

**SAFETY
OPERATING MANUAL****Brown & Root, Inc.**DATE REELED: June 9, 1976
DATE REVISED: August 1, 1977**PART II
SECTION II****ASBESTOS DUST - GUIDELINES FOR CONTROL AND MEASUREMENT****A. SCOPE**

This procedure gives general guidelines for the control and measurement of asbestos dust to minimize personnel exposure and thus reduce the hazards of asbestosis.

B. ASBESTOS DUST - MAJOR SOURCES

1. Opening of boxes and removal of insulation.
2. Cutting of insulation by hand or power.
3. Shaping insulation with raps or snaders.
4. Mixing asbestos to form cement.
5. Spraying insulation or fireproofing.
6. Cutting asbestos siding or roofing (Transite, etc.).
7. Removing old insulation from lines and vessels.
8. Cadwelding
9. Asbestos Blankets

C. PERMISSIBLE EXPOSURE

Asbestos dust concentrations may not exceed an 8-hour time weighted average (TWA) of 2 fibers longer than 5 microns per ml. At no time may the concentration exceed 10 fibers/ml.

D. ASBESTOS DUST CONTROL

Engineering methods, such as isolation, exhaust ventilation and dust collection, shall be used to meet the TWA.

1. Vacuum newly opened cartons of insulation prior to removal for fabrication or bin storage.
2. Consider block insulation with glaze coating.
3. Equip hand-operated and power-operated tools, which may produce asbestos dust in excess of TWA with local exhaust ventilation.
4. Asbestos must be worked in the wet state unless the usefulness of the product is thereby reduced.



**PART II
SECTION II**

ASBESTOS DUST - GUIDELINES FOR CONTROL AND MEASUREMENT (Continued)

- b. Powered filter-type respirators are required when the TWA or ceiling concentrations are reasonably expected to exceed 10 times, but not 100 times the limits.
- c. Atmosphere supplying respirators are required when the TWA or ceiling concentrations are reasonably expected to exceed 100 times the limit.
3. Refer the Brown & Root, Inc. Respiratory Protection Program for care and maintenance procedures.

F. EXHAUST SYSTEMS

1. Systems for local exhaust ventilation shall be designed for each application in accordance with the American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems; ANSI Z9.2-1971.

G. WARNING SIGNS

Warning signs conforming with OSHA 1910.93a shall be posted at all approaches to areas where asbestos concentrations may be above the limits a sufficient distance to permit an employee to read the signs and take necessary precautions before entering the area.

H. MEDICAL EXAMINATIONS

Medical examinations relative to asbestos exposure shall be made available to all employees exposed to airborne concentrations of asbestos as follows:

1. Employment - Within 30 days after first being assigned to work exposing the employee to asbestos dusts.
2. Annual - After initial employment.
3. Termination - Within 30 days before or after date of termination.
4. Recent Exam - No new exam is necessary if records show that the employee has been examined within the past year.



**PART II
SECTION II**

ASBESTOS DUST - GUIDELINES FOR CONTROL AND MEASUREMENT (Continued)

5. Asbestos cement, mortar, grout, plaster, or similar material may not be removed from shipping bags or container without being wetted, enclosed, or ventilated.
6. Scrap and waste insulation shall be collected in sealed impermeable bags and disposed of according to local plant or government regulations.
7. Substitute materials for asbestos should be used whenever possible.
8. Change rooms with two separate lockers for each employee must be provided at fixed places of employment that are exposed to asbestos dust concentrations in excess of the TWA.
9. Food, gum, tobacco or other material placed in the mouth should not be kept or consumed in work areas.

E. RESPIRATORY PROTECTION

1. Restrictions
 - a. Respiratory protection may not be used to comply with the TWA except as follows:
 1. During period necessary to institute engineering controls.
 2. Jobs where engineering methods are not feasible.
 3. Emergencies.
 - b. Employees who cannot function properly or whose safety or health may be impaired, based on their most recent physical examinations, shall not be assigned to tasks requiring respiratory protection.
2. Use - Respiratory protection shall be provided for all personnel in areas where the TWA may be exceeded.
 - a. Mechanical filter-type respirators are required when the TWA or ceiling concentrations are reasonably expected to exceed no more than 10 times the limits.