



Asbestos:

A Contractor's Guide and Open Book Examination

Contractors State License Board

IMPORTANT:

- You **MUST** take the Open-Book Exam and SIGN the verification form.
- Submit completed verification form with your bond verification and license fee notice.
- If you do not submit this form, the Board CANNOT process your application for licensure.

Section 7058.5 (b) of the Business and Professions Code states:

The Contractors State License Board shall make available to all applicants, either on the board's Internet web site or, if requested, in hard copy, a booklet containing information relative to handling and disposal of asbestos, together with an open book examination concerning asbestos-related work. All applicants for an initial contractor license shall complete the open book examination and, prior to the issuance of a contractor's license, submit it to the board electronically or by mail if the applicant elects to use the hard-copy format.



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Introduction

Overview

The Contractors State License Board (CSLB) provides this asbestos abatement informational booklet to all applicants when they pass their law and trade examinations, or when CSLB requests the applicant's bond and license fee from those who are approved for an exam waiver. The applicant must read this booklet and complete the open book examination at the back of this book. The verification and answer sheet must be submitted to CSLB with your bond verification and license fee.

This booklet provides an overview of asbestos information. To fully understand your obligations, review the referenced regulations and contact the relevant agencies.

Goals

After reading this booklet, you will be familiar with:

- What asbestos is
- Health hazards related to asbestos
- Basic laws and regulations regarding abatement of asbestos-containing materials
- Materials suspected of containing asbestos
- Who can remove asbestos-containing materials
- Reporting requirements
- Training requirements for all individuals who work with asbestos-containing materials
- Agencies to contact if more information is needed or desired
- Methods for avoiding contact with asbestos-containing materials

Objectives

You will be aware of the risks of dealing with asbestos, and possess the knowledge base necessary to respond appropriately to construction situations where asbestos is or may be present.

Using the information provided in this booklet, you will demonstrate an understanding of the following:

- Health issues associated with asbestos exposure
- Diseases caused by exposure to asbestos
- How exposure to asbestos occurs
- How to prevent exposure to asbestos



Asbestos

Introduction

Asbestos is a naturally occurring mineral fiber that has been used extensively in construction and many other industries. Manufacturers have used asbestos in their commercial products because asbestos is noncombustible, noncorrosive, nonconductive, and has high tensile strength. Asbestos fibers have been mixed with binding agents to create approximately 3,600 different commercial products. The amount of asbestos contained in these products can vary from 1 to 100 percent.

COMMON NAMES FOR ASBESTOS

WHITE ASBESTOS	BLUE OR BROWN ASBESTOS
actinolite anthophyllite chrysotile (most common) tremolite	amosite (most common) crocidolite

Properties

Asbestos has several special properties that led to its widespread use in the construction industry. Asbestos fibers have been added to materials that:

- Fireproof
- Insulate
- Soundproof
- Decorate

Examples of Uses in Construction

Tables 1–6 show how asbestos-containing materials have been used in construction, the time periods in which they were used, and how asbestos fibers can be released into the air.

TABLE 1: CEILINGS, WALLS, AND INSULATION

LOCATION/PRODUCT	HOW FIBERS ARE RELEASED	COMMENTS
Sprayed-on insulation (e.g., on ceilings, walls, and steelwork) <ul style="list-style-type: none"> • acoustical • thermal • fireproofing • decoration • condensation control 	Water damage Deterioration Impact Vibration	In use from 1935 to 1970. EPA banned nearly all uses in 1973.
Insulation under/around heat sources such as stoves and fireplaces (e.g., asbestos-containing cement sheets or paper)	Sanding Scraping Cutting Dry sweeping	1930-1972.
Patching or Taping Compound	Sanding Scraping Demolishing	In use from 1945 to 1977, when U.S. imposed ban. Ban did not affect products already on market, so joint-taping compounds containing asbestos still sold after that time.
Some Types of Fireproof Wallboard	Cutting Damage	
Insulation “sandwiched” between plaster walls and behind ceilings	Disturbances during renovation/demolition. If located in the air stream, fibers may be disturbed by the air flow, releasing fibers throughout the building.	In use from 1900 to 1973.
Electrical Insulation	Damage Fraying or other deterioration	
Some Textured Paints (small amounts)	Sanding Scraping Cutting	1900 to present.
Wallcovering – Vinyl wallpaper	Sanding Scraping Cutting	1920s to present.

TABLE 2: PIPE AND BOILER COVERING AND LAGGING

LOCATION/PRODUCT	HOW FIBERS ARE RELEASED	COMMENTS
Blocking (Corrugated paper)	Damage Cutting Deterioration	In 1996, EPA banned these materials.
Pre-molded Pipe Covering sections (Corrugated paper)	Damage Cutting Deterioration	In 1996, EPA banned these materials.
Corrugated Asbestos Paper (air cell)	Damage Cutting Deterioration	In 1996, EPA banned these materials.
Asbestos-Paper Tape on furnaces, steam valves, flanges	Damage Cutting Deterioration	In 1996, EPA banned these materials.

TABLE 3: FLOORING

LOCATION/PRODUCT	HOW FIBERS ARE RELEASED	COMMENTS
Vinyl Tiles (binding agent)	Removal Sanding Dry-scraping Cutting Polishing	In use since 1950.
Asphalt Tiles (binding agent)	Removal Sanding Dry-scraping Cutting Polishing	In use since 1920.
Vinyl Sheet Flooring backing	Removal Sanding Dry-scraping Cutting Polishing	In use between 1950 and 1990. EPA banned in 1990.
Flooring Felt	Removal Sanding Dry-scraping Cutting Polishing	EPA banned in 1990.

