Los Angeles City Fire Department

Training Bulleting #94

Date of Issue **6-94** *Revision Date*

ASBESTOS

Asbestos is a carcinogen. This versatile material has been used in many products, especially in building construction materials. Members involved in EMS, fire suppression, and fire prevention activities may be exposed to asbestos fibers while performing their duties. The following information is offered to make members more aware of the health hazards of asbestos and what procedures to follow when involved at an incident where Asbestos Containing Materials (ACM) are present.

FIRE PREVENTION BUREAU

Effective October 1, 1990, the Fire Department implemented a program which requires a Division 5 Permit and on-site inspection of all asbestos-abatement projects (over 100 square feet) in the City of Los Angeles. An Inspector has been assigned for enforcement of Fire Prevention Requirement No. 68 - "Asbestos Abatement." The "Asbestos Abatement" Inspector may be contacted at (213) 485-5990. Greater allocation of resources to this feesupported program will be based upon work load and fees collected.

Division 5 Permits are obtained from the Bureau of Fire Prevention's Engineering Unit. OCDS will be notified by the Engineering Unit of the locations of occupancies where asbestos abatement is in progress. This information will be entered into the OCDS dispatch system, and will then be included as
"additional information" on the dispatch teletype.

I. ASBESTOS ABATEMENT PROCEDURES (CONTRACTORS)

A. Contractors must follow asbestos abatement procedures as per L.A.F.D. Bureau of Fire Prevention Requirement No. 68, after obtaining a Division 5 Permit.

B. Contractors are required to be licensed by the State.

C. Contractors are required to notify the Air Quality Management District (AQMD). Failure to notify the AQMD will result in substantial fines imposed on the contractor.

II. PROCEDURES TO BE FOLLOWED BY FIRE/EMS PERSONNEL AT SITES WHERE THE PRESENCE OF ASBESTOS IS SUSPECT OR WHERE ASBESTOS ABATEMENT IS IN PROGRESS

A. EMS and Physical Rescues

l. If the patient is in a sealed asbestos-abatement area, use properly equipped personnel to enter the abatement area for patient assessment. It may be necessary to move the patient to a safe area for further assessment and care.

2. Transport Vehicles Involved in Accidents:

a. Approach from windward side.

b. If asbestos containers are damaged and there is an asbestos spill, handle as a hazardous materials incident.

3. Fires Involving Areas Undergoing Asbestos Abatement:

a. Asbestos area should be easily determined, i.e., plastic sheeting, scaffolding, placarding, (notebook in fire-control rooms).

b. No entry into abatement area without breathing apparatus.

c. Convection currents created by the f ire will spread asbestos over a wide area and to other parts of the building.

d. Remember that wet asbestos fibers will present much less of a hazard; but when the area dries, the airborne-fiber problem returns.

e. Be particularly cautious in the placement/use of smoke ejectors.

f. Leave equipment, such as hose lines, in place after knockdown of fire. Remember, you are involved in a hazardous materials area. Do not take the hazard back to your fire station. Asbestos fibers will present little hazard when on a wet turnout coat; but when the turnouts dry, airborne fibers will again be present.

g. Decontamination of protective equipment, hose, etc., should be done at the scene. Be guided by hazardous materials officers or Department/incident safety officer.

h. Follow-up notification of a fire involving an asbestos-abatement project is required to the Bureau of Fire Prevention, "Asbestos Abatement" Inspector, at (213) 485-5990.

B. The best protection against asbestos is by following these four basic principles:

l. Use protective equipment, especially respiratory protection.

2. Limit the time of exposure.

3. Limit the amount of material personnel are exposed to.

4. Maintain a safe distance (upwind) from the asbestos area whenever possible.

III. FIRE PREVENTION AND TRAINING EXERCISES

A. Do not enter sealed areas where asbestos abatement is in progress.

B. Stay upwind at demolition sites.

C. Report any illegal/unsafe asbestos projects to the

"Asbestos Abatement" Inspector (213) 485-5990) or to the High-Rise Unit (213) 485-5995).

IV. ASBESTOS EXPOSURE AREAS

The following is a list of-areas containing asbestos that Fire and EMS personnel are most likely to encounter:

A. Buildings undergoing asbestos abatement (removal);
there are two types:

l. Total Abatement: The removal of all ACM's or all ACM's of a specific type, i.e., thermal insulation from structural members or removal of all ducting containing asbestos.

2. Spot Abatement: The removal of asbestos from small areas to allow installation of sprinkler system anchor points.

B. Buildings Undergoing Demolition: The ACM's are removed prior to the actual demolition. Historically, the greatest amount of ACM's released to the atmosphere have been found at sites of buildings being demolished.

