

PART XXIV
Silica Processes and Abrasive Blasting

Interpretation 346 In this Part:

- (a) **“abrasive blasting”** means the cleaning, smoothing, roughening or removing of part of the surface of any article by the use of a jet of sand, metal shot, grit or other material;
- (b) **“blasting enclosure”** means a chamber, barrel, cabinet or other similar enclosure designed for the purpose of the abrasive blasting of articles;
- (c) **“cleaning of castings”** means, in connection with the making of metal castings, the freeing of the castings from adherent sand or other substance containing more than 5% uncombined silica, and includes the removal of cores and the general smoothing of the castings where that freeing is done, but does not include the freeing of castings from scale formed during annealing or heat treatment;
- (d) **“sandblasting”** means an abrasive blasting process that uses sand as an abrasive;
- (e) **“silica flour”** means the ground material produced by the milling of siliceous rocks or other siliceous substances;
- (f) **“silica process”** means a process that may release uncombined silica in a crystalline form in concentrations likely to exceed the contamination limits set out in Table 21 of the Appendix, and includes:
 - (i) sandblasting;
 - (ii) the cleaning of castings;
 - (iii) the abrasive blasting, grinding or dressing of any surface that contains more than 5% uncombined silica, including the engraving or abrasive cleaning of gravestones or structures;
 - (iv) the getting, cutting, splitting, crushing, grinding, milling, drilling, sieving or other mechanical manipulation of gravel or other siliceous stone or rock that contains more than 5% uncombined silica;
 - (v) any process in which silica flour is used; and
 - (vi) the manufacture of silica-containing bricks and the dismantling or repair of silica-containing refractory linings of furnaces;
- (g) **“siliceous substances”** includes diatomite;
- (h) **“uncombined silica”** means silica that is not combined chemically with any other element or compound.

4 Oct 96 cO-1.1 Reg 1 s346.

Application of Part

347 This Part applies to any place of employment or worksite where a silica process is used.

4 Oct 96 cO-1.1 Reg 1 s347.

Warning of workers

348 An employer shall warn all workers who, in the course of employment, are likely to be engaged in a silica process or are likely to be exposed to silica dust of the dangers to health from the inhalation of dust containing silica.

4 Oct 96 cO-1.1 Reg 1 s348.

Cleaning of blasting equipment, etc.

349 An employer, contractor or owner shall take all practicable steps to prevent the inhalation of silica dust or the dissemination of silica dust into the air of the place of employment during the cleaning or maintenance of any blasting equipment, blasting enclosure, ventilating system or separating equipment.

4 Oct 96 cO-1.1 Reg 1 s349.

Cleaning of worksites

350 An employer or contractor shall ensure that all worksites and work-related areas where dust from a silica process may affect the health or safety of a worker are regularly cleaned using a vacuum that has a HEPA filter on the exhaust or, where a vacuum is not practicable, by using wet methods.

4 Oct 96 cO-1.1 Reg 1 s350.

Silica processes other than abrasive blasting

351(1) Where a silica process other than abrasive blasting is carried on, an employer or contractor shall ensure that the entry of dust into the air where workers may be present is prevented, to the extent that is practicable, by the provision of:

- (a) total or partial enclosure of the process;
- (b) efficient local exhaust ventilation;
- (c) jets or sprays of a suitable wetting agent; or
- (d) any other method that provides equivalent protection to the workers.

(2) An employer or contractor shall ensure that any enclosure, apparatus or exhaust-ventilation equipment provided pursuant to subsection (1) is:

- (a) maintained in accordance with subsections 67(2) and (3);
- (b) inspected daily when in use; and
- (c) certified as safe and effective by a competent person at least once each year.

(3) An employer or contractor shall ensure that no air discharged from a ventilation system provided pursuant to subsection (1) is recirculated in the place of employment unless the air is passed through an effective dust removal system equipped with a device that will provide a warning to workers when the system is not working effectively.

4 Oct 96 cO-1.1 Reg 1 s351; 31 Jan 97 SR 6/97 s12.

Isolation from air containing dust

352 Where it is not practicable to prevent the entry into the air of dust from a silica process, an employer or contractor shall, where it is practicable, provide for the isolation of workers from the air containing the dust.

