**50.** No person employed shall interfere with, take away, or destroy any of the plant or safeguards required by these Regulations without the authority of the employer or his responsible foreman.

**51.** No person employed shall be lifted or carried by a crane (except on the driver's platform) or ride in a barrow hoist, or in a hod hoist, or adopt other unsafe means of getting about the building, but every such person shall use the gangways, ladders or staircases or other safe means provided for the purpose.

*H. Conacher,*
(L.S.) Secretary,
Ministry of Labour
for Northern Ireland.

7 Upper Queen Street,
Belfast,
10th November, 1926.

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## Dangerous and Unhealthy Industries.
## Grinding of Metals (Miscellaneous Industries).

Made by the Ministry of Labour for Northern Ireland under Section 79 of the Factory and Workshop Act, 1901 (1 Edw. 7, c. 22), for the Grinding or Glazing of Metals, or Processes incidental to the Grinding of Metals, or the Cleaning of Castings.

1926. No. 88.

In pursuance of Section 79 of the Factory and Workshop Act, 1901, the Government of Ireland Act, 1920, and the several Orders made thereunder, the Ministry of Labour for Northern Ireland (hereinafter referred to as "the Ministry") hereby makes the following Regulations, and directs that they shall apply to all factories or parts thereof in which is carried on the *grinding* or *glazing* of metals, or any process incidental to the *grinding* of metals, or the *cleaning of castings*.

These Regulations may be cited as the Grinding of Metals (Miscellaneous Industries) Regulations (Northern Ireland), 1926, and shall come into force on the 1st November, 1926, except that Regulations 2, 4, 5 and 6 shall not apply until two years after the said date.

*Definitions.**

For the purpose of these Regulations :—

*Grindstone* means a *grindstone* composed of natural or manufactured sandstone, but does not include a metal wheel or cylinder into which blocks of natural or manufactured sandstone are fitted.

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* Terms to which defined meanings are given are printed throughout in italics.

*Abrasive Wheel* means a wheel manufactured of bonded emery or similar abrasive.

*Grinding* means the abrasion, by aid of mechanical power, of metal, article of metal, or part of any article of metal by means of a *grindstone* or *abrasive wheel.*

*Glazing* means the abrading, polishing or finishing, by aid of mechanical power, of metal, article of metal, or part of any article of metal by means of any wheel, buff, mop, bob, dolly, or band to which any abrading or polishing substance is attached or applied, except the process known as "sand buffing," in which articles are polished by means of a mixture of oil and sand applied by hand to a rotating buff.

*Racing* means the turning up, cutting or dressing of a revolving *grindstone* before the *grindstone* is brought into use for the first time.

*Hacking* means the chipping of the surface of a *grindstone* by a hack or similar tool.

*Rodding*, which includes "barring up" or "scaring," means the dressing of the surface of a revolving *grindstone* by the application of a rod, bar, or strip of metal to such surface.

*Cleaning of Castings* means the freeing of castings from adherent sand or other substance, and includes the withdrawal or knocking out of cores, core rods and lifters, the removal of ingates, risers or other projections or excrescences, and the general smoothing of the castings.

*Rumbling*, which includes "rattling" or "tumbling" or "jigging," means the freeing of castings from adherent sand by rotating them in a revolving vessel.

*Sand blasting* means the cleaning or smoothing of castings by a jet of sand, metal shot or grit or other abrasive, propelled by a blast of compressed air or steam.

*Exemptions.*

Nothing in these Regulations shall apply—

(i) to any process in, or incidental to, the manufacture of cutlery, edge tools, swords, bayonets, files, saws, ploughs, or other cutting or piercing implements of iron or steel, except processes in or incidental to (*a*) the manufacture of needles, pins and fish-hooks, or (*b*) the manufacture, repair, or sharpening of saws, tools or implements for use in machines for cutting or working of metals :

(ii) to any factory in which only repairs are carried on except any part thereof in which one or more persons are wholly or mainly employed in the *grinding* or *glazing*

of metals, or any process incidental to the *grinding* of metals, or the *cleaning of castings ;*

(iii) to any *grinding* or *glazing* of any article of gold, platinum, or iridium, or any processes incidental thereto ;

(iv) to any processes in or incidental to the sharpening of tools or implements for use in the factory, except as regards any part of the factory in which one or more persons are wholly or mainly employed in such work.