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TABLE 4: ROOFING AND SIDING

LOCATION/PRODUCT	HOW FIBERS ARE RELEASED	COMMENTS
Roofing and Siding (binding agent in Portland cement) • Shingles (1971-1974) • Sheets	Replacing Repairing Demolishing Cutting	
Roofing Felts	Replacing Repairing Demolishing Cutting	In use since early 1900s.

TABLE 5: ASBESTOS CEMENT PIPE

LOCATION/PRODUCT	HOW FIBERS ARE RELEASED	COMMENTS
Cement Piping and Pipe Fittings	Demolishing Cutting Removing	In use since 1935.

TABLE 6: FIREPROOF TEXTILES

LOCATION/PRODUCT	HOW FIBERS ARE RELEASED	COMMENTS
Fireproof Cloth	Deterioration Damage Handling during renovation or removal	
Fireproof Blankets	Deterioration Damage Handling during renovation or removal	1910 to present.
Fireproof Curtains	Deterioration Damage Handling during renovation or removal	1945 to present.

Status of Asbestos-Containing Products

In 1990, the Environmental Protection Agency's (EPA's) Asbestos Ban and Phase Out (ABPO) Rule banned the manufacturing, processing, or importation of flooring felt and new uses of asbestos.

A later court decision determined the following asbestos-containing materials were no longer subject to the ABPO Rule: asbestos-cement corrugated sheet, asbestos-cement flat sheet, asbestos-cement shingle, asbestos-cement pipe, asbestos clothing, millboard, pipeline wrap, roofing felt, non-roofing coatings, roof coatings, and vinyl-asbestos floor tile (*Corrosion Proof Fittings v. EPA* [5th Cir., 1991] 947 F. 2d 1201). The court decision meant that asbestos-containing materials no longer subject to the ABPO Rule could be manufactured, processed, imported and used in the United States.

As of 1996, the following asbestos-containing products were banned from manufacture, processing or importation: corrugated paper, rollboard, commercial paper, specialty paper, and flooring felt.

Be aware these asbestos-containing materials may be encountered in any renovation/remodel project *regardless of the age of the facility*. Any building could still contain these materials and should be surveyed prior to renovation/demolition.

Labeling of Asbestos-Containing Products

In 1986, the U.S. Consumer Product Safety Commission (CPSC) required labeling of products containing asbestos. These products include:

- Asbestos paper and millboard
- Asbestos cement sheet
- Dry-mix asbestos furnace or boiler cement
- Central hot-air furnace duct connectors containing asbestos

The ABPO Rule requires manufacturers, processors, or importers to label asbestos-containing material while the material remains in distribution. The EPA required labeling of flooring felt since August 27, 1990, for all stock on hand. Since 1996, the EPA has required labeling of commercial paper, corrugated paper, rollboard, and specialty paper.



Exposure to Asbestos

Is Asbestos Dangerous?

Inhalation of asbestos fibers can be deadly. Even short-term exposure to asbestos fibers can be harmful. For example, in documented cases, family members of asbestos workers have been sickened by exposure to asbestos fibers on the workers' clothing. Authorities believe there is no safe level of exposure, and many experts believe the more you are exposed to asbestos, the higher the risk of contracting an asbestos-related disease.

Who Might be Exposed to Asbestos?

Construction jobs in renovation, demolition, and construction may result in exposure to asbestos, either directly or indirectly (i.e., as a result of the activity of nearby workers in other trades). The list below displays some of the construction-related workers who may be exposed to asbestos on the job:

- Bricklayers
- Carpenters
- Cement masons
- Demolition contractors
- Drywall tapers
- Electricians
- Floor coverers
- General building maintenance workers
- General manufactured housing contractors
- Glaziers
- Heat and frost insulators
- Heating/air-conditioning workers
- Home improvement contractors
- Janitorial workers
- Laborers
- Operating engineers
- Painters/decorators
- Plasterers
- Plumbers
- Roofers
- Sheet metal workers
- Sprinkler fitters
- Stationary engineers
- Steamfitters
- Welders

How Does Exposure to Asbestos Occur?

Exposure to asbestos occurs when asbestos fibers are released into the air. The typical size of an asbestos fiber is so small that it cannot be seen with the naked eye. In fact, asbestos fibers can pass through normal vacuum cleaner filters and escape into the air. The fibers are so light that they can stay airborne for many hours. These properties increase the extent of asbestos exposure for individuals within the affected area.

Asbestos-containing material is called **friable** if it can be crumbled by hand pressure or impact, causing the asbestos fibers to become airborne. The asbestos fibers can be inhaled and embedded in the lungs. The body has no natural mechanism to remove these fibers.

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Levels of Exposure

To protect workers handling asbestos-containing materials, the federal Occupational Safety & Health Administration (OSHA) established two levels of exposure: permissible exposure limit (PEL) and the excursion limit.

Permissible exposure limit (PEL) – defined as 0.1 fibers per cubic centimeter of air (f/cc) averaged over an eight-hour day.

Excursion limit – defined as 1.0 fibers per cubic centimeter of air (f/cc) averaged over a sampling period of 30 minutes.

Classes of Work

Cal/OSHA classifies asbestos abatement work into four categories or classes (I, II, III, IV). Contractors should know which class of work pertains to their project.

Class I – Allows for activities involving the removal of Thermal System Insulation (TSI), surfacing Asbestos-Containing Material (ACM), and Presumed Asbestos-Containing Material (PACM).

Class II – Allows activities involving the removal of ACM that is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III – Allows repair and maintenance operations where ACM, including TSI and surfacing ACM, and PACM, is likely to be disturbed.