4 Oct 96 cO-1.1 Reg 1 s352.

Personal protective equipment

353(1) An employer or contractor shall provide, and require a worker to wear, a respiratory protective device and other personal protective equipment that meet the requirements of Part VII where:

- (a) the protective measures required by section 351 or 352 are not practicable; or
 - (b) the worker is employed in cleaning and maintenance work and may be exposed to dust from a silica process.
- (2) For workers engaged in abrasive blasting, an employer or contractor shall provide and maintain approved blasting hoods supplied with air:
- (a) of a volume of not less than 170 litres per minute at a pressure of not more than 140 kilopascals; and
 - (b) that is clean and at a reasonable temperature.
- (3) For workers who may be exposed to dust resulting from abrasive blasting, an employer or contractor shall provide and maintain respiratory protective devices that meet the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s353.

Standards for blasting enclosures

354(1) An employer or contractor shall ensure that every blasting enclosure is:

- (a) constructed, operated and maintained to prevent the escape of dust;
 - (b) provided with an efficient, dust-extraction system, that is operated continuously whenever the blasting enclosure is in use, whether or not abrasive blasting is actually taking place; and
 - (c) provided with efficient equipment for separating the abrasive from the dust, to the extent that is practicable.
- (2) An employer or contractor shall ensure that an abrasive is not reintroduced into a blasting apparatus until the abrasive has been separated from the dust pursuant to clause (1)(c).
- (3) An employer or contractor shall ensure that:
- (a) a blasting enclosure is inspected daily when in use;
 - (b) a blasting enclosure, the equipment connected with the enclosure and the ventilating system associated with the enclosure are thoroughly examined and tested regularly by a competent person; and
 - (c) all defects identified pursuant to this section are remedied immediately.
- (4) A competent person who carries out examinations and testing pursuant to clause (3)(b) shall record the results of those examinations and tests.

4 Oct 96 cO-1.1 Reg 1 s354.

Use of blasting enclosures

355 An employer or contractor shall ensure that:

- (a) to the extent that is practicable, no abrasive blasting of articles that are likely to give rise to dust containing uncombined silica is done other than in a blasting enclosure;

- (b) where practicable, no sand or other substance containing more than 1% by weight of uncombined silica is used for abrasive blasting in a blasting enclosure; and
- (c) no work is performed in a blasting enclosure except:
 - (i) abrasive blasting and work immediately incidental to abrasive blasting; and
 - (ii) cleaning and maintenance of the blasting enclosure, the equipment associated with the blasting enclosure and the ventilation system.

4 Oct 96 cO-1.1 Reg 1 s355.

Sandblasting

356(1) An employer or contractor shall ensure that no sandblasting is done to any article outside a blasting enclosure where it is reasonably practicable to introduce the article into a blasting enclosure.

(2) An employer or contractor shall ensure that no sandblasting is done inside any structure or confined space without:

- (a) obtaining the written permission of the director; and (b) complying with any conditions that the director may specify.

4 Oct 96 cO-1.1 Reg 1 s356.

Silica flour

357 An employer or contractor shall ensure that no silica flour is used:

- (a) for any purpose for which a less hazardous substance may be substituted; or
- (b) in the manufacture of scouring powder or abrasive soaps or as an abrasive in any process.

4 Oct 96 cO-1.1 Reg 1 s357.

Medical examinations

358(1) In this section, “**worker**” means a worker who is regularly employed in a silica process.

(1.1) Not less than once every two years and with consent of the worker, the employer shall:

- (a) offer to arrange for a medical examination of the worker during the worker’s normal working hours; and
- (b) reimburse the worker for any part of the cost of the medical examination that the worker cannot recover.

(2) Where a worker cannot attend a medical examination mentioned in sub-section (1.1) during the worker’s normal working hours, an employer shall credit the worker’s attendance at the examination as time at work and ensure that the worker does not lose any pay or other benefits.

(3) A medical examination arranged pursuant to subsection (1.1) must include:

- (a) a comprehensive medical history and physical examination with special attention to the respiratory system;

(b) lung-function tests, including forced vital capacity and forced expiratory volume at one second; and

(c) any further medical investigations that are necessary for the diagnosis of a silica-related disease.

4 Oct 96 cO-1.1 Reg 1 s358; 10 Aug 2007 SR 67/2007
s27.