Nothing in these Regulations except Regulations 3 and 9 shall apply—

(v) to any *grinding* or *glazing* of metals carried on intermittently and at which no person is employed for more than 12 hours in any week, unless and until so required by notice in writing from the Ministry.

If the Ministry is satisfied in respect of any factory or any class of machines that owing to the special conditions or special methods of work or otherwise any of the requirements of these Regulations can be suspended or relaxed without danger to the health or safety of the persons employed, or the application of these Regulations or some part thereof would for any reason be impracticable, it may by certificate in writing (which it may in its discretion revoke) authorise such suspension or relaxation for such period and on such conditions as it may think fit.

*Duties.*

Every occupier and manager of any factory to which these Regulations apply, shall be bound to observe the same and it shall be the duty of the occupier to provide and maintain the appliances, accommodation or water supply as and when required by these Regulations.

It shall be the duty of every person who is employed or engaged in any work to which these Regulations apply to observe the same, except in so far as any duty is expressly imposed on any other person.

*Regulations.*

**1.** No *racing*, dry *grinding*, or *glazing* ordinarily causing the evolution of dust into the air of the room in such a manner as to be inhaled by any person employed shall be performed without the use of adequate appliances for the interception of the dust as near as possible to the point of origin thereof, and for its removal and disposal so that it shall not enter any occupied room, and for the purpose of this Regulation the appliances shall not be deemed adequate unless they either include—

(*a*) a hood or other appliance, so constructed, arranged, and placed as substantially to intercept the dust thrown off ; and

(*b*) a duct of adequate size, air tight and so arranged as to be capable of carrying away the dust, which duct shall be kept free from obstruction and shall be provided with proper means of access for inspection and cleaning, and, where practicable, with a connection at the end remote from the fan to enable an Inspector of the Ministry to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and

(*c*) a fan or other efficient means of producing a draught sufficient to extract the dust;

(*d*) or are such as, in the case of the particular factory or part thereof, or of the particular manufacture, process or operation in or for which they are used, shall be proved to be at least as effectual for such interception, removal and disposal as such hood, duct and fan would be.

2. In every room in which wet *grinding* upon a *grindstone* is carried on there shall be provided and maintained whilst work is in progress either—

(*a*) adequate exhaust and inlet ventilation; or

(*b*) a supply of clean water conveyed by pipes and deposited upon the surface of the *grindstone*, and suitable arrangements to ensure the drainage of the waste water from the *grindstone* trough.

For the purposes of this Regulation the ventilation shall not be deemed to be adequate unless (i) it ensures that the air of the room is renewed not less than 12 times per hour; (ii) it is arranged in such a manner as to secure a continuous movement of the air in a direction from the grinder towards the *grindstone;* and (iii) the fresh air inlets are so arranged and are of such dimensions hat no worker is exposed to a direct draught from them.

3. Not more than one person shall at any time be allowed to perform the actual process of *grinding* or *glazing* upon any *grindstone, abrasive wheel* or *glazing* appliance.

Provided that this Regulation shall not prohibit the employment of persons to assist in the manipulation of heavy or bulky articles at any such *grindstone, abrasive wheel* or *glazing* appliance.

4. *Glazing* or other processes, except processes incidental to wet *grinding* upon a *grindstone*, shall not be carried on in any room in which wet *grinding* upon a *grindstone* is done.

**5.** Wet *grinding* upon a *grindstone* shall not be done in any room—

(*a*) in which the height of the room, measured from any part of the floor to the lowest part of the top, is less than 10 feet ; nor

(*b*) in which the total window area is less than one-sixth of the floor area ; nor

(*c*) unless all the windows are properly glazed and the glass or other material of such windows maintained whole and kept clean.

**6.** *Hacking* or *rodding* shall not be done unless during the process either (*a*) an adequate supply of water is laid on at the upper surface of the *grindstone* or the *grindstone* is adequately wetted by other means, so as to ensure as far as practicable the suppression of dust, or (*b*) adequate appliances for the interception of the dust are provided in accordance with the requirements of Regulation 1.

**7.** In every room in which *racing* or *grinding* upon a *grindstone* is done the floor, walls, ceiling or top and all other parts of the room and fixtures shall be properly swept or otherwise cleaned at least once in every three calendar months. Provided that this Regulation shall not apply to any part of the room or fixtures exceeding 14 feet in height from the floor.

**8.** No person employed at *grinding*, *glazing* or processes incidental thereto shall spit upon the floor, walls or any part of any room in which *grinding*, *glazing* or processes incidental thereto are carried on, nor into or upon any apparatus, plant or fixtures in any such room.