Class IV – Allows maintenance and custodial construction activities during which employees contact, but do not disturb, ACM or PACM, and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

The following activities are addressed according to the abatement class:

- Warning signs
- Regulated work areas
- Personnel training
- Personal protective equipment
- Prohibited behaviors (e.g., smoking, eating, drinking)
- Air monitoring
- Disposal

Record Keeping – Complete and accurate records of the following must be kept and maintained for at least 30 years in accordance with Cal/OSHA and EPA guidelines: medical exams, training records, respirator fit test records, exposure measurements, and required notification records. These records must be made available to employees and former employees upon request.



Asbestos and Your Health

Types of Diseases

A worker can either inhale or ingest airborne asbestos fibers. Once inhaled or ingested, asbestos fibers can easily penetrate body tissues. Exposure to asbestos may cause several serious diseases.

Asbestosis – A serious, chronic, non-cancerous respiratory disease that occurs when asbestos fibers lodge in the lungs. The lung tissues become irritated, and the small air tubes and sacs in the lungs become inflamed. As the inflammation heals, permanent scar tissue (called fibrosis) remains.

- *Early Symptoms:* Shortness of breath, coughing, fatigue
- *Treatment:* There is no effective treatment for this condition.
- *Prognosis:* Disabling or fatal

Lung Cancer – Malignant lung tumor(s), five times more common in people exposed to asbestos than in those not exposed. Smoking greatly increases this risk. A smoker who is heavily exposed to asbestos is 30 to 90 times or more likely to develop lung cancer than a nonsmoker.

- *Early Symptoms:* Coughing, changes in breathing, shortness of breath, chest pains, hoarseness, and anemia
- *Treatment:* There is no cure; however, if diagnosed early, medical treatment is available.
- *Prognosis:* Disabling or fatal

Mesothelioma – A rare and deadly form of cancer that may occur from relatively light exposure to asbestos. This cancer involves the lining of the chest and abdomen.

- *Early Symptoms:* Shortness of breath, chest or abdominal pain
- *Treatment:* There is no effective treatment for this condition.
- *Prognosis:* Fatal

Other Cancers – Exposure to asbestos is also thought to result in cancers of the esophagus, larynx, stomach, colon, rectum, and gastrointestinal tract. These diseases may be due to ingesting some asbestos fibers that are caught in the upper air passages and then carried to the throat in mucous.

- *Treatment:* There is no cure; however, if diagnosed early, medical treatment is available.

Individuals who contract an asbestos-related disease often do not show symptoms for 10 to 30 years after exposure. If work exposes you to asbestos, regular medical exams are crucial to the early detection of asbestos-related diseases.

Medical Examinations

Workers who are frequently exposed to asbestos should receive medical examinations on a regular basis. All asbestos abatement workers should be given a full physical when hired and annually thereafter. These medical exams should include the following tests:

- Complete medical and work history (specifically symptoms of the respiratory systems, cardiovascular systems, and digestive tract)
- Chest X-ray

- Pulmonary function test
- Any lab or other tests the doctor deems necessary

Risk Factors

The amount of asbestos exposure, the length of exposure, and number of exposures all seem to influence the likelihood of developing an asbestos-related disease. The higher your total exposure to asbestos, the greater your risk of becoming ill. As mentioned previously, smoking greatly increases one's chances of contracting an asbestos-related disease.

Reduce this risk by taking the necessary precautions to limit your exposure to asbestos as much as possible.

Asbestos-Related Work



Introduction

As a contractor, you are required to be aware of the presence of asbestos on a job. The owner, employer, or contractor must determine whether asbestos is present before work begins on a project. The employer or contractor must assume that asbestos is present in any building or structure built before 1980 unless the owner can produce proof that materials are asbestos-free. The owner's response should be documented. During the pre-job safety conference, the asbestos contractor must provide a copy of his/her Cal/OSHA registration to the prime/general contractor and any other employers at the site before beginning any asbestos-related work. The asbestos contractor and other contractors on site should ensure that all individuals on site are aware of asbestos abatement activities. Your health, your employees' health, and your protection from liability all depend on your awareness of the presence of asbestos on a job.

The California Labor Code (section 6501.8) defines **asbestos-related work** as "any activity which by disturbing asbestos-containing construction materials may release asbestos fibers into the air." The Labor Code further defines **asbestos-containing construction material** as "any manufactured construction material that contains more than one-tenth of 1 percent asbestos by weight." As suggested by this definition, exposure to asbestos can occur from a number of construction-related operations.

For example:

- While remodeling a home to add a stairway, a contractor who cuts through a ceiling section may encounter sprayed-on asbestos insulation.

- While replacing pipes during a minor renovation, a plumber may be exposed to deteriorated pipe covering that contains asbestos.
- Insulation contractors may be exposed to asbestos fibers when cutting through asbestos shingle siding to insulate a wall.

Asbestos Certification, C-22 Asbestos Abatement License, and DOSH Registration

A contractor must be asbestos certified or licensed and also registered with Cal/OSHA for any work that involves 100 square feet or more surface area of asbestos-containing construction materials. Contractors must pass either a C-22 Asbestos Abatement examination or an Asbestos Certification examination administered by CSLB, and be registered with the Asbestos Contractor's Registration Unit of the Department of Industrial Relations' Division of Occupational Safety and Health (DOSH). Applications for DOSH registration must include the following documentation:

- Certification or licensure by CSLB for asbestos abatement work
- Health insurance coverage (or a \$500 trust account for each employee)
- Workers' compensation insurance
- Evidence that all employees are trained and certified as required by state and federal regulations
- Methods and policies for providing a safe place of employment
- Verification that the contractor has the necessary equipment to safely perform asbestos-related work

No contractor may engage in asbestos-related work of 100 square feet or more if they have not passed the

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asbestos certification/licensure examination and registered with DOSH. The penalties are stiff if a contractor performs asbestos-related work of 100 square feet or more without CSLB certification/licensure and DOSH registration.

