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MEASUREMENT AND CONTROL OF ASBESTOS DUST EXPOSURE

SAFETY ENGINEERING STANDARD

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Any portion of this or references document printed in red is a mandatory requirement of the Williams-Steiger Occupational Safety and Health Act of 1970 (OSHA) as published in the Federal Register.

1. SCOPE

This standard presents the permissible exposure limits to asbestos dust, general information on methods of controlling asbestos dust exposures, and describes an acceptable method of sampling asbestos dust concentrations in the work area.

2. GENERAL

2.1 Asbestosis and lung cancer have long been associated with exposure to asbestos. Historically, the incidence of these diseases has been significantly higher among asbestos workers than among the general population.

2.2 Principal sources of exposure to airborne asbestos dust in Company operations have been:

a. Cutting insulation by power saws in fabrication shops

b. Opening boxes and removal of new insulation

c. Removing old insulation from lines and vessels

d. Mixing asbestos to form cement

e. Removal of clothing after completing insulating duties

f. Cutting asbestos shingles, Transite, etc.

g. Spraying insulation or fireproofing

h. Ingredient in Company products

2.3 Permissible Exposure Limits. Asbestos dust concentrations in air shall not exceed an 8-hour time-weighted average (TWA) of 5 fibers longer than 5 microns per cubic centimeter (cc) of air. At no time may the concentration exceed a ceiling of 10 fibers longer than 5 microns per cc.

2.3.1 The 8-hour time-weighted average (TWA) is the average concentration occuring over a period of 8 continuous hours.

2.3.2 After July 1, 1976, the TWA is reduced from 5 to 2 fibers longer than 5 microns per cc.

2.4 Control methods, such as but not limited to, enclosure, vacuum sweeping, and local exhaust ventilation, shall be used to meet the permissible exposure limits, see section 3.

2.5 Respiratory protective devices, shall be provided and used where such control methods are not feasible, or do not otherwise reduce the concentrations below the permissible exposure limits, see section 4.

2.6 Hygiene requirements are included in section 5.

2.7 Sampling. For sampling equipment, monitoring, analysis record keeping, and warning signs, see section 6.

2.8 Nonasbestos bearing materials should be substituted where asbestos contributes to a dust concentration exceeding the permissible exposure limits.

3. CONTROL OF ASBESTOS DUSTS

3.1 Handling Asbestos Insulation

3.1.1 Cartons of block insulation are a potential source of severe dust exposure and should be handled with care. The rough, abrasive nature of the block material creates dust within the cartons.

3.1.2 Cartons of new insulation should be vacuumed upon opening, and prior to removal of blocks, to remove dust.

3.1.3 Asbestos blocks must be handled with care at all times to minimize dusting.

3.1.4 Purchase of block insulation with a glaze coating is recommended. This makes it virtually dust free for handling purposes.

3.2 Asbestos Cutting Operations

3.2.1 All hand-operated or power-operated tools which may produce or release asbestos fibers in excess of the permissible exposure limits shall be provided with a dust collection system, see 3.6.

3.2.2 All major power-cutting machines should be isolated in a separate working area.

Portions printed in red meet OSHA regulations, Section 1910.93.

Vendors and merchandise designations are given to describe materials and may not include all acceptable products. Substitutions by suppliers are to be made only on approval of the local authority initiating the use of this standard.

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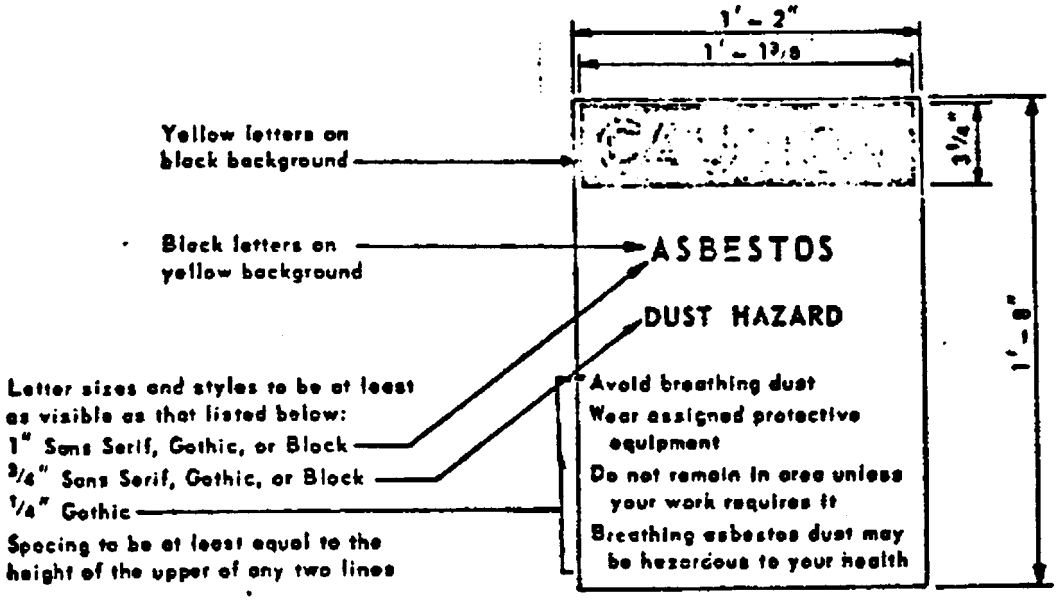
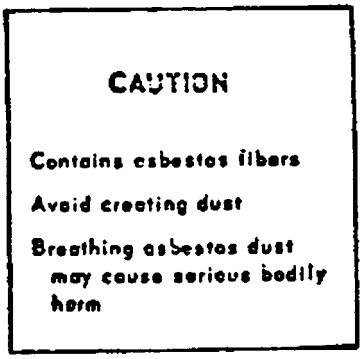


FIGURE 1 - CAUTION SIGN - ASBESTOS DUST



Label size and printing to be readily visible and legible.

FIGURE 2 - TYPICAL CAUTION LABEL

Figures 1 and 2 meet OSHA requirements, Section 1910.93.