

ASBESTOS HANDLING
AND DISPOSALReviewed
or
Revised 1/17/84

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PURPOSE

This procedure presents the permissible asbestos dust exposure limits, methods of controlling exposure, respiratory protective equipment, disposal, and methods of handling.

The principle sources of exposure to airborne asbestos dust at Sabine River Works have been:

- 1) Removing old insulation;
- 2) filter aids; 3) waste disposal; 4) mixing asbestos cement;
- 5) cutting transite; 6) removal of clothing after completing asbestos insulating duties; 7) working with asbestos type packing and gasket material.

A. DEFINITIONS

1. Asbestos Material - Any material containing asbestos.
2. Particulate Asbestos Material - Finely divided particles of asbestos material.
3. Visible Emissions - Any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material.
4. Removal - The taking down or stripping of Friable Asbestos Material.

NOTES AND REFERENCES

- Reference Du Pont Engineering Standard S4T. OSHA Regulation, Section 1910.1001 (ETS) dated November 4, 1983, and 1910.141. "Asbestos dust concentrations in air shall not exceed one-half (0.5) fiber, longer than 5 micrometers, per cubic centimeter of air. At no time may the concentration exceed a ceiling of 10 fibers longer than five (5) micrometers per cubic centimeter".

**PLAINTIFF'S
EXHIBIT****DUP-508**

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5. Friable Asbestos - Any material that contains more than 1% asbestos by weight and can be crumbled, pulverized, or reduced to powder when dry, by hand pressure. (Transite is not friable asbestos material.)
6. Wet method - Sufficiently coated with water to prevent dust emissions.

- Transite is friable only when it is being cut.

B. GENERAL RULES

1. Material containing asbestos shall not be used where there are satisfactory substitutes. Any insulation not known to be free of asbestos will be considered to contain asbestos for purposes of this procedure.
2. Each job involving the handling of asbestos must be thoroughly reviewed.
3. Insulation to be removed and discarded should be adequately wetted prior to and during removal. Material removed shall not be dropped or thrown to the ground, but shall be carefully lowered to ground level.
4. Each employee handling asbestos or exposed to the dust must wear an approved respirator, trained in its use, and fit-tested.

- The 3M respirator, Type 8710 is approved for use, CTI-87-50-450. Contact the Safety Division for other approved respirators and filters. If concentrations are expected to exceed 100 times the TLV, then an atmosphere supplying respirator must be used.

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5. Asbestos free insulation will be used on all new or altered facilities.
 6. 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 catching system.
 7. Asbestos in the work place must be maintained in a "bound" condition. If asbestos is found in an unbound condition, it must either be removed or re-bonded.
 8. If there is a delay in doing either of the things required in paragraph 7, caution label as specified in Figure 2, Page 6 of this procedure is required. Monitoring results as outlined in Paragraph G is also required.
- Vacuum area daily to prevent accumulation of asbestos dust on ledges, shelves, floors, and machines. Air hoses or dry sweeping is not permitted.
 - Bonding of asbestos containing insulation consists of 1) wrapping with aluminum or plastic sheathing or 2) wrapping with fiber glass cloth and then either brushing, rolling, or spraying on an insulating mastic material, or 3) application of a bonding agent, coating, mudding, etc. Small tubing that has been wrapped with asbestos tape or sleeve material must be sealed with a waterproof material such as Lagtone®.

C. WORK PRACTICES

1. The minimum requirements for any job involving asbestos are:
 - a) Use of wet method.
 - b) Use approved respirator.
 - c) Proper waste disposal.
 - d) Caution label if unbound asbestos is left overnight.
 2. If the job involves more than two manhours or if unusual dusting is anticipated, the following precautions must be considered along with those listed in paragraph C above.
 - a) Monitoring
- Where measurements on a previous job of the same or a similar nature demonstrated asbestos concentrations within allowable limits.
 - Ref. par. E of this procedure
 - Ref. fig. 2 page 8 of this procedure.
 - Contract Process Lab, Monitoring Group.

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- b) Use of protective clothing
- c) Barricades and posting of temporary warning signs.

- Ref. fig. 1, page 8 of this procedure.

