Pressure-treated western softwood species are ideally suited for constructing a multitude of commercial, industrial, recreational, residential and aquatic structures.
The Western Wood Preservers Institute (WWPI)

WWPI represents the pressure-treated wood industry in western North America. The Institute provides information, conducts research, and supports programs to assure the proper, safe and environmentally appropriate use of treated wood. Since 1947, the Institute has been assisting engineers, architects, specifiers, builders, government agencies, port authorities, exporters, importers and others interested in these products.

Pressure-Treated Western Wood

Pressure treatment preserves wood’s structural soundness and significantly extends its service life by protecting it from natural predators. Coming from a renewable resource, wood is a plentiful and economical building material; however, it can be subject to attack from insects, micro-organisms, and decay-causing fungi. Untreated wood in contact with the ground or water may last from one to four years; whereas, pressure-treated wood can last decades in these conditions --- 30, 40, even 50 years or more. These products are a safe, sound investment that extends forest resources by ensuring a building project will last.

Douglas fir, Hem-Fir (a species combination of Western Hemlock and several of the true firs), and Ponderosa and Lodgepole pines are the most commonly treated western softwood species.

All WWPI Members produce treated wood products in accordance with American Wood-Preservers’ Association (AWPA) Standards. The pressure-treatment process forces preservatives into wood cells in a closed cylinder, or retort, to provide protection for the wood against decay, fungi and insects. Due to their density and unique cell structure, Douglas fir and Hem-Fir must be incised (small slits are made on the surface of the wood) prior to treating in order to meet AWPA Standards. Different levels of chemical penetration and retention are used depending upon the intended building application.

Three general classifications of treatment are:

- **waterborne preservatives** such as ACZA (Ammoniacal Copper Zinc Arsenate), CCA (Chromated Copper Arsenate), ACQ (Ammoniacal Copper Quat), CC (Ammoniacal Copper Citrate), ACC (Acid Copper Chromate), and CBA-A (Copper Azole) which are excellent for interior and exterior applications in residential, commercial and industrial construction, and Boron preservatives for interior residential applications;

- **oil-borne preservatives** such as pentachlorophenol and copper naphthenate used for poles, posts, millwork, glulam beams, bridges and marine decking; and

- **creosote solutions** which are used for industrial poles, pilings, railroad ties.

Environmental Aspects

Products treated with EPA*-registered preservatives and used in accordance with EPA and industry-approved guidelines are ideally suited for the toughest industrial and commercial projects, yet safe for playground and garden structures, or for installation in ecologically sensitive aquatic and wetland environments.

* United States Environmental Protection Agency
WWPI Member products are produced using only EPA-registered preservatives applied under strict guidelines that meet all US building and treating code standards in order to assure user safety and environmental compatibility. WWPI and its Members also subscribe to Best Management Practices, to reduce potential for migration of any treating chemicals into the environment, and to the American Lumber Standard Committee’s Treated Wood Program for quality assurance.

Applications for Pressure-Treated Wood

Preservative pressure-treated wood provides long-lived durability in situations where structural or decorative wood members are subject to potential attack from insects or fungi in circumstances such as:

- buried or in contact with the ground,
- submerged or in contact with water, or
- exposed to conditions of constant wetting and drying.

While building codes vary throughout the world, as do local and regional requirements for the use of treated wood, all US model building codes now require preservative pressure treatment for any wood used in contact with soil or masonry. In addition, certain preservative treatments may provide protection for wood exposed to corrosive or chemical action.

Aquatic Installations

Experience has shown that wood is one of the best materials for construction in and around aquatic environments. It is resilient enough to withstand battering by the ocean and ships, yet naturally resistant to the destructive forces of salt water. Wood doesn’t rust or spall and is significantly less affected by corrosion than are other materials.

With its additional benefits of protection against decay-causing fungi and local wood-destroying marine organisms, properly treated wood assures safe, decay-resistant, long-life performance in both fresh and saltwater installations.

WWPI and its Members are committed to the protection of water resources and the ecological diversity supported by lakes, streams, estuaries, bays and wetlands. To this end, WWPI has developed and encourages the use of Best Management Practices (BMPs). These BMPs help to assure products are manufactured in a manner that minimizes the potential for any migration of treating chemicals into the environment and the potential for any adverse impacts on ecological systems.

Products intended for aquatic installations that are treated in accordance with BMPs are identified with the following logo on their quality mark:

Fire-Retardant Treated Products

WWPI members also produce fire-retardant treated (FRT) products. Fire-retardant treated wood offers designers an attractive and safe alternative to steel and concrete. These treatments provide protection from a fire source without reliance on water pressure, electrical sensors or relays that might fail to activate fire suppression systems.
Quality Assurance

The American Lumber Standard Committee (ALSC) is responsible for the oversight and accreditation of third party inspection agencies for treated wood. To meet US building codes, treated wood must be identified by the quality mark of an accredited ALSC inspection agency. Currently, five agencies in the western US are authorized under the ALSC Treated Wood Program to inspect treated wood. To easily find their mark, look for the CheckMark™ in the quality mark, stamp or end tag on treated wood products.

Interpreting a Quality Mark

Safe Handling

In brief,* guidelines for safe handling of treated wood are as follows:

- use gloves, and wear a dust mask when sawing or cutting to avoid inhalation of saw dust;
- wash clothing separately from other laundry;
- wash exposed skin before eating or using tobacco products; and
- do not burn treated wood scraps in open fires of any kind (generally wood may be disposed of as a non-hazardous waste).

*Comprehensive information on the safe handling of treated wood products and recommendations for on-site fabrication, job site care and storage, field treating application methods, protecting cut ends, site precautions, and disposal are available from WWPI. These guidelines comply with the American Wood Preservers’ Association, Standard M4.

Specifying Products

While treating standards and related building codes vary by country, region and even city by city, the Institute may be contacted at any time to answer questions and help direct specifiers and buyers to the most appropriate products for their intended applications.

Parks & Recreational Applications

Pedestrian bridges
Play structures
Gazebos
Observation towers
Outdoor amphitheaters
Bleachers & benches
Marinas
Bulkheads
Light standards
Boardwalks
Steps & stairways
Railings
Retaining walls
Landscape structures
Boat houses

Residential Applications

Outdoor decks
Deck framing & railings
Landscaping & garden structures
Retaining walls
Raised flower & vegetable beds
Play structures
Arbors
Gazebos
Greenhouse frames
Sill plates
Siding & exterior trim
Permanent Wood Foundations
Exterior stairways
Interior framing
Storage sheds
Planter boxes
Fences
Underlayment for wet floors
Carports

Commercial & Industrial Applications

Retaining walls
Sound barriers
Vehicular bridges
Railway ties & trestles
Foundation pilings
Foundation sill plates
Poles & columns
Highway construction
Highway safety barriers
Sign posts
Permanent Wood Foundations
Solid & laminated beams
Exposed to weather
Sidings
Trim
Exterior decks & railings
Applications in alkaline & acidic environments
Docks, wharves & piers, bulkheads, dolphins, wing walls & fenders.

Interpreting a Quality Mark

ALSC* Accredited Agencies in the West

Bode Inspection
Timber Products Inspection
McCulchan Inspection Services

Canadian Softwood Inspection, Inc.
California Lumber Inspection Service

*The American Lumber Standard Committee is responsible for the oversight and accreditation of third party inspection agencies for treated wood.
Wood that Works, Wood that Lasts
For additional information and technical assistance, contact:

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