

§ 70.502

30 CFR Ch. I (7-1-00 Edition)

§ 70.502 Computation of multiple noise exposure.

The standard will be considered to have been violated in the case of multiple noise exposure where such exposure totals exceed one as computed by adding the total time of exposure at each specified level (C1, C2, C3 etc.) divided by the total time of exposure permitted at that level (T1, T2, T3). Thus, [C1/T1]+[C2/T2]+[C3/T3] must not exceed 1.

Example I: Exposure of 2 hours at 92 dBA and 1 hour at 100 dBA during an 8-hour shift.

Total minutes of noise exposure at dBA level/Total minutes of permissible noise exposure at dBA level [120 min./360 min.+60 min./120 min.] = 1/3 + 1/2 = 2/6 + 3/6 = 5/6

The sum of the fractions does not exceed one; hence the exposure for the shift would not violate the standard.

Example II: Exposure of 3 hours at 95 dBA and 1 hour at 100 dBA during an 8 hour shift.

3/4 + 1/2 = 3/4 + 2/4 = 5/4

The sum of the fractions exceeds one; hence the exposure for the shift would violate the standard.

(Secs. 101 and 206, 83 Stat. 745 and 765; 30 U.S.C. 801 and 846)

[36 FR 12739, July 7, 1971]

§ 70.503 Noise exposure measurements; general.

Every coal mine operator shall take accurate readings of the noise levels to which each miner in the active workings of the mine is exposed during the performance of the duties to which he is normally assigned.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811); sec. 301, Federal Mine Safety and Health Amendments Act of 1977, Pub. L. 95-164, 91 Stat. 1317 (30 U.S.C. 961))

[36 FR 12739, July 7, 1971, as amended at 43 FR 40761, Sept 12, 1978; 44 FR 52827, Sept. 11, 1979]

§ 70.504 Noise exposure measurements; by whom done.

The noise exposure measurements required by this subpart F shall be taken by, or as directed by, a person who has met the minimum requirements set forth in §70.504-1, and has been certified by the Assistant Secretary of Labor for Mine Safety and Health,

Mine Safety and Health Administration as qualified to take noise exposure measurements as prescribed in this subpart F.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811); sec. 301, Federal Mine Safety and Health Amendments Act of 1977, Pub. L. 95-164, 91 Stat. 1317 (30 U.S.C. 961))

[36 FR 12739, July 7, 1971, as amended at 43 FR 12319, Mar 24, 1978; 43 FR 40761, Sept. 12, 1978; 43 FR 43458, Sept. 26, 1978; 44 FR 52827, Sept. 11, 1979]

§ 70.504-1 Persons qualified to measure noise exposures; minimum requirements.

The following persons shall be considered qualified to take noise exposure measurements as prescribed in this subpart F;

(a) Any person who has been certified by the Mine Safety and Health Administration as an instructor in noise measurement training programs;

(b) Any person who has satisfactorily completed a noise training course conducted by the Mine Safety and Health Administration and has been certified by the Administration as a qualified person; and,

(c) Any person who has satisfactorily completed a noise training course approved by the Mine Safety and Health Administration and has been certified by the Administration as a qualified person.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811); sec. 301, Federal Mine Safety and Health Amendments Act of 1977, Pub. L. 95-164, 91 Stat. 1317 (30 U.S.C. 961))

[36 FR 12739, July 7, 1971, as amended at 43 FR 40761, Sept. 12, 1978; 44 FR 52827, Sept. 11, 1979]

§ 70.504-2 Certification of qualified persons by the Mine Safety and Health Administration.

Upon a satisfactory showing that a person has met the minimum requirements for taking noise exposure measurements set forth in §70.504-1, the Mine Safety and Health Administration shall certify that such person has the ability and capacity to conduct tests of the noise exposure in a coal

mine and to report and certify the results of such tests to the Secretary and the Secretary of Health and Human Services.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811); sec. 301, Federal Mine Safety and Health Amendments Act of 1977, Pub. L. 95-164, 91 Stat. 1317 (30 U.S.C. 961))

[36 FR 12739, July 7, 1971, as amended at 43 FR 40761, Sept. 12, 1978; 44 FR 52827, Sept. 11, 1979; 47 FR 28095, June 29, 1982]

**§ 70.505 Noise exposure measurement equipment.**

Noise exposure measurements shall be taken only with equipment which is approved by the Mine Safety and Health Administration as permissible electric face equipment under the provisions of part 18 of this chapter and which in the case of sound level meters, meets American National Standards Institute (ANSI), "Specification for Sound Level Meters," S1.4-1971 (Type S2A), or in the case of personal noise dosimeters, has been found to be acceptable by the Mine Safety and Health Administration.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811); sec. 301, Federal Mine Safety and Health Amendments Act of 1977, Pub. L. 95-164, 91 Stat. 1317 (30 U.S.C. 961))

[43 FR 40761, Sept. 12, 1978; 44 FR 52827, Sept. 11, 1979]

**§ 70.506 Noise exposure measurement procedures; instrument setting; calibration.**

(a) Noise exposure measurements made with sound level meters shall conform to the following:

(1) Noise exposure measurements shall be made at locations where the noise is typical of that entering the ears of the miner whose exposure is under consideration.

(2) Five measurements shall be made for each type of noise exposure producing operation to which the miner under consideration is exposed.

(3) Each measurement shall be made by observing the A-scale readings for 30 seconds and recording the noise level.

(4) The average of the five noise level measurements shall be considered as

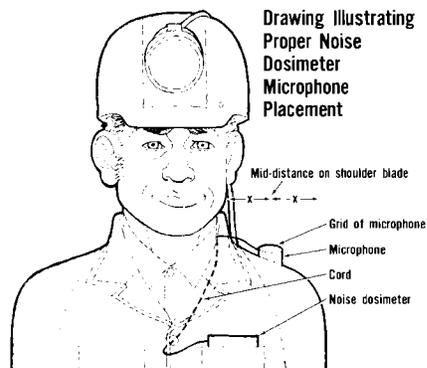
the noise level measurement which is representative of the operation.

(5) Where different and distinct noise levels occur at various phases of an operation, noise exposure measurements shall be made in accordance with this section for each distinct phase.

(6) The noise levels and the estimated length of time the miner is exposed to each level during a normal work shift shall be reported for the operation.

(b) Noise exposure measurements made with personal noise dosimeters shall conform to the following:

(1) For the miner whose noise exposure is under consideration, noise exposure measurements shall be made with the personal noise dosimeter microphone located at the top of the shoulder, midway between the neck and the end of the shoulder with the microphone pointing in a vertical upward direction in accordance with the diagram shown below:



**Drawing Illustrating Proper Noise Dosimeter Microphone Placement**

(2) To the extent practical, the personal noise dosimeter instrument case and microphone cable shall be positioned underneath exterior clothing so as to minimize potential safety problems and damage to the instrument. The microphone shall not be covered by clothing.

(3) The personal noise dosimeter shall be worn by the miner whose noise exposure is under consideration for an entire normal work shift and the accumulated per centum of the noise exposure shall be reported.

(c) Noise exposure measurement instruments specified in § 70.505 shall be set to operate with the A-weighted network and slow response.