- 3. Any job which is classified demolition requires all of the requirements of C.1. & 2. Please contact the Environmental Coordinator.

- Ref. J of this procedure.

D. ASBESTOS - MATERIAL MIXING

- 1. Cement, mortar, coatings, grout, and plaster containing asbestos shall be mixed in closed bags or other containers.
- 2. Any dried out cement should be discarded. Do not attempt to rework it.

E. WASTE DISPOSAL

- 1. Pipes and equipment insulated with asbestos will require special handling to meet waste disposal criteria.
 - a. If the material is stripped in place or immediately after removal, the group doing the work must adhere to the work practices outlined in par. C of this procedure.
 - b. Equipment covered with asbestos must be temporarily bound and labeled prior to being transported on the plant.

- This can be accomplished by wrapping with polyethylene and taping each individual portion that is not in a "bound" state. It may be desirable in some instances to wrap and tape the entire wagon rather than the individual pieces.

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2. The Material Recovery Center will not accept insulated hardware unless it is known to be free of asbestos and is so labeled.
- Should the MRC personnel discover insulated hardware not labeled, the following action should be taken:
 - 1) If sender is known, have them remove it for stripping in accordance with Paragraph C.
 - 2) If sender is not known, then:
 - (a) Maintenance Services will treat it as though it were asbestos and have it removed to #311 T.F. for stripping.
3. Asbestos waste shall be collected and disposed of in sealed, impermeable bags or containers. CTI-87-03-110.
- Caution labels shall be attached conforming to Figure 2, page 6.
4. The Area Mechanical Foreman following the job should prepare a purchase requisition and shipping notice (SR-630). The requisition must include Du Pont ID X05.
- Asbestos contaminated clothing and throw away respirators shall be handled in sealed labeled bags with instructions for proper handling.
 - The Shipping notice must bear the following: SRW Code-13
Description - Use Material, Primarily insulation containing asbestos.
Class I
TDWR Code - 170750
Disposition - Off-Site
5. Until the material is picked up by the vendor, it must be stored in a place where the bags will not be punctured or otherwise damaged.

When the material is shipped, the responsible Mechanical Foreman must fill out the Part I section of a TDWR Industrial Waste Shipping Control Ticket form, which the carrier truck driver will bring with him for each shipment or truck load.

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NOTES AND REFERENCESF. HYGIENE

1. Separate lockers for work clothes and street clothes must be provided to prevent contamination for known exposure to high level concentrations.
2. Special clothing (coveralls) should also be provided for high concentrations such as spraying and demolition of asbestos insulation.
3. Food, gum, tobacco, or any edibles shall not be consumed in areas where asbestos is being handled or fabricated.

G. SAMPLING

Monitoring is required where employees might be exposed to asbestos dust to determine the amount of exposure.

- Intervals between monitoring of samples shall not exceed six months. Contact the Industrial Hygiene Monitoring Group, Building #5 for assistance.

H. IDENTIFICATION OF INSULATION

1. All insulation that is not marked is to be handled as containing free asbestos until proven otherwise.
2. All newly installed insulation will be marked as follows:
 - a. All non-asbestos material should be identified by the vendor with a green stripe. When material is delivered that does not have vendor identification, the contractor will verify that the material is a non-asbestos type and

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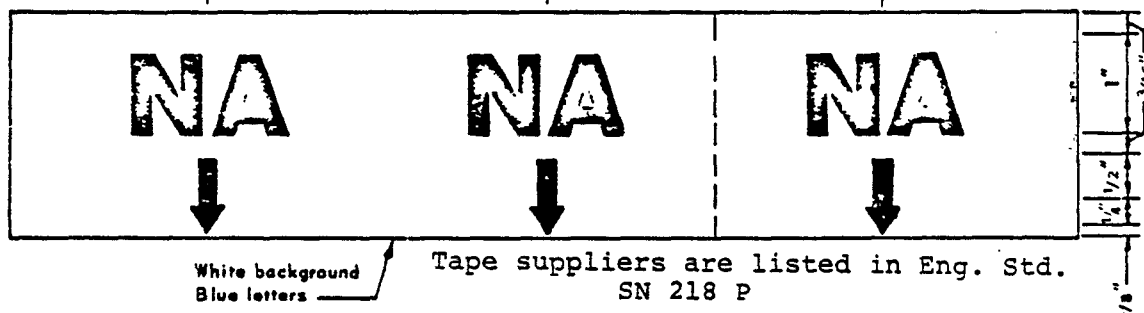
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will then identify the insulation with a blue stripe as it is installed.