C. High-Rise Buildings Being Retrofitted With Sprinklers:
May be undergoing spot or full asbestos abatement.

> NOTE: In high-rise buildings that have had the insulation removed from the structural steel, it is required to be replaced within 15 days. Report any violations to the "Asbestos Abatement" Inspector or to the Commander of the High-Rise Unit.

D. Commercial or habitational occupancies built from the mid 1930's to the 1970's. Many of these contain ACM's used as insulation, fire protective coatings, ceiling tiles, etc.

E. Transport vehicles carrying asbestos materials that become involved in a fire or in transportation accidents.

HISTORY

Asbestos is a fibrous material which, since the early 1900's, has had a wide application of uses. There are more than 3,000 products containing ACM's. Many ACM's were used by the building construction industry, the majority being used from about 1940 to 1973.

Products used in building construction include ceiling tiles, floor tiles, roofing paper and tiles, siding shingles, electrical and thermal insulation, wallboard and pipe insulation. Steel-framed, high-rise buildings constructed prior to 1973 used asbestos insulation on the steel members in order to meet the fire resistiveness required for fire safety.

PROPERTIES

Asbestos is noncombustible, fire and corrosion resistant, flexible, high in tensile strength, and low in electrical conductivity. Fibers vary in length from 1 to 20 microns and are easily dispersed by air movement. ACM's do not readily release fibers into the air unless they are physically disturbed, such as when using pike poles, playing hose streams onto insulated steel-framed members, or cutting roofs that have ACM's.

Friable asbestos, the type which can easily be pulverized using hand pressure, poses a greatest threat to Fire Department personnel. For instance, insulation containing fluffy asbestos releases fibers more readily than an ACM such as floor tiles.

HEALTH HAZARDS

Asbestos is listed as a carcinogen to human beings. Asbestos fibers can enter the body by inhalation and ingestion. Inhaled fibers can penetrate body tissues and remain there for years. Diseases associated with asbestos are:

1. Asbestos - Hardening and thickening of lung tissue.

2. Mesothelioma - Rare and fatal cancer of the lining of the chest and abdomen, only associated with asbestos exposure.

3. Lung Cancer

4. Other cancers, including cancer to the larynx, stomach, and colon.

Statistics have shown that persons exposed to asbestos fibers for a long period of time, such as workers in factories that manufacture/use asbestos or ACM's, have a high incidence of the diseases listed above. Fire Department personnel should take necessary precautions to minimize being exposed to ACM's. This will greatly reduce the risk associated with asbestos.

F.P.B. Requirement No. 68 - 7/1/90

Los Angeles City
Fire Department Requirement

ASBESTOS ABATEMENT

The following are the Los Angeles City Fire Department's minimum fire and life safety requirements for the removal of asbestos containing materials, including, but not limited to, fire protective coatings. These requirements replace all prior regulations issued by this Department regarding asbestos abatement sites.

The specific areas covered within this requirement are listed within codes which are contained in or enforceable through the Los Angeles City Fire Code, 57.01.34, 57.20.16, 57.03.03, etc.

All asbestos abatement sites located in the City of Los Angeles must comply with all appropriate U.S. Environmental Protection Agency (EPA), California Department of Industrial Relations (CAL OSHA), South Coast Air Quality Management District (SCAQMD), Los Angeles City Department of Building and Safety, and other mandated guidelines in addition to the requirements set by this Department.

I. PERMITS REQUIRED

LAMC 57.05.01, 57.05.20 A-11

1. A Fire Department Division 5 Permit is required to conduct <u>any</u> asbestos removal process which reduces the fire resistiveness of any building, or results in the removal of 100 square feet or more of asbestos containing material (ACM). For the purpose of this definition, ACM which is expressed in linear feet shall be computed and reported as a total equivalent surface area in square feet.

    A. The licensed contractor performing the asbestos abatement shall obtain the required permit and be responsible for all resulting fees.

B. A permit for asbestos abatement is good for 180 days from the date of issue and only for the specific project for which it is issued. Any project which is not completed within the specified time allotted will require a new permit.

C. Permit fees are collected by the Fire Department upon application for a permit.

D. Three copies of a plot plan depicting all areas undergoing abatement, drawn to scale, shall be provided by the contractor at the time of permit application.

NOTE: The plot plan is described in more detail in areas IX.3. through 5.

