.

Rule 6202. The following Michigan Occupational Safety and Health Administration (MIOSHA) 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~~ **Department of Labor and Economic Opportunity**, MIOSHA Regulatory Services Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at the following website: [www.michigan.gov/mioshastandards](http://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 and Health Standard Part 2. "Walking-Working Surfaces," R 408.10201 to R 408.10241.

~~(b) General Industry Safety and Health Standard Part 27. "Woodworking Machinery," R 408.12701 to R 408.12799.~~

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

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R 408.16207 Definitions; R, S.

Rule 6207. (1) "Rotational molding" means a method of making hollow articles by charging a hollow rotating mold with a plastic material. After the heated material covers all surfaces of the mold it is cooled and stripped out.

(2) "Safety factor" means the ratio of the breaking strength of a piece of material or object to the maximum designed load or stress applied when in use.

**(3) "Safety gate" means a moveable, interlocked guard allowing the operator access to the point of operation to perform production related tasks.**

~~(3)~~**(4)** "Ship-lap machine" means a powered machine equipped with feed rolls and milling cutters for the purpose of cutting grooves in the edge of expanded sheet material.

~~(4)~~**(5)** "Spin welding" means a method of fusing 2 objects together by spinning 1 or both until frictional heat melts the interface. The spinning is then stopped and pressure applied to both objects.

R 408.16211 Employer responsibilities.

Rule 6211. (1) An employer shall provide training to an employee regarding the operating procedures, hazards, and safeguards of any assigned job.

(2) An employer shall not allow a machine to be operated if the machine is not guarded as prescribed by this part or has a known defect that could affect the safety of an employee.

**(3)**-An employer shall ensure that **all safety devices** ~~the interlocks~~ are checked and found to be functional and properly adjusted ~~before beginning the mold change~~.

## EQUIPMENT INSTALLATION AND MAINTENANCE

R 408.16223 ~~Platforms and ladders~~**Rescinded.**

~~Rule 6223. (1) If it is necessary for an employee to mount a machine to perform assigned duties, a platform or ladder, or both, must be provided and used. The floor of the platform must have an open design or slip resistant surface. (2) A platform must comply with General Industry Safety and Health Standard Part 2. "Walking Working Surfaces," as referenced in R 408.16202.~~

~~(3) A fixed ladder must comply with General Industry Safety and Health Standard Part 2. "Walking Working Surfaces," as referenced in R 408.16202.~~

~~(4) A portable ladder shall be in compliance with General Industry Safety and Health Standard Part 2. "Walking Working Surfaces," as referenced in R 408.16202.~~

R 408.16226 Controls.

Rule 6226. (1) An operating control shall be guarded against accidental contact. A control button or lever shall be identified as to its function.

(2) If a machine requires more than 1 operator, and if each operator is exposed to a point of operation, the **controls**~~machine~~ shall be activated concurrently before the machine will operate.

(3) A machine shall be provided with an emergency stop control at each operator station. The stop control shall be red in color and readily accessible. A button, if used, shall have a mushroom shape.

(4) A machine shall be provided with a means that, upon power failure, will prevent automatic restarting upon the restoration of power. Fire, coolant, and sump pumps are excepted from the requirements of this subrule.

(5) When used, interlocks shall be installed to minimize the possibility of accidental operation or tampering.

(6) Where more than 1 operator is assigned to a plastic molding machine that is not equipped with interlocked gates and the operator is exposed to a point of operation, or when hazardous motion in or near the point of operation could cause injury, each operator shall be provided with a device that prevents reaching into the point of operation during the closing cycle.

(7) Two-hand control devices shall be located in a manner to prevent bridging.

R 408.16227. ~~Lubrication and maintenance~~**Rescinded.**

~~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) 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.~~

## SPECIFIC EQUIPMENT

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 ~~or~~ **guard** 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.~~

~~(2) (3) An~~ **A horizontal** injection molding machine ~~that was manufactured on or before August 28, 1973,~~ shall have the safety gate interlocked **to stop or prevent mold-closing** 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.

**(d) A second electrical mold closing control (all electrical horizontal injection molding machines).**

**(3) A vertical clamp injection molding machine shall have a mechanical restraint device to prevent unintentional gravity descent of the mold, and shall have the safety gate interlocked to stop or prevent mold-closing by any 2 of the following:**

**(a) An electrical mold closing control.**

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

**(c) A second electrical mold closing control (all electrical vertical injection molding machines).**

(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 movable or **removable guard, or other device** ~~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~~**shielding** 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 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)~~**(8)** 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~~**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), 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 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 has a functional mechanical safety device plus 2 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 checked and found to be functional and properly adjusted before beginning the mold change.~~

~~(b) On a horizontal injection molding machine which has 2 independent interlocks on the rear barrier that shut off the motor or motors that 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 408.16251 ~~Other machinery~~**Rescinded.**

~~Rule 6251. Where woodworking machinery is used in the processing of plastics, the machinery shall be as prescribed in General Industry Safety and Health Standard Part 27 "Woodworking Machinery," as referenced in R 408.16202.~~