Ken. NYQUIST

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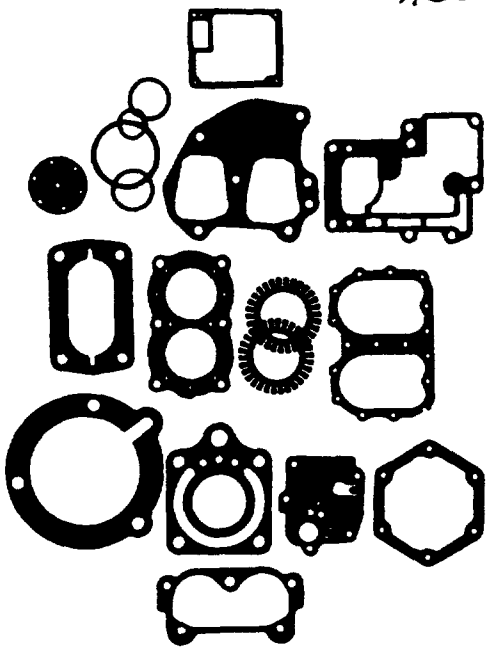

Recommended Work Practices for Asbestos-Containing Gaskets

Contents

March 15, 1985

Introduction

The Occupational Safety and Health Act (OSH Act) in the United States and similar laws in Canada and other countries were enacted to ensure every worker a safe and healthy workplace. This legislation is far-reaching. It covers millions of employees and nearly every employer.

The information and guidance in this booklet have been developed to assist in assuring compliance with the OSH Act and the Occupational Safety and Health Administration's (OSHA) standard for occupational exposure to asbestos dust (29 CFR Part 1910.1001). Because state or local regulations may differ from the OSHA standard, they should be reviewed to ensure total compliance.

The use of good work practices is recognized as one of the means of reducing health hazards associated with exposure to asbestos dust. The recommendations that appear on the following pages were developed through experience, study, and field testing. They were designed to achieve safer and more healthful job site conditions when working with asbestos-containing gasket material.

Asbestos and Health

Exposure to asbestos fibers can increase the risk of developing certain diseases over a period of years. Diseases associated with inhalation of asbestos fiber are: asbestosis, a non-malignant scarring lung condition; cancer of the lung; mesothelioma - a rare cancer of the lining of the chest or abdominal cavities; and, possibly, cancer of the digestive tract.

It should be emphasized that the evidence of adverse health effects (malignant and nonmalignant lung disease) due to the combined action of cigarette smoking and exposure in the workplace is well established. Workers who handle asbestos greatly reduce their health risks by not smoking cigarettes.

We will continue to see cases of asbestos-related disease for some years because of the unfortunate legacy of excessive past exposures. However, the present state of scientific knowledge shows clearly that minimizing exposure to airborne asbestos dust reduces the risks of asbestos-related disease. Good work practices are one means of significantly reducing generation of dust.

Summary of OSHA Asbestos Standard

Under the current OSHA standard for occupational exposure to asbestos dust, it is the employer's responsibility to assure that exposure of employees to airborne concentrations of asbestos fibers does not exceed the following permissible exposure levels:

a. Eight-hour time-weighted average (TWA): ~~Two~~ fibers longer than 5 micrometers, per cubic centimeter (~~2 f/cc~~). .2 F/cc

b. Ceiling concentrations: ~~Ten fibers, longer than 5 micrometers, per cubic centimeter (10 f/cc).~~

OSHA Instruction CPL 2-2.21A of February 18, 1981 states that the medical examination requirements of the asbestos standard will be required where the 7 to 8-hour TWA fiber concentration is 0.1 f/cc or greater.

Extensive field monitoring has demonstrated that the proper use of asbestos-containing gaskets can result in dust levels which are less than an 8-hour TWA of 0.1 f/cc. By following the work practices recommended in this booklet when using such products, dust levels can be minimized.

Products and Operations

These work practices apply to the use of non-friable asbestos-containing compressed, beater-addition, and gasket millboard material when furnished as precut gaskets or in sheets and rolls.

Operations to which these work practices apply include:

A. Storage ✓

B. Fabrication ✓

C. Installation ✓

D. Replacement ✓

E. Housekeeping and Waste Disposal ✓

Recommended Work Practices

A. Storage

Gaskets materials are typically received in three forms: sheets, rolls, and precut gaskets. Storage areas should be kept clean and dust free, either by wet sweeping or with the use of a vacuum cleaner fitted with a high efficiency particulate aerosol (HEPA) filter. Any information provided by the manufacturer, such as health warnings and handling requirements, should be retained.