**9.**—(*a*) In every room in which *grinding* is carried on there shall be kept permanently affixed a notice specifying the safe working peripheral speed of every class of *grindstone* and *abrasive wheel* in use in such room. Such notice shall specify also the speed of the shafts or spindles upon which the *grindstones* or *abrasive wheels* are mounted and the diameters of the pulleys upon such shafts or spindles necessary to secure such safe working peripheral speed.

(*b*) The occupier or his agent shall, when required by an Inspector of the Ministry, give all necessary facilities and particulars to enable him to determine the speed of any shaft, pulley or other appliance.

**10.** In every room, or part thereof, in which *cleaning of castings* is done—

(*a*) the walls, ceiling or top and all other parts of the room (except the floor) and fixtures shall be properly swept

or otherwise cleaned at least once in every three calendar months. Provided that this requirement shall not apply to any part of the room or fixtures exceeding 14 feet in height from the floor ; and

(*b*) all accessible parts of the floor shall be properly swept or otherwise cleaned at least once every day and for this purpose the floor shall be maintained in a smooth and firm condition so as to permit of such proper sweeping or cleaning.

Provided that this Regulation shall not apply to—

(i) *cleaning of castings* done upon the foundry floor at or near the place where the metal for the said castings is poured ; or

(ii) any room wherein the only castings dealt with are those which have been freed from sand elsewhere ; or

(iii) *rumbling* done in any room in which no other work is ordinarily performed if no person is wholly or mainly employed in the process.

**11.** A register containing the dates and particulars of all sweeping or cleaning done in pursuance of Regulation 7 and 10 (*a*) and the name and the address of the person performing the sweeping or cleaning or, when more than one are employed, of the person in charge, shall be kept in a form approved by the Ministry. Such register shall be available for inspection by any workman employed in any room in respect of which the register is required to be kept.

**12.** *Rumbling* shall not be done unless—

(*a*) the *rumbling* appliance is provided with efficient exhaust draught arranged and maintained so that any dust evolved is prevented from entering any occupied room ; or

(*b*) such other arrangements are made as shall be proved to be at least as effective in preventing the dust from entering any occupied room.

Provided that this Regulation shall not apply to *rumbling* done in any room in which no other work is ordinarily performed if no person is wholly or mainly employed in the process.

**13.** *Sand blasting* shall not be done in any room except in an enclosed chamber or cabinet in which no other work is ordinarily performed and at which efficient means are provided, arranged and maintained to prevent the escape of dust to the outside of such chamber or cabinet.

**14.** No person shall be allowed to perform *sand blasting* or to assist at *sand blasting* in the open air, or be allowed to work

within 30 feet of *sand blasting* apparatus in operation in the open air, unless he is wearing a suitable protective helmet and gauntlets, or be allowed to work in or remain in a *sand blasting* chamber whilst the *sand blasting* apparatus is in operation, unless he is wearing suitable protective helmet, overalls and gauntlets.

**15.** There shall be provided and maintained suitable protective helmets and gauntlets for the use of all persons performing *sand blasting*, or assisting at *sand blasting*, or working within 30 feet of *sand blasting* in the open air, and suitable protective helmets, overalls and gauntlets for the use of all persons, working in or remaining in a *sand blasting* chamber while the *sand blasting* apparatus is in operation.

A protective helmet shall not be considered suitable unless it carries the distinguishing mark of the person to whom it is issued and by whom it is intended to be used and is provided with a sufficient supply of pure air for breathing and ventilation, together with suitable arrangements to permit the escape of the expired air.

**16.** No person shall wear a protective helmet that has been worn by another person unless and until such protective helmet shall have been thoroughly disinfected.

**17.**—(*a*) All ventilating plant used for the purpose of extracting or suppressing dust shall at least once in every six months be examined and tested by a competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable.

(*b*) A register containing particulars of such examination and test shall be kept in a form approved by the Ministry and shall be available for inspection by any workman employed in any room in respect of which the ventilating plant is provided.

**18.** Every person who is employed or engaged in any work to which these Regulations apply shall make full and proper use of all appliances, facilities or accommodation provided for any of the purposes of these Regulations and shall report forthwith to the owner, occupier, manager or other responsible person any defect in the same.

*R. R. Bowman,*

(L.S.) Assistant Secretary of the Ministry of Labour for Northern Ireland.

7 Upper Queen Street,
Belfast.
30th August, 1926.