Exceptions – A contractor does not have to be asbestos certified/licensed or DOSH registered to install, maintain, repair, and remove less than 100 square feet of the following materials in a non-friable state:

- Asbestos cement pipe
- Sheet asbestos goods
- Vinyl asbestos floor
- Asphalt saturated roofing

If these materials become friable during installation, maintenance, or repair, or if 100 square feet or more of materials are involved in the project, a CSLB-certified/licensed, DOSH-registered contractor must perform the abatement.

Uncertified / Unlicensed Contractors

If the removal of asbestos-containing materials involves less than 100 square feet of surface area, CSLB does not require certification/licensure as an asbestos abatement contractor and DOSH does not require registration. However, you are still doing asbestos-related work and must file a *CARCINOGEN 'REPORT OF USE'* form with the Occupational Carcinogen Control Unit of DOSH, **and** you (and anyone else on your crew involved in the project) must also complete 40 hours of asbestos training. This training must be provided by a DOSH-approved asbestos trainer. In addition, you must follow the OSHA worker protection rules (Title 8, California Code of Regulations, section 1529).

Bids – A licensed contractor who is not asbestos-certified/ licensed may **BID** on a project involving asbestos-related work of 100 square feet or more of surface area **IF** the asbestos-related work is subcontracted to a contractor who is properly asbestos-certified by CSLB and registered with DOSH. For a list of contractors registered to perform asbestos-related work, contact the Asbestos Contractors' Registration Unit (ACRU) at (916) 574-2993 or www.dir.ca.gov.

Fines and Penalties – A contractor who engages in asbestos-related abatement work of 100 square feet or more surface area of asbestos-containing materials without CSLB certification/licensure and DOSH registration shall be subject to one of the following fines and penalties by CSLB:

- For a conviction of the first offense, the fine should be not less than one thousand dollars (\$1,000) or more than three thousand dollars (\$3,000), and penalties may include possible revocation or suspension of the contractor's license (Business and Professions Code section 7028.1(a)).
- For the conviction of a subsequent offense, the fines should be not less than three thousand dollars (\$3,000) or more than five thousand dollars (\$5,000), or possible imprisonment in county jail for up to one year, or both fine and imprisonment, plus mandatory action to suspend or revoke the contractor's license (Business and Professions Code section 7028.1(b)).

Note: Other agencies (federal, state, or local) may impose additional fines and penalties for violations during asbestos abatement.

Accreditation for Public and Private Schools

Asbestos Hazard Emergency Response Act (AHERA) (Title II of the Toxic Substance Control Act), requires local education agencies to use accredited persons to perform the following asbestos-related tasks:

- Inspect for asbestos-containing materials in school buildings
- Prepare management plans concerning the presence of asbestos-containing materials in schools
- Design and draft specifications for asbestos abatement projects
- Supervise and conduct the abatement work

Personnel involved in asbestos-related work in private and public schools (Grades K through 12) must attend and pass a DOSH training course. Approved trainers and courses can be located at the following website: <http://www.dir.ca.gov/dosh/asbestostraining.html>. The EPA has separate accreditation courses for inspectors, management planners, project designers, asbestos abatement contractors and supervisors, and for asbestos abatement workers. You are only allowed to work in your accredited areas.

Fines and Penalties – Abatement work in schools must be done by persons trained in EPA-accredited courses. Persons who violate these regulations are subject to a fine, and criminal penalties may also be assessed if the violation is knowing and willful. Contractors who improperly remove asbestos from schools can be liable under both AHERA and National Emissions Standards for Hazardous Air Pollutants (NESHAP).

NESHAP Regulations

The Clean Air Act of 1970 required the EPA to develop and enforce regulations to protect the general public from exposure to hazardous air pollutants. The EPA established NESHAP regulations to protect the public from these air pollutants. Because of its inherent health risks, asbestos was one of the first hazardous air pollutants regulated. Personnel involved in asbestos-related work in facilities under NESHAP jurisdiction must also attend and pass a DOSH training course.

NESHAP Notification Requirement – Any demolition project should not proceed prior to 10 working days after the EPA or delegated air pollution authority has been notified of the planned demolition. This notice is required even though there is no asbestos or the asbestos has been removed. NESHAP defines demolition as the “means of wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations, or the intentional burning of any facility.”

Work Practices to Follow Under NESHAP – The following work practices should be adhered to for demolition or renovation of any structures, installations, and buildings, except residential buildings that have four or fewer dwelling units, involving asbestos-containing material:

- Notify EPA to get information regarding survey requirements and to express intentions to demolish or renovate.
- Remove all asbestos-containing material from the facility being demolished or renovated **before** any disruptive activity begins or before access to the material is obstructed.
- Keep asbestos-containing material adequately wet before, during, and after removal.

- Conduct demolition or renovation activities in a manner which produces no visible emissions to the outside air.
- Handle and dispose of all asbestos-containing material by placing in leak-tight containers with warning labels and transport to a state-approved waste disposal site.

It should be noted that these rules are in addition to Cal/OSHA regulations and any local air quality district restrictions.

