

SUMMARY OF KEY MSHA REQUIREMENTS FOR A RESPIRATORY PROTECTION PROGRAM

Pursuant to 30 CFR 56/57.5005, when respiratory protective equipment is used, the mine operator must establish a program meeting the following minimum requirements:

- (a) The employee shall be furnished with a NIOSH approved respirator which is applicable and suitable for the purpose intended, and the employee shall use it in accordance with training and instructions,
- (b) The respiratory protection program must be consistent with ANSI Z88.2 – 1969, and,
- (c) In atmospheres immediately harmful to life, the presence of at least one other person with backup equipment and rescue capability is required in the event of failure of the respiratory equipment.

ANSI Z88.2 – 1969, requires, in part, that:

- (1) Written standard operating procedures be developed governing respirator selection, use and care (3.5.1, 7.1¹),
- (2) The user receive instruction and training in the nature of the hazard, the proper use of the respirator, and its limitations (3.5.3, 7.4),
- (3) The user be provided an opportunity to wear the respirator in a test atmosphere (7.4) (i.e. qualitative or quantitative fit test)
- (4) Respirators not be worn when conditions prevent a good face seal, such as a growth of beard or sideburns that project under the face piece (7.5);
- (5) Face piece fit be checked by the wearer each time the respirator is worn, by following the manufacturer's face piece – fitting instructions, such as conducting a positive and negative pressure test (7.5);
- (6) The program adequately address respirator maintenance and care, including inspection for defects, cleaning and disinfecting, repair, and storage (8); and,
- (7) Frequent random inspections be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained (10.3).

¹ The numbers in parenthesis refer to the cited section of the ANSI standard.

Additionally, pursuant to 30 CFR 56/57.20011, areas where respirator use is required, must be posted with signs warning of the nature of the hazard and protective action required.

It is important that the entire ANSI Z88.2 – 1969 be reviewed when establishing or evaluating a respiratory protection program. A copy of ANSI Z88.2 – 1969, is available from your local MSHA, Metal and Nonmetal Mine Safety and Health office. MSHA personnel are

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also available to assist mine operators in establishing an adequate respiratory protection program. Please note, however, that **MSHA does not accept respiratory protection in lieu of feasible engineering controls.**

Additional information on respiratory protection, including a list of NIOSH certified respirators, is available from the National Institute for Occupational Safety and Health @ **1.800.35NIOSH.**

PROCEDURES FOR CHECKING AND TESTING RESPIRATOR FIT

Negative Pressure Fit Check – used with tight fitting face pieces to check the seal before entering a potentially contaminated atmosphere. The inlet(s) on the filters are sealed while the wearer gently inhales. The inward collapse of the mask, and absence of a noticeable inward rush of air, provides reasonable assurance that the mask is not leaking and is properly seated on the face.

Positive Pressure Fit Check – used with tight fitting face pieces to check the seal before entering a potentially contaminated atmosphere. The exhalation port is sealed while the wearer gently exhales. The buildup of pressure inside the mask, and absence of a noticeable outward rush of air, provides reasonable assurance that the mask is not leaking and is properly seated on the face.

Qualitative Fit Test – a pass/fail fit test that relies on the subject's sensory response to detect the leakage of a challenge agent past the respirator seal. The test is performed by exposing the wearer to a challenge agent easily detected by irritation (smoke), taste (Saccharine or Bittrex) or odor (isoamyl acetate). The subject must be able to sense the agent when not protected. If irritant smoke or isoamyl acetate are used, the respirator must be equipped with an appropriate air – purifying filter.

Quantitative Fit Test – a fit test that uses an instrument to measure the effectiveness of a respirator seal in excluding the ambient atmosphere. The test is performed by dividing the measured concentration of a challenge agent outside of the respirator by the measured concentration of the challenge agent inside the respirator face piece. The normal air purifying element should be replaced with an essentially perfect purifying element such as an HEPA filter.