II. FIRE RETARDANT/NONCOMBUSTIBLE MATERIALS

LAMC 57.20.16, Title 19 - 3.14

All plastic, spray-on strippable coatings and structural materials used in the asbestos abatement process must be certified as fire retardant or noncombustible. This includes, but is not limited to, plastic sheeting, temporary structures, separations, supports, and scaffolding. Wood which is pressure impregnated and certified as fire retardant is acceptable. Material Safety Data Sheets (MSDS) shall be maintained at the job site for all fire retardant plastics and shall be made available upon request by the Fire Department.

III. ALLOWABLE LOCATIONS (Occupied Buildings)

LAMC 57.03.03, Title 19 - 3.14

l. Multiple story buildings (where more than 25 percent of the floor area is undergoing abatement, or under demolition in preparation for abatement).

A. Asbestos abatement is permitted on a floor-by-floor basis, provided that no two consecutive floors are undergoing active abatement simultaneously. A maximum of every other floor, up to a total of three floors out of five, is permitted. However, a minimum of five clean

buffer floors must separate them from the next five floor group. Buffer floors must have all required fire/life safety equipment and fire protective coatings in place.

2. Single Story Buildings

A. A maximum of 50 percent of the total floor space may be under active abatement at any one time. Sufficient legal exiting shall be maintained where this occurs.

3. Unoccupied buildings may be allowed greater latitude during the abatement process. Any variance from the provisions of this section will be considered on a case-by-case basis.

IV. RUBBISH AND DEBRIS

LAMC 57.21.03, 57.20.36

All combustible rubbish and debris, including properly bagged asbestos shall be properly disposed of at the end of each working day.

V. EXTINGUISHERS

LAMC 57.140.09

l. A minimum of one 4A/60BC dry chemical extinguisher shall be maintained at each of the following locations:

A. At each electrical panel.

B. At each corner of the work area. Where no clear corners exist, four extinguishers shall be placed around the exterior wall of the work area so that they are approximately 25 percent of the total distance apart.

C. Within five feet of the external entry to the shower room from the work area.

D. Within five feet of the external entry to the shower room from the "clean room."

EXCEPTION: Where the total abatement containment area is less than 1,000 square feet, one 4A/60BC extinguisher shall be provided as in "D" above. All extinguisher locations shall be clearly identified with an appropriate sign.

VI. FIRE SAFETY WATCH

LAMC 57.13.03

1. In all cases where the abatement project is 1,000 square feet or more, and whenever the fire protective coating of the building's structural members is removed, the following shall apply:

   A. One on-site supervisor selected by the contractor shall be designated as the Safety Coordinator and shall be responsible for:

      1) Educating on-site personnel in general safety procedures.

      2) Insuring that on-site personnel are aware of the location and proper use of all
      extinguishers and other fire/life safety equipment.

2. In addition to the requirements in Item "1.A.", a qualified person shall be selected by the contractor to function as a Fire Watch. The Fire Watch may perform no other duties which are not specifically related to the security and fire safety of the overall work area and must see each area of the work site a minimum of once each 30 minutes. This Fire Watch shall continue for a minimum of 30 minutes after the cessation of work.

3. A fire/life safety log must be maintained by the designated Fire Watch. The log must be maintained from the beginning of the abatement process until the final clean air certification is received, and until all respray is completed where fire protective coatings have been removed. The log shall be used solely for the recording of fire and life safety room

information and shall be kept at the work site in the clean room at all times and be available for review by Fire Department representatives. The log shall contain the following information:

A. The date.

B. The name and title or position of the assigned Fire Watch.

C. The time and duration of the Fire Watch.

D. The area assigned to each Fire Watch.

E. An entry describing any fire or life safety problem that was found and how it was corrected.

F. A statement at the conclusion of each work day, signed by the on-site Safety Coordinator, confirming that a survey of the work site has been made and that any unsafe fire/life safety conditions have been rectified.

4. At the end of each work period or each 24-hour period, whichever applies, the on-site Safety Coordinator shall document in the Fire and Life Safety Log that:

   A. A visual survey of the work site was conducted.

   B. Any unsafe fire and life safety condition has been corrected.

   The above statements shall be signed by the Safety Coordinator.

5. In the absence of a functioning automatic fire detection system connected to the building's Central Alarm System in the area undergoing abatement or respray, a Fire Watch shall be maintained on a 24-hour basis until:

   A. The final clean air certification is received.

   B. All respray is completed in buildings where fire protective coatings have been removed.

6. In abatement areas protected by an approved functioning automatic fire detection system connected to the building's Central Alarm System, the Fire Watch may be discontinued 30 minutes after the completion of each work day.

   NOTE: Alternate fire alarm equipment requires the approval of the Fire Department and the Department of Building and Safety.