Fines and Penalties – A contractor who engages in asbestos-abatement work in a facility under NESHAP jurisdiction without certification/licensure or in violation of NESHAP work practice standards is subject to the following fines and penalties:

- The fines assessed can be up to \$25,000 per day per violation.
- The contractor can have criminal charges filed for a “knowing” violation of the law with the penalty of imprisonment.

Comparison of NESHAP to Cal/OSHA and CSLB – Table 7 provides a comparison of the practice standards for Cal/OSHA, NESHAP, and CSLB. Notice that Cal/OSHA's standards are more rigorous than those of NESHAP and CSLB, although the penalties for violations of NESHAP standards are the most strict. It also is important to note that local air quality districts may have regulations more stringent than Cal/OSHA's.

TABLE 7: COMPARISON OF NESHAP TO CAL/OSHA AND CSLB REGULATIONS

	NESHAP PRACTICE STANDARDS	CAL/OSHA PRACTICE STANDARDS	CSLB/ CONTRACTORS LICENSE LAW
Asbestos-Containing Material	More than 1%	Registration required for any concentration above 0.1% Surface area: 100 square feet or more	Surface area: 100 square feet or more
Facility	Demolition or renovation of all structures, installations, and buildings, excluding residential buildings that have four or fewer dwelling units	All structures and buildings, including all residential buildings	Construction or alteration of any building, highway, road, parking facility, railroad, excavation, or other structure in California requires a contractor license if the total cost (labor and materials) of one or more contracts on the project is \$500 or more
Removal of Asbestos-Containing Material	Surface area: 160 square feet or more Pipe: 260 linear feet	>1%: Class of work trigger—any amount can trigger some work practice rules	Surface area: 100 square feet or more
Monitoring of Air	None	PEL and excursion limit	None

(continued)

TABLE 7: COMPARISON OF NESHAP TO CAL/OSHA AND CSLB REGULATIONS

	NESHAP PRACTICE STANDARDS	CAL/OSHA PRACTICE STANDARDS	CSLB/ CONTRACTORS LICENSE LAW
Wetting Requirement	Adequately wet and no visible dust	Visibly wet (as determined by Cal/OSHA inspector)	None
Fines and Penalties	Civil penalties: up to \$25,000 per day per violation Criminal penalties: prison terms for a knowing violation	First conviction: up to \$3,000 fine, or both fine and revocation, or suspension of license Subsequent: up to \$5,000 fine, imprisonment, or both fine and imprisonment, and revocation of license	First conviction: Fine of up to \$3,000, possible revocation or suspension of the contractor's license Subsequent: Fine of not less than \$3,000 or more than \$5,000, or imprisonment in county jail up to one year, or both fine and imprisonment, and mandatory license suspension or revocation.

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Governing Laws

These laws are designed to protect the health of the contractor, the employees, and the public who might be exposed to asbestos fibers by someone who is not trained or equipped for proper asbestos abatement. The legal sections related to asbestos are listed below. For the most up-to-date information on the law, contact the appropriate agency listed in the Resource section of this booklet, starting on page 39.

California laws governing contractors who work with asbestos: Tables 8–12 display the section and topic of California laws that pertain to asbestos-related work.

TABLE 8: BUSINESS AND PROFESSIONS CODE, CONTRACTORS LICENSE LAW

SECTION	TOPIC
7028.1	Fines and penalties for performing asbestos-related work by licensed or unlicensed contractor who is not asbestos certified/licensed
7058.5	Outlines when asbestos certification is needed; requires all contractors to complete open book examination on asbestos-related work
7058.6	Requires registration of asbestos contractor with Division of Occupational Safety and Health (DOSH)
7058.8	CSLB shall provide to public, upon request, a current list of certified and DOSH-registered asbestos contractors
7099.11	Penalties and fines for contractors who falsely or incorrectly advertise asbestos-related work
7118.5	Penalties and fines for contracting with an uncertified contractor for asbestos-related work
7180	Asbestos consultants and site surveillance technicians shall be certified by DOSH
7181	Defines scope of work practice for asbestos consultant: building inspections, abatement project design, contract administration, supervisor of site surveillance technicians, sample collections, preparation of asbestos management plans, and clearance air monitoring
7182	Defines scope of practice for site surveillance technician: Independent on-site representative of asbestos consultant who monitors the asbestos abatement activities of others, provides asbestos air monitoring services for area and personnel samples, performs building surveys and contract administration at the directions of the asbestos consultant
7183	Sets time limits for DOSH to accept or reject applications for asbestos consultant or site surveillance technicians
7183.5	DOSH enforces and revokes certification for asbestos consultant or site surveillance technician
7184	Asbestos consultant requirements for DOSH certification
7185	Site surveillance technician requirements for DOSH certification
7187	Asbestos consultant or site surveillance technician conflicts of interest with asbestos abatement contractor
7189	Penalties for uncertified practice as an asbestos consultant or site surveillance technician
7189.5	Defines asbestos abatement projects as 100 square feet or more of surface area of asbestos-containing material
7189.7	Allows certified state employees to perform asbestos consultant or site surveillance technician work for agencies of the state

