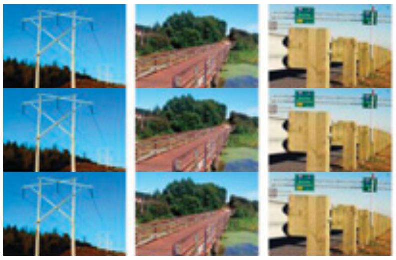

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WOOD PRESERVATION STANDARDS

NON RESIDENTIAL APPLICATIONS

Wood Preservation Canada

2012

WOOD PRESERVATION STANDARDS
Non Residential Applications

WOOD PRESERVATION STANDARDS – Non Residential Applications

This document has been developed by Wood Preservation Canada (WPC) to assist purchasers and users in the specifying of Non Residential Treated Wood Products. To support in this effort some background information is provided about wood, wood treatments, manufacturing, preservative chemicals, quality assurance and inspection, the Use Category System and wood treatment standards.

The specification sheets that follow group each industrial treated wood product according to its intended end use. The specification guide ensures that the specifier/purchaser/user group correctly communicates to the manufacturer what they require.

1.0 INTRODUCTION

1.1 Trees are the oldest living organisms on the planet and are a very important part of our daily lives. We use wood for an array of products, from salad bowls to home building construction. When properly protected, wood can last for hundreds, even thousands of years. In exterior applications, wood is subject to deterioration from the natural elements and biological attack. The most effective way of protecting exposed wood is the use of wood preservatives which make the wood toxic to organisms that use it for food.

Wood preservation is important for many reasons. Wood is often used in structural applications such as railway ties, timber beams for bridges and guide rail posts for highways. Pressure treated wood ensures that these structures remain strong and safe for the duration of their service lives. Untreated wood in these same applications would quickly decay resulting in product failure that can cause service interruptions, public safety risks, and high replacement costs.

Trees, and the wood that is derived from them, are the world's only renewable building material. As our forests are being called upon to produce an ever increasing number of products in response to our needs, we must ensure we manage and conserve this precious resource. One of the best and most effective ways to help conserve Canadian forests is to use the wood we harvest wisely and to make sure it lasts.

1.2 To ensure that pressure treated wood meets all these goals; it must be treated correctly for its intended end-use. It is therefore important that the supplier, purchaser and user of treated wood products agree on all the requirements. These requirements are typically outlined in a specification. In general, a specification is a type of standard that is referenced by the purchaser in their procurement documents. For pressure treated wood products the governing standard is the Canadian Standards Association (CSA) O80 Series-08 – Wood Preservation. Correctly specifying the pressure treated product for an intended application will ensure the project is cost efficient, environmentally sustainable and will be durable for the intended life cycle of the product.

2.0 WOOD PRESERVATIVES AND TREATMENT

As indicated, the purpose of pressure treated wood is to extend the service life of wood in outdoor applications. Chemical treatments make it possible to use wood in a variety of service conditions, from fences and decks to aquatic environments. By applying these chemical preservatives, the wood is protected from attack by decay fungi, insects such as termites, or marine borers. The service conditions (known as a Use Category) that the wood will be exposed to will determine what preservative and/or wood species will be used, and hence preservative penetration and retention that must be achieved.

2.1 A Brief History

The treatment of wood has been practiced for almost as long as the use of wood itself. There are records of wood preservation in ancient times where bridge timbers were soaked in olive oil and in Roman times ship hulls were protected with tar. Commercial pressure treated wood began in the late 19^{th} century with the use of creosote for the protection of railroad ties. Historically, treated wood has been used for industrial applications, until the 1970's when consumer treated wood was introduced as homeowners began building decks, fences and a variety of backyard projects. Today more and more innovative chemical treatments are being introduced to the market to address the need for wood preservative chemicals that are effective and have less environmental impact.

2.2 Pre-Treatment Conditioning

For wood to be treated it must be properly prepared in order to be receptive to the preservative. One of the most important steps is to ensure the wood is dry. As much as half the weight of a living tree is water. To ensure good penetration and retention of the preservative, most of this water has to be removed. There are a variety of commercial techniques to achieve this result including air seasoning, kiln drying, steam conditioning and boultonizing. Air drying is the simplest method and is accomplished by stacking the wood outdoors where the water will evaporate. Drawbacks to this method are that it requires the holding of large inventories and land, the reliance on weather, and the risk of decay and or insect attack. Kiln drying is a popