



DEPARTMENT OF LABOR & ECONOMIC GROWTH  
DIRECTOR'S OFFICE  
GENERAL INDUSTRY SAFETY STANDARDS

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(By authority conferred on the director of the department of consumer and industry services by sections 16 and 21 of Act No. 154 of the Public Acts of 1974, as amended, and Executive Reorganization Order No. 1996-2, being §§408.1016, 408.1021, and 445.2001 of the Michigan Compiled Laws)

R 408.11111 of the Michigan Administrative Code, appearing on page 3546 of the 1979 Michigan Administrative Code, is amended to read as follows:

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PART 11. POLISHING, BUFFING & ABRADING

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GENERAL PROVISIONS

R 408.11101 Scope.

Rule 1101. This part sets forth rules in places of employment for safety in the use of buffing and polishing wheels and coated abrasives, including specifications for flanges, guards, fixtures, application of compounds, automatic buffing, polishing, storage, direction of operation and speed.

R 408.11103 Definitions A and B.

Rule 1103. (1) "Abrading" means the process of removing materials by use of abrasives or wire wheels.

(2) "Acorn nut" means a hexagon nut with a rounded enclosed end. Fig. 1.

(3) "Buffing wheel" means a wheel which, when used in conjunction with a compound and a centrifugal motion, will impart a luster to metal, plastics or other materials. Buffing wheels are of 2 types, as follows:

(a) Type 1 — "full disc buff" means a full circular disc of woven material plied and laminated, and generally sewn together.

(b) Type 2 — "bias buff" means a radius of woven material drawn into a clinch ring, which then creates a circular wheel of laminated plies, radiating from the clinch ring.

Fig. 1



R 408.11104 Definitions C to F.

Rule 1104. (1) "Clinch ring" means a series of hog rings pressed into a circular form integrally meshed through the buffing material.

(2) "Coated abrasive" means abrasive grains bonded to paper, fibre or cloth, usually fabricated in various forms such as a disc, endless belt and sheet.

(3) "Compound" means the abrasive in a bond mixture applied to the buffing wheel or part in a cake or liquid form.

(4) "Flange or end" means discs or plates between which a buff with a metal or fibre center is mounted.

(5) "Fixture" means the support used to hold or guide a part being buffed or polished.

R 408.11105 Definitions O to W.

Rule 1105. (1) "Off side" means a place above or below the center line of a wheel, depending on rotation of the wheel, where a part or compound will be thrust away from the operator.

(2) "Open spindle lathe — hand jack" means a machine on which buffing or polishing wheels are mounted and run.

(3) "Polishing wheel" means a full circular disc of a material, generally a product of the loom, compressed felt or sheepskin, that is plied and

laminated. Abrasive grain is glued or cemented to the periphery and when cured is used to remove fine scratches and imperfections.

- (4) **“Safety guard”** means an enclosure for protection from emission or accidental contact.
- (5) **“Wire brush wheel”** means a full circular disc of wires held in place by a hub or ring.

#### R 408.11111 Operator personal protection.

**Rule 1111.** An operator shall:

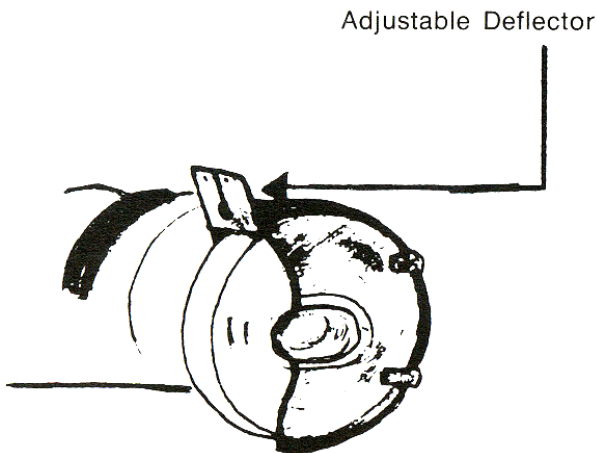
- (a) Be provided with and use eye protection, as prescribed in Part 33. Personal Protective Equipment, being R 408.13301 et seq. of the Michigan Administrative Code, such as goggles or a face shield when polishing, buffing, or abrading.
- (b) Be provided with, at no expense, and use a belly pad or apron when hand buffing.
- (c) Not wear loose clothing.