Asbestos-Related Work

TABLE 9: LABOR CODE, DIVISION 5

SECTION	TOPIC
6325.5	If DOSH believes workplace contains friable asbestos and protection for employees is inadequate, DOSH may issue an order prohibiting use
6436	Outlines who may bring a criminal complaint for asbestos-related work violations; disposition of penalties
6501.5	Establishes registration requirements for asbestos-related work employers or contractors
6501.7	Defines asbestos
6501.8	Defines asbestos-related work and asbestos-containing construction materials; identifies exceptions
6501.9	Requires good-faith effort to determine presence of asbestos before beginning construction work
6503.5	Guidelines for safety conference prior to handling asbestos
6505.5	Penalties for failure to determine presence of asbestos
6508.5	All public entities involved in asbestos-related work must be registered with DOSH
6509.5	Contains provisions regarding asbestos consultant inspection and related corrective work as a condition for loan or permit; includes penalties and fines
9004	Identifies asbestos as a carcinogen
9021.5	Establishes asbestos consultants and site surveillance technicians shall be certified by DOSH
9021.6	Gives DOSH permission to charge an application fee for certification of asbestos consultant and site surveillance technician
9021.8	Establishes requirements for annual renewal of asbestos consultant and site surveillance technician certification
9021.9	Establishes an advisory committee to develop content for task-specific training program for employees and supervisors; authorizes fee for training
9040	Requires employers to provide regular medical exam for employees

TABLE 10: HEALTH AND SAFETY CODE

SECTION	TOPIC
19827.5	Local agencies may not issue permits to demolish until the applicant has demonstrated exemption from or compliance with notification requirements of NESHAP
25143.7	Guidelines for disposal of asbestos at landfill sites
25914.2	Guidelines for contracts regarding asbestos-related work; continuance of work in unaffected areas; emergency conditions
25914.3	Provision for uncertified contractor to bid on a project involving asbestos-related work

TABLE 11: CALIFORNIA CODE OF REGULATIONS, TITLE 8

SECTION	TOPIC
341.6	Establishes DOSH asbestos-related work registration requirement for work of 100 square feet or more surface area of asbestos-containing material; registration valid for one year; contains definitions
341.7	Outlines DOSH requirements for registration to perform asbestos-related work; renewal provisions
341.9	Establishes DOSH notification requirements to perform asbestos-related work
341.10	Establishes guidelines for postings and notifications related to asbestos work
341.11	Establishes procedures for safety conference before starting asbestos-related work
341.13-341.14	Outlines conditions under which a DOSH registration may be revoked, denied, or suspended
1529	Establishes procedures and guidelines for asbestos-related work; contains definitions
5208	Establishes procedures for asbestos-related work for non-construction trades and for construction-related spraying of asbestos-containing materials

TABLE 12: CALIFORNIA CODE OF REGULATIONS, TITLE 16

SECTION	TOPIC
832.22	Establishes C-22 asbestos abatement specialty classification and requirements, including DOSH registration
833	Sets forth C-22 classification and certification limitations and examination requirements

Guidelines for Handling Asbestos



Introduction

The following discussion is intended to provide **general** information about proper asbestos-related work practices. **If you will be working with asbestos, you should obtain further information, training, and certification/licensure. THERE IS MORE TO KNOW ABOUT ASBESTOS-RELATED WORK THAN CAN BE COVERED IN THIS BOOKLET!** Contact your trade association, insurance company, Cal/OSHA, Federal OSHA, and the EPA for further information.

Identifying Asbestos

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While it is possible to “suspect” that a material contains asbestos by visual inspection, actual determinations can only be made by laboratory analysis. Stop work in the area immediately. It is required that a certified industrial hygienist, asbestos consultant certified by Cal/OSHA, or contractor who has completed AHERA inspector training sample any presumed asbestos-containing material. If the results of the sampling reveal the presence of asbestos, a certified industrial hygienist, asbestos consultant trained by Cal/OSHA, or contractor who has completed AHERA inspector training must monitor the air to determine the concentration of airborne asbestos fibers.

Until the material is tested, you should assume that the product contains asbestos unless the label or the manufacturer verifies that it does not. The EPA requires that the asbestos content of suspect material be determined by collecting bulk samples and analyzing the samples by polarized light microscopy (PLM). The PLM technique determines both the percentage and type of asbestos in

the sampled material. Contact a regulatory agency such as Federal OSHA or Cal/OSHA for a list of testing laboratories.

Building records may indicate the presence of asbestos on a site, but these records are often inaccurate and should not be used as a substitute for professional advice. However, schools are required to identify the location of all building and construction material that contain asbestos, and must make this information available to the public.

Determining the Presence of Asbestos – The owner, employer, or contractor must determine whether asbestos is present before work begins on a project. The employer or contractor must first ask the owner whether asbestos is present in any building or structure built before 1980. The response should be documented.

Fines and Penalties – According to the Labor Code (section 6505.5), beginning asbestos-related work without first determining if asbestos-containing material is present may make you subject to one of the following penalties:

- A fine of not more than \$5,000 or imprisonment in the county jail for not more than six months, or both, for a knowing or negligent violation.
- A fine of not more than \$10,000 or imprisonment in the county jail for not more than one year, or both, for a willful violation that results in death, serious injury or illness, or serious exposure. A subsequent willful violation may be punishable by a fine of not more than \$20,000 or by imprisonment in the county jail for not more than one year, or both.
- A civil penalty of not more than \$2,000 for each violation.
- A civil penalty of not more than \$20,000 for each willful or repeat violation.

Federal and State Asbestos Standards for the Construction

Industry – Most workers and contractors in California fall under the jurisdiction of the Federal OSHA Standard, Asbestos Standard for the Construction Industry, and Title 8 of the California Code of Regulations, section 1529. These standards describe the methods used to sample, test, or remove asbestos-containing materials, and explain the documentation procedures necessary when working with asbestos-containing materials. Even if you are working with less than 100 square feet of surface area of asbestos-containing material, you must still follow the provisions of the federal standard.

Asbestos Training Requirements

All asbestos work site employers have responsibilities regarding the training of employees and the provision of health coverage. Federal and state regulations require an employer, at no cost to the employee, to institute a training program for all employees who are likely to be exposed to asbestos in excess of the permissible exposure limit, and for all employees who perform Class I through Class IV asbestos operations. The employer also is required to ensure employee participation in the training program. Contact federal OSHA or Cal/OSHA for information regarding what must be covered in the training program.

Asbestos-Abatement Work

Asbestos-abatement work includes encapsulating, enclosing, and removing asbestos at a site. Workers performing this work may have high potential for exposure to asbestos fibers. Removing asbestos is the only permanent solution to its dangers. However, the EPA recommends if the asbestos is intact, enclosing or encapsulating asbestos on site, together with periodic monitoring, may be the best course of action.

Improper removal of asbestos-containing material can create a dangerous situation where little or no risk previously existed.

A safety conference must be held before the start of work on all asbestos-handling jobs. The conference must include:

- Representatives of the owner of the contracting agency
- Employer
- Employees
- Employee representatives

Such a conference must include a discussion of the employer's safety program and safe work practices to be followed.

Summary



As mentioned previously, you must make every attempt to find out if asbestos is present on a site before beginning work. Otherwise, you run the risk of criminal prosecution if asbestos-related work is done without proper CSLB certification/licensure and DOSH registration. If you do not obtain necessary certification/licensure and registration nor follow proper abatement procedures, you may also be in violation of laws that regulate asbestos exposure and risk lawsuits stemming from claims of negligence.

Note that federal OSHA regulations require a pre-job site assessment for general health and safety hazards, including asbestos. It is in your best interest to document this assessment and any other efforts to determine the presence of asbestos before work begins.

If you discover asbestos in the middle of a project, stop work in the area immediately! Contact your nearest DOSH district office and EPA for assistance. It may be advisable for you to obtain the services of an industrial hygienist or asbestos consultant to determine the best way to deal with your asbestos problems. It is highly recommended that the sampling of any presumed asbestos-containing material be done by an industrial hygienist, an asbestos consultant certified by Cal/OSHA, or a contractor who has completed AHERA inspector training.

If the presence of asbestos is confirmed, steps must be taken to abate the hazard. Remember that no one may do abatement or other asbestos-related work of 100 square feet or more without special certification/licensure and DOSH registration. Further, **even in cases where there is less than**

100 square feet of asbestos to be removed, DOSH training and reporting is still required! As such, it may be necessary (and most advisable) to subcontract the work to a certified/licensed and DOSH-registered licensed contractor.

If you employ people to work on a site where asbestos is present, it is your responsibility to inform your employees about asbestos risks, proper work practices including training, and control measures. By fulfilling your responsibility, you protect everyone's health, and you also protect yourself against liability.

Reporting Incidents of Exposure

DOSH requires that any employee exposed to asbestos above the permissible exposure limit (PEL) be notified by the employer within five days of the discovery that the exposure has occurred. A report must also be made to the nearest DOSH district office within 15 days of the known exposure of an employee to levels of asbestos that exceed the PEL. Cal/OSHA requires that employees must be notified in writing as soon as possible of the results of monitoring, either individually or by posting in an accessible place.

Contract Protection

To protect against the costs and damages associated with delays if asbestos is discovered after work is already in progress, the contractor should include a “changes and extras” clause in any contract for repair and renovation of existing facilities. Such a clause should notify owners of their obligation to determine if the structure contains asbestos. The clause should provide for increased compensation and an increase in time for completion if physical conditions at the site are different from those described in the plans

and specifications. **Any new conditions, such as asbestos discovered mid-project, would then trigger a “claim” or “extra” negotiation between the contractor and the owner.**

Without such a clause, the contractor should increase the initial bid to cover unforeseen hazards or additional work that may only be discovered once work begins; **otherwise the contractor runs the risk of paying for any such additional work.**



Resources

Environmental Protection Agency

EPA Public Information Center
415.947.8000
www.epa.gov/ca

Cal/OSHA

Division of Occupational Safety and Health (DOSH)
Asbestos and Carcinogen Unit
(916) 574-2993
www.dir.ca.gov/DOSH/asbestos.html

DOSH – Asbestos Contractors' Registration Unit
(916) 574-2993
www.dir.ca.gov/dosh/ACRU/ACRUhome.htm

Contacts for Lists of Qualified Help in Asbestos-Related Work

American Industrial Hygiene Association
703.849.8888
www.aiha.org

National Institute for Standards and Technology
301.975.6478
www.nist.gov

National Institute for Occupational Safety and Health
(NIOSH)
800.232.4636
www.cdc.gov/NIOSH

Resources

Asbestos Consultant Certification and Trainer Approval Unit
916.574.2993
www.dir.ca.gov

Contractors State License Board (CSLB)
800.321.2752
www.cslb.ca.gov

Additional Training

Cal/OSHA website listing all certified training providers
www.dir.ca.gov/databases/doshcaccsst/DOSH_AprovedTrainingCoursesProviders.pdf

Health Issues

American Lung Association
800.LUNG.USA
www.lung.org

Consumer Product Safety Commission
800.638.2772
www.cpsc.gov

Disposal Procedures

California Department of Toxic Substances Control
800.728-6942
www.dtsc.ca.gov

Department of Resources Recycling and Recovery
Waste Permitting, Compliance, and Mitigation Division
916.341.6360
www.calrecycle.ca.gov

Miscellaneous

Toxic Substances Control Act

202.554.1404

www.epa.gov

Asbestos Open Book Exam



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1. According to Cal/OSHA regulations, in cases where there is **less** than 100 square feet of asbestos material, which of the following requirements must an uncertified, non-C-22 contractor complete before performing any asbestos-related work?
 - a. CSLB certification and DOSH registration
 - b. DOSH notification and Cal/OSHA training
 - c. Cal/OSHA training and DOSH registration
 - d. CSLB certification and Cal/OSHA training

 2. Before performing asbestos abatement that involves 100 square feet or more, what must a contractor have?
 - a. CSLB certification/licensure and DOSH registration
 - b. DOSH certification and a completed EPA notification
 - c. EPA certification and a completed CSLB notification
 - d. EPA registration and a completed NIOSH notification

 3. How many years will it usually take before asbestos-related disease will appear?
 - a. 1–5 years
 - b. 6–11 years
 - c. 10–30 years
 - d. 40–50 years

4. Before work begins on a job, a contractor must ask the owner whether asbestos is present in any building constructed before what year?
 - a. 1968
 - b. 1980
 - c. 1982
 - d. 1986

5. Which of the following asbestos products is most easily damaged by vibration and impact?
 - a. Roofing shingles
 - b. Floor tile
 - c. Pre-molded pipe coverings
 - d. Sprayed-on acoustical

6. What agency does the contractor have to notify if performing a demolition job on a building?
 - a. NESHAP (EPA)
 - b. DOSH
 - c. CSLB
 - d. CDPH

7. If a smoker and a non-smoker are both heavily exposed to asbestos, how much more likely is the smoker compared to the non-smoker to develop lung cancer?
- a. 20 to 40 times more likely
 - b. 30 to 90 times more likely
 - c. 15 to 30 times more likely
 - d. 10 to 15 times more likely
8. Which of the following rare and deadly cancers may occur from relatively light exposure to asbestos?
- a. Asbestosis
 - b. Lung cancer
 - c. Stomach cancer
 - d. Mesothelioma
9. An uncertified, non-C-22 contractor who is cited by CSLB for engaging in asbestos-related work of more than 100 square feet may receive which of the following fines for the first offense?
- a. \$1,000 to \$3,000
 - b. \$3,000 to \$5,000
 - c. \$10,000 to \$20,000 for each violation
 - d. \$25,000 per day per violation

10. If removing less than 100 square feet of asbestos-containing materials on a job, what agency does the contractor need to notify?
- a. DOSH District Enforcement Office
 - b. Local Air Quality District
 - c. NESHAP (EPA)
 - d. CSLB
11. Which of the following is the preferred method for dealing with an asbestos-related problem?
- a. Removal
 - b. Enclosure
 - c. Encapsulation
 - d. Encasing
12. Which of the following agencies have regulations that are often more strict than Cal/OSHA regulations?
- a. EPA
 - b. CSLB
 - c. Local Air Quality District
 - d. Department of Occupational Safety and Health
13. The preferred method for abating asbestos-containing materials is encasement.
- TRUE
- FALSE

14. The asbestos contractor must provide a copy of his/her Cal/OSHA (DOSH) registration to the prime/general contractor and any other employers at the site before the commencement of any asbestos-related work.

TRUE

FALSE

15. Asbestosis is a serious, chronic, non-cancerous respiratory disease that occurs when asbestos fibers become lodged in the lungs.

TRUE

FALSE

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16. Exposure to asbestos is thought to result in cancers of the esophagus, larynx, stomach, colon, rectum, and gastrointestinal tract.

TRUE

FALSE

17. EPA has banned all asbestos-containing products since 1990.

TRUE

FALSE

18. Friable asbestos-containing material should be handled as hazardous material.

TRUE

FALSE

19. Contractors cited for violations by EPA can be assessed for civil penalties of up to \$25,000 per day per violation.

TRUE

FALSE

20. Asbestos-containing material enclosed in a labeled airtight bag can be disposed of in a public dumpster.

TRUE

FALSE



Verification Form

IMPORTANT:

1. Complete the open book examination using the answer sheets on the other side of this page.
2. Sign this page as noted.
- 3. Tear out pages 49-52 and submit them with your bond and fee notice.**

I understand that the Open Book Examination is required to be completed and submitted with my bond and fee. **I further understand that this Open Book Examination does *NOT* certify me to engage in asbestos-related work pursuant to section 7058.5 of the Business and Professions Code, nor license me to do so pursuant to Title 16, California Code of Regulations, section 832.22.**

APPLICANT/LICENSEE SIGNATURE (SIGNATURE OF OWNER, PARTNER, OR OFFICER)

PRINT APPLICANT/LICENSEE NAME

QUALIFIER'S SIGNATURE (SIGNATURE OF RME/RMO OR QUALIFYING PARTNER)

PRINT QUALIFIER'S NAME

QUALIFIER'S SIGNATURE (SIGNATURE OF RME/RMO FOR ADDITIONAL CLASSIFICATIONS)

PRINT QUALIFIER'S NAME



Answer Sheet

Circle the letter that corresponds to the choice that best completes questions 1 through 12.

1. a b c d

2. a b c d

3. a b c d

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4. a b c d

5. a b c d

6. a b c d

7. a b c d

8. a b c d

9. a b c d

10. a b c d

Answer Sheet

11. a b c d

12. a b c d

Circle T (true) or F (false) for questions 13 through 20.

13. T F

14. T F

15. T F

16. T F

17. T F

18. T F

19. T F

20. T F

Answers

- | | |
|-------|-------|
| 1. b | 13. F |
| 2. a | 14. T |
| 3. c | 15. T |
| 4. b | 16. T |
| 5. d | 17. F |
| 6. a | 18. T |
| 7. b | 19. T |
| 8. d | 20. F |
| 9. a | |
| 10. a | |
| 11. a | |
| 12. c | |



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