



E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

WILMINGTON, DELAWARE 19898

ENGINEERING DEPARTMENT
LOUVIERS BUILDING

PLAINTIFF'S
EXHIBIT
DUP-2256

May 11, 1984

Consad Research Corporation
Samuel Aaron Kaplan, C.S.P., C.I.H.
4916 Melinda Court
Rockville, MD 20853

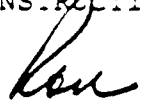
Dear Sam,

Per our telephone conversation last week I agreed to send you a copy of our construction procedure concerning asbestos control.

Please call me if you have any questions with regard to the attached procedure.

Very truly yours,

CONSTRUCTION DIVISION


Ron Wetzig
Division Safety Specialist

RW/sps

Atch.

cc: J. W. Bowman-ER-N-12452
R. E. Munson-ER-N-11503
Ingo Zeise-Constr-L-1237

DUP 0919084

DU 032620

ASBESTOS DUST - 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 rasps or sanders.
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.

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 shown in Para. C, with local exhaust ventilation.
4. The machine work area shall have a vacuum clean-up system. This can be a system of hoses connected to the main collection system. All parts of the room must have daily vacuum clean-up of all ledges, shelves, floors, and machines. Caps or dampers should be provided in each intake hose and machine connection to maintain capacity of the system.
5. Asbestos must be worked in the wet state unless the usefulness of the product is thereby reduced.

6. Asbestos cement, mortar, grout, plaster, or similar material may not be removed from shipping bags or container without being wetted, enclosed, or ventilated.
7. Scrap and waste insulation shall be collected in sealed impermeable bags and disposed of according to local plant or government regulations.
8. Substitute materials for asbestos should be used whenever possible.
9. 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 shown in Para. C.
10. 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 in Para. C 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) General Use - Respirators meeting Bureau of Mines Schedule 21B may be used where ambient oxygen does not fall below 18%.
- (b) Dismantling - Supplied air, powered air, or self-contained breathing apparatus meeting Bureau of Mines 19B.
- (c) Spraying - Supplied air, powered air, or self-contained breathing apparatus meeting Bureau of Mines 19B.

3. Care and Maintenance

- (a) Each employee shall be instructed in testing respiratory devices for proper fit and will be required to make this test prior to each use.

- (b) Respiratory equipment must be cleaned and sterilized prior to re-issue.

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. Caps dampers should be provided at each intake.
2. Exhaust systems shall discharge into bag filters which meet the following criteria:
 - (a) Cotton bag filter having air flow permeability not exceeding 20 cfm/ft².
 - (b) No bypass devices.
 - (c) No leakage of unfiltered air.
 - (d) Ability to empty hoppers without creating visible emissions of particle matter.
 - (e) No torn or ruptured bags.
 - (f) No worn or threadbare bags.
 - (g) No improperly positioned bags.

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 in Para. C at 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.

5. Records - Shall be made of all examinations and retained for 20 years. Contents of these records will be made available to:
 - (a) Authorized physicians and medical consultants of CSHA and NIOSH
 - (b) The employee's physician
 - (c) The employer.
6. Responsibility - On CPPC sites, responsibility to provide these examinations will rest with the contractor.

I. SAMPLING

1. Frequency and Location

- (a) General - Samples conducted should give a reliable cross section of exposure to employees performing typical operations with typical materials, i.e., dismantling, cutting, fabricating, spraying.
- (b) Initial samples of 8-hour duration must be taken to monitor places where asbestos is released and determine employee exposure to asbestos fibers.
- (c) Follow-up Samples - Subsequent samples of shorter duration must be taken of such frequency and pattern to represent employee's exposure levels.

2. Procedure

- (a) Connect filter to pump, using hose provided.
- (b) Clip filter holder to lapel or shirt pocket as close as possible to the person's breathing zone.
- (c) Remove top section of the filter to expose the full filter face.
- (d) Turn on pump and set at two (2) lpm rate. Check rate periodically. When finished sampling, turn off pump and record elapsed time. Sampling record forms (EN 2731) are available from Stationery.
- (e) Replace filter top after sample is collected and seal with tape prior to shipment.

DU 032624

3. Analysis - Place completed samples (exposed filters) in a mailing tube, seal, and send with two copies of the sampling record to:

Hager Laboratories, Inc.
12000 East 47 Avenue
Denver, CO 80239
Telephone (303) 371-1441

or

George D. Clayton & Associates
25711 Southfield Road
Southfield, MI 48075
Telephone (313) 424-8860

4. Record Keeping - Records of personnel and environmental monitoring shall be maintained for three (3) years and made available upon the request of authorized representatives of OSHA and NIOSH (National Institute of Safety and Health).