#### R 408.11115 Guards.

**Rule 1115. (1)** A polishing, buffing or wire brush wheel on a hand jack, automatic machines or coated abrasive machine shall have guards made of a minimum of 16 gauge metal or equivalent and of a size and design to cover at least half of the sides of the working wheel, and extend at least 1 inch beyond the spindles. Fig. 2.

- (2) An adjustable deflector of at least 16 gauge metal or equal material shall be installed and maintained within 1/4 inch of the face of the wheel on all open spindle lathes.
- (3) The face opening shall not be any greater in area than actually required for performance of the operation.
- (4) In-running nip points of drive and idler rolls such as found in belt sanding, shall be guarded with an enclosure which will include the rolls.

Fig. 2



#### R 408.11116 Arbor ends.

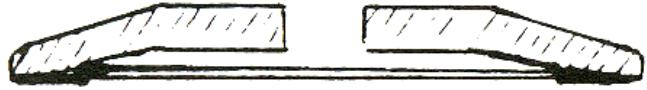
- Rule 1116. (1)** An arbor end which is not equipped with an acorn nut or equivalent shall be guarded.
- (2) A nut shall be fully installed in the spindle and the nut shall be self-locking with the arbor rotation.

#### R 408.11118 Flanges.

**Rule 1118. (1)** A flange shall be used with a metal or fibre center bias buff, except where the flange is an integral part of the buff.

- (2) A flange shall:
  - (a) Be 3/16 inch thick for buff face up to 6 inches wide and 3/8 inch thick for a wider buff face.
  - (b) Be of a diameter to bear firmly on the clinch ring.
  - (c) Be of the same diameter and design on both sides.
  - (d) Be made of steel or material of equal strength.
- (3) A flange should be tapered or bell shape instead of flat. Fig. 3.

Fig. 3



#### R 408.11119 Lock out and stop devices.

- Rule 1119. (1)** Automatic equipment shall be provided with power lock out devices which shall be used to prevent inadvertent operation of the equipment.
- (2) Emergency stop buttons or cords shall be provided along the line of heads and be accessible to the operator.

#### R 408.11121 Fixtures.

**Rule 1121.** Auxiliary equipment designed as a standing fixture shall be secured to the floor or machine.

#### R 408.11123 Illumination.

- Rule 1123. (1)** Automatic polishing and buffing machinery and equipment shall be located with respect to sources of natural light so that light of 25 foot candles intensity will fall on the loading and unloading areas. When natural light is insufficient to meet this requirement, artificial light shall be provided.
- (2) Hand polishing and buffing machinery and equipment shall be located with respect to sources of natural light so that light of 30 foot candles intensity will fall on the work. When natural light is insufficient to meet this requirement, artificial light shall be provided.

#### R 408.11131 Operations.

- Rule 1131. (1)** Buffing or polishing shall be performed on the off side.
- (2) Buffing compound, when applied to a revolving wheel, shall be applied to the off side.
  - (3) The wheel speed shall not exceed the manufacturer's recommended revolutions per minute.
  - (4) Coated abrasives shall be run according to the direction (→) indicated by the manufacturer.

#### R 408.11135 Storage of abrasives.

**Rule 1135.** Coated abrasives shall be stored under conditions of temperature and humidity to prevent breakage or warpage.

#### R 408.11137 Fire and explosion precautions.

**Rule 1137.** Precautions shall be taken to protect against fire and explosion hazards involving aluminum, magnesium, titanium, lint, wax and solvent when polishing, buffing or abrading.