§ 71.101 Respirable dust standard when quartz is present.

When the respirable dust in the mine atmosphere of the active workings contains more than 5 percent quartz, the operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift to which each miner is exposed at or below a concentration of respirable dust computed by dividing the percent of quartz into the number 10. Concentrations shall be expressed in milligrams per cubic meter of air as measured with an approved sampling device and in terms of an equivalent concentration determined in accordance with §71.206 (Approved sampling devices; equivalent concentrations).

Example: The respirable dust associated with a designated work position contains quartz in the amount of 20%. Therefore, the average concentration of respirable dust in the mine atmosphere associated with that designated work position shall be continuously maintained at or below 0.5 milligrams of respirable dust per cubic meter of air (10/20=0.5 mg/m³).

EFFECTIVE DATE NOTE: At 79 FR 24981, May 1, 2014, Subpart B was revised, effective Aug. 1, 2014. For the convenience of the user, the revised text is set forth as follows:

Subpart B—Dust Standards

§ 71.100 Respirable dust standard.

Each operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings of each mine is exposed, as measured with an approved sampling device and expressed in terms of an equivalent concentration, at or below:

(a) 2.0 milligrams of respirable dust per cubic meter of air (mg/m³);
(b) 1.5 mg/m³ as of August 1, 2016.

§ 71.101 Respirable dust standard when quartz is present.

(a) Each operator shall continuously maintain the average concentration of respirable quartz dust in the mine atmosphere during each shift to which each miner in the active workings of each mine is exposed at or below 0.1 mg/m³ (100 micrograms per cubic meter or μg/m³) as measured with an approved sampling device and expressed in terms of an equivalent concentration.

(b) When the equivalent concentration of respirable quartz dust exceeds 100 μg/m³, the operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings is exposed as measured with an approved sampling device and expressed in terms of an equivalent concentration at or below the applicable standard. The applicable standard is computed by dividing the percent of quartz into the number 10. The application of this formula shall not result in the applicable standard that exceeds the standard established by §71.100(a) of this section.

Example: Assume the sampled DWP is on a 1.5-mg/m³ dust standard. Suppose a valid representative dust sample with an equivalent concentration of 1.09 mg/m³ contains 16.7% of quartz dust, which corresponds to a quartz concentration of 182 μg/m³. Therefore, the average concentration of respirable dust in the mine atmosphere associated with that DWP shall be maintained on each shift at or below 0.6 mg/m³ (10/16.7% = 0.6 mg/m³).

Subpart C—Sampling Procedures

AUTHORITY: 30 U.S.C. 811, 813(h), and 957.

SOURCE: 45 FR 80757, Dec. 5, 1980, unless otherwise noted.

§ 71.201 Sampling; general requirements.

(a) Each operator shall take respirable dust samples of the concentration of respirable dust in the active workings of the mine as required by this part with a sampling device approved by the Secretary and the Secretary of Health and Human Services under part 74 (Coal Mine Dust Personal Sampler Units) of this title.

(b) Sampling devices shall be worn or carried directly to and from the designated work position to be sampled and shall remain operational during the entire shift or for 8 hours, whichever time is less.

(c) Upon request from the District Manager, the operator shall submit the date on which collecting any respirable dust samples required by this part will begin.

(d) During the time for abatement fixed in a citation for violation of §71.100 (Respirable dust standard) or §71.101 (Respirable dust standard when quartz is present), the operator shall take corrective action to lower the concentration of respirable dust to within the permissible concentration and then sample each normal work shift until five valid respirable dust samples are taken.
Mine Safety and Health Admin., Labor § 71.204

(e) Upon written request by the operator, the District Manager may waive the rain restriction for a normal work shift as defined in §71.2 (Definitions) for a period not to exceed two months, if the District Manager determines that:

(1) The operator will not have reasonable opportunity to complete the respirable dust sampling required by this part without the waiver because of the frequency of rain; and

(2) The operator did not have reasonable opportunity to complete the respirable dust sampling required by this part prior to requesting the waiver.

§ 71.202 Certified person; sampling.

(a) The respirable dust sampling required by this part shall be done by a certified person.

(b) To be certified, a person shall pass the MSHA examination on sampling of respirable coal mine dust.

(c) A person may be temporarily certified by MSHA to take respirable dust samples if the person receives instruction from an authorized representative of the Secretary in the methods of collecting and submitting samples under this rule. The temporary certification shall be withdrawn if the person does not successfully complete the examination conducted by MSHA on sampling of respirable coal mine dust within six months from the issue date of the temporary certification.

§ 71.203 Certified person; maintenance and calibration.

(a) Approved sampling devices shall be maintained and calibrated by a certified person.

(b) To be certified, a person shall pass the MSHA examination on maintenance and calibration procedures for respirable dust sampling equipment.

(c) A person may be temporarily certified by MSHA to maintain and calibrate approved sampling devices if the person receives instruction from an authorized representative of the Secretary in the maintenance and calibration procedures for respirable dust sampling equipment under this rule. The temporary certification shall be withdrawn if the person does not successfully complete the examination conducted by MSHA on maintenance and calibration procedures within six months from the issue date of the temporary certification.

§ 71.204 Approved sampling devices; maintenance and calibration.

(a) Approved sampling devices shall be calibrated in accordance with MSHA Informational Report IR 1240 (1996) “Calibration and Maintenance Procedures for Coal Mine Respirable Dust Samplers (supersedes IR 1121)” by a person certified in accordance with §71.203 (Certified person; maintenance and calibration).

(b) Approved sampling devices shall be calibrated at the flowrate of 2.0 liters of air per minute, or at a different flowrate as prescribed by the Secretary and the Secretary of Health and Human Services for the particular device, before they are put into service and at intervals not to exceed 200 hours of operating time thereafter.

(c) A calibration mark shall be placed on the flowmeter of each approved sampling device to indicate the proper position of the float when the sampler is operating at a flowrate of 2.0 liters of air per minute or other flowrate prescribed by the Secretary and the Secretary of Health and Human Services for the particular device. The standard to denote proper flow is when the lowest part of the float is tangent to the top of the calibration mark.

(d) Approved sampling devices shall be tested and examined immediately before each sampling shift and necessary external maintenance shall be performed to assure that the sampling devices are clean and in proper working condition by a person certified in accordance with §71.202 (Certified person; sampling) or §71.203 (Certified person; maintenance and calibration). This testing and examination shall include the following:

(1) Testing the voltage of each battery while under actual load to assure the battery is fully charged. The voltage for nickel cadmium cell batteries shall not be lower than the product of the number of cells in the battery pack multiplied by 1.25. The voltage for