- b. Where insulation is being replaced in an area of unknown asbestos content, identify the replacement insulation by a strip of tape placed around the circumference of the pipe furnish at strategic location on equipment pieces.

- See Figure 3 for tape specification.

FIGURE 3

I. CAUTION SIGNS AND LABELS

1. Signs shall be at all approaches to areas where asbestos concentrations may be above permissible exposure limits. (See Figure 1 below)
 2. Labels conforming to Figure 2 below shall be used to identify containers of raw materials scrap, waste and other products containing asbestos.
- The signs shall be placed at a sufficient distance to permit an employee to read the signs and take necessary precautions before entering the area.

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NOTES AND REFERENCES

FIGURE 1 - CAUTION SIGN - ASBESTOS DUST

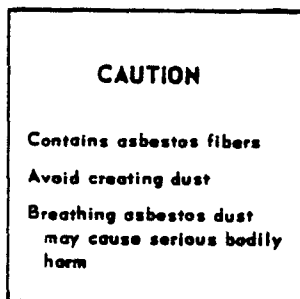
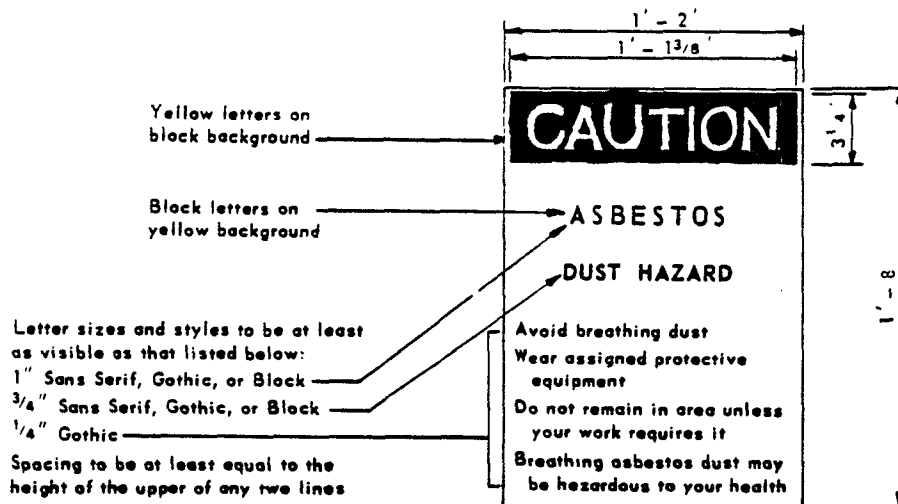


FIGURE 2 - TYPICAL CAUTION LABEL*

Label size and printing to be readily visible and legible.

J. EPA REGULATIONS ON ASBESTOS

1. The Environmental Protection Agency requires certain reporting procedures when operational facilities containing asbestos are being demolished. Reporting procedures are also required involving renovation of 80 meters (262.4 ft.) of pipe or more than 15 square meters (161.4 sq. ft.) of friable asbestos.

- This requirement does not pertain to transite siding because transite is not considered "friable".

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NOTES AND REFERENCES

2. It is the responsibility of the Proprietary Superintendent to ascertain those locations where asbestos exists and to ensure notification prior to demolition or renovation.
 3. If demolition or renovation as outlined in Paragraph I.1. above is to be done, notify the EPA Regional Administrator, Dallas, Texas, twenty days prior to commencement of demolition or removal stating the measured or estimate amount present.
- The Industrial Hygiene Monitoring Group in Building #5, can assist identifying insulation that contains asbestos.
 - Provisions are made for emergency renovation and the Environmental Coordinator, Ext. 6421 can assist with this requirement.

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