B. Fabrication

1. Handpunching

Bolt holes are often made with the use of a hand punch and mallet. If feasible, the material should be dampened while it is being worked. All areas where hand punching takes place should be kept clean and dust free. Scraps of waste from hand punching should be disposed of in the proper manner.

2. **Hand Shaping**

Hand shaping of gaskets is carried out with the use of a scribe, pocket knife, or scissors. Gasket sizes are scribed onto a flat sheet of asbestos gasket material and then cut by the use of scissors or a pocket knife. The gasket material should be dampened during scribing and cutting, if feasible. In this operation, as in others involving asbestos, work areas should be kept clean and dust free and waste scraps should be promptly disposed of in the proper manner.

3. **Die Cutting - Hand Operated Press**

Gaskets are sometimes cut to size and shape on hand operated mechanical cutting presses. The surfaces of these machines and the surrounding work area should be maintained to be clean and dust free. Gasket scraps should be promptly disposed of in the proper manner.

4. **Die Cutting - Power Press**

Power-operated presses used in gasket fabrication should be provided with local exhaust ventilation as needed. Maintain sharp dies to reduce burrs that will increase the potential for dust and require further handling. The work area should be kept in a clean and dust free condition.

Note: Large pieces of gasket material left after the fabrication operation may be returned to storage for future use.

C. **Original Installation**

No special controls are required.

D. **Gasket Replacement - Removal and Installation**

Replacing worn or scheduled service gaskets often requires the use of a scraper or a wire brush to remove all of the old gasket material from the flange surface before a new gasket is put into place. Begin by prying or levering off the old gasket with a scraper,

such as a wood chisel, in order to remove it in the largest possible pieces. Where practicable, surfaces to be ground, scraped or brushed should be wetted. Work areas should be cleaned promptly. Unless airborne concentrations are known, respiratory protection is advisable.

Note: Some gaskets may be coated or surface treated with a parting agent so that when gaskets are removed, there is no need for excess grinding, scraping or brushing.

E. Housekeeping and Waste Disposal

Housekeeping is an essential part of any safe operation. Airborne asbestos dust created by the lack of good housekeeping has the potential for harm to employees and others. Keep work areas clean by wet wiping or wet sweeping, or by vacuuming with a unit equipped with a high efficiency particulate aerosol (HEPA) filter. NEVER DRY SWEEP OR BLOW ASBESTOS WITH COMPRESSED AIR.

The scrap offcuts and webs from these operations are not considered a "hazardous waste" under the Resource Conservation and Recovery Act (RCRA) and can be shipped to local landfills for disposal. Consult the Appendix for the federal regulations covering asbestos waste disposal.

AVOID CREATING DUST.

Appendix

ENVIRONMENTAL PROTECTION AGENCY

40 CFR part 61

(AD-FRL 2515-8)

National Emmission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standard

Agency: Environmental Protection Agency (EPA)

ACTION: Final rule

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§61.152 Standard for waste disposal for manufacturing demolition, renovation, spraying, and fabricating operations.

Each owner or operator of any source covered under the provisions of §§61.144-61.149 shall:

(a) Deposit all asbestos-containing waste material at waste disposal sites operated in accordance with the provisions of §61.156; and

(b) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, transporting, or deposition of any asbestos-containing waste material generated by the source, or use one of the disposal methods specified in paragraphs (b)(1), (2), or (3) of this section as follows:

(1) Treat asbestos-containing waste material with water.

(i) Mix asbestos waste from control devices with water to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, and wetting operations, or use the methods specified by §61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; and

(iv) Label the containers specified in paragraph (b)(1)(iii) as follows:

CAUTION

Contains Asbestos - Avoid Opening or Breaking Container
Breathing Asbestos is hazardous to Your Health

Alternatively, use warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(g)(2)(iii).

(2) Process asbestos-containing waste material into nonfriable forms:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes; and

(ii) Discharge no visible emissions to the outside air from collection and processing operations, or use the methods specified by §61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Use an alternative disposal method that has received prior approval by the Administrator.

§61.156 Active Waste disposal sites.

To be an acceptable site for disposal of asbestos-containing waste material under §§61.151 and 61.152, an active waste disposal site must meet the requirements of this section.

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material

has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft.) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51cm x 36cm (20" x 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1") Sans Serif, Gothic or Block.
Do not Create Dust	1.9 cm (¾") Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, an active waste disposal site would be an acceptable site if at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period is covered with either.

(1) At least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) A resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. This agent must be used as recommended for the particular dust by the manufacturer of the dust suppression agent. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, an active waste disposal site would be an acceptable site if an alternative control method for emissions that has received prior approval by the Adminstrator is used.

(Secs. 112 and 301(a) of the Clean Air Act as amended (42 U.S.C. 7412, 7601(a))

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