7. Any work requiring the use of open flame shall require a Fire Watch standing by with a 4A/60BC extinguisher until the completion of the project.

VII. FIRE DETECTION AND SIGNALING SYSTEMS

LAMC 57.01.35, 57.122.04, 57.20.41, 57.122.09, 57.20.12, 57.20.15

l. All existing fire detection and alarm systems shall remain in place and active. Any alteration to this equipment must be approved by both the Fire Department and the Department of Building and Safety. If a permit is granted for work that requires the system to be disabled, a Fire Watch Meeting all of the requirements listed in Section 57.13.06 of the Fire Code, must be maintained at all times as described in Section VI.5 of this Requirement.

2. Existing fire alarm manual pull boxes, Fire Department communication jacks, and signaling systems shall be maintained in place and active. The foregoing items shall be clearly marked with signs containing lettering which is a minimum of 3" X 1/2" wide on a contrasting background.

   If the foregoing items are covered by plastic, each device shall be surrounded by a square of red duct-type tape. In addition, a cutting device, also surrounded by a square of red duct-type tape, shall be kept immediately adjacent to the device.

   NOTE: In all cases where the use of red duct tape is required for identifying the location of safety items, the tape shall be a minimum of 3" in width.

3. All fire/life safety systems which have been disconnected, require joint acceptance by the Fire Department and the Department of Building and Safety upon their reconnection.

4. Fire rated partitions, doors, and other fire cutoffs shall not be temporarily or permanently modified without the joint approval of the Fire Department and the Department of Building and Safety.

VIII. FIRE SUPPRESSION

LAMC 57.20.15, 57.138.02, 57.138.07

1. All Fire Department connections and standpipes shall remain active, unobstructed, and clearly marked.

2. All existing sprinkler systems shall remain active. Sprinkler heads may be covered with a thin, .003" or *less,* plastic bag <u>during abatement</u> to avoid their contamination.

3. Wire sprinkler guards which are approved and listed are acceptable to protect exposed heads from damage during the abatement process.

IX. NOTIFICATION

LAMC 57.08.01, 57.08.02, 57.05.01, 57.05.20

l. The licensed contractor performing the abatement process shall notify the Los Angeles City Fire Department in writing a minimum of ten days prior to the start of any abatement project which reduces the fire resistiveness of any building or results in the removal of 100 square feet of ACM or more. Three properly completed copies of the SCAQMD Rule 1403 Notification Form, or separate sheets containing the same information are acceptable.

Notification shall be delivered to the following address:

Los Angeles City Fire Department
Bureau of Fire Prevention
200 North Main Street, Room 920 Los Angeles, CA 90012

Attention: Asbestos Notification

2. A separate letter shall be mailed to the Fire Department within 48 hours of the job's completion affirming the completion of the job and confirming that all removed fireproofing has been replaced in a manner approved by the Department of Building and Safety. This letter shall be signed by the contractor performing the respray.

NOTE: Contractors shall notify the Fire Department if they do not complete their portion of the job for any reason.

3. The following floor plans shall be drawn to scale and provided for the Fire Department's use:

A. Two 8 1/2" X 11" floor plans for each f loor undergoing an abatement process which requires Fire Department notification. Each drawing must show the entire floor area, with north indicated at the top, and clearly indicate the area(s) undergoing abatement outlined in red.

4. The following minimum items shall also be indicated:

A. All entrances and exits for each containment area. Any exit which is blocked by the containment shall have the word "BLOCKED" printed next to it.

B. Location of each negative air machine.

C. Location of the negative air machine emergency shutoff switch.

D. Location of emergency Fire Department protective entry clothing.

5. Plans described in Item "3.A." shall be kept in a clearly identified three-ring loose leaf binder in one of the following locations. The locations are listed in priority order:

   A. The building's Fire Control Room.

   B. At the building's staffed security desk (if no Fire Control Room exists).

   C. At a location approved by the Fire Department.

6. The loose leaf binder shall be updated daily and used exclusively to provide the Fire Department with accurate emergency information. The binder shall also contain an introduction page containing:

   A. The name, address, emergency and business phone numbers for the:

      1) Asbestos Contractor
      2) Respray Contractor
      3) Project Consultant
      4) Job Superintendent

   B. Start and completion dates for the abatement project, including respray.

   C. Regular working days and working hours.

   D. Job site phone number.

X. INSPECTION

LAMC 57.01.24

The Fire Department and Department of Building and Safety will, at their discretion, inspect the work sites for compliance with the requirements contained in this policy. **All approvals received are subject to field inspection.**

XI. SIGNAGE

LAMC 57.01.34

In addition to the warning signs mandated by other enforcement agencies, the following asbestos abatement signs are required:

l. Multiple Story Buildings

A. A standard 20" X 14" black on yellow asbestos abatement warning sign placed in the Fire Control Room adjacent to the fire alarm annunciator panel.

B. A 12" X 12" sign with minimum 3" X 1/2" lettering on a contrasting background, indicating which floors are involved in the abatement process. This sign shall be immediately adjacent to Item A.1. above.

NOTE: If no Fire Control Room exists, the warning signs required and described in Items A.1. and A.2. above shall be placed adjacent to the building's fire alarm annunciator panel, or in a location approved by the Fire Department.

C. An additional set of signs as described in A.1. and A.2. shall be placed on each landing in each stairwell which leads to all floors undergoing abatement:

1) Beginning two floors below the affected floor(s).

2) On the floor above the affected floor(s).

2. Single Story Buildings

A. A standard 20" X 14" black on yellow asbestos abatement warning sign placed in the Fire Control Room adjacent to the fire alarm annunciator panel.

B. A 12" X 12" sign with minimum 3" X 1/2" lettering on a contrasting background, indicating which floor areas are involved in the abatement process. This sign shall be immediately adjacent to Item B.1. above.

NOTE: If no Fire Control Room exists, the warning signs required and described in Items 1.B. and 2.B. above shall be placed adjacent to the building's fire alarm annunciator panel, or in a location approved by the Fire Department.

XII. RESPRAY OF FIRE PROTECTIVE COATINGS

Respray of fire protective coatings shall be conducted as prescribed by the Los Angeles City Department of Building and Safety. In all cases, respray shall be completed no more than 15 days after the final air monitoring clearance is received. A11 areas where fire protective coatings have been removed including areas that have been cored to facilitate the placement of piping hangers, etc., shall be returned to the degree of fire resistiveness determined by the Department of Building and Safety.

XIII. EMERGENCY SHUTDOWN SWITCH FOR NEGATIVE AIR EQUIPMENT

LAMC 57.01.34

A single switch or set of switches shall be provided for the emergency shutdown of all negative air equipment located in the containment area. This switch or switches shall be for emergency use by Fire Department personnel. The switches shall be located in a non-contaminated area near the clean exit from the decontamination station, and shall be clearly identified using a sign with minimum 3" X 1/2" lettering on a contrasting background. The sign shall read as follows: "NEGATIVE AIR MASTER SHUT OFF."

XIV. EXITING

LAMC 57.33.11, 57.33.12, 57.33.13

l. The asbestos abatement process shall not cause a building to have an amount of exiting less than that required for the existing occupant load. In all *cases* where the required exiting must be obstructed, an alternate means of exiting must be provided which is approved by the Fire Department and the Department of Building and Safety. A minimum of two clearly marked exits shall be maintained from each floor during the

abatement process. The second exit from a containment area may be covered with plastic upon the approval of the Fire Department and the Department of Building and Safety. If this occurs, the covered exit shall be outlined with red duct-type tape, and a cutting device shall be kept immediately adjacent to the door in an obvious and readily accessible location. The cutting device shall also be surrounded by a square of tape as described above.

2. At least one stairwell door shall open into an non-contaminated area of the floor in containment areas greater than l,000 square feet.

XV. COMMUNICATIONS

LAMC 57.01.34

A minimum of one telephone shall be provided for contacting emergency personnel in containment areas greater than 1,000 square feet. The telephone shall be located in the clean room adjacent to the exit from the decontamination area.

NOTE: If telephone communications are impossible, radio communications shall be provided with personnel who have immediate access to telephone communications. If this occurs, a radio shall be kept in a location as described for telephone communications.

XVI. VIEWING PORTS

LAMC 57.01.34

1. The following shall apply in containment areas greater than 1,000 square feet:

   A minimum of two viewing ports shall be provided which will allow the greatest possible degree of the containment area to be viewed from an uncontaminated site. Viewing ports shall be at least 18" X 18·' in size.

   Containment areas which are less than 1,000 square feet may be required to provide viewing ports based on field inspection.

XVII. EMERGENCY PROTECTIVE EQUIPMENT

LAMC 57.01.34

l. The following shall apply in containment areas greater than 1,000 square feet:

Five "tyvek" type protective entry suits, rated for use in an asbestos containment area, shall be provided for each containment site. All suits shall be extra large and shall be kept in a separate, clearly identified, readily accessible container near the clean exit from the decontamination area. These suits shall be for the exclusive use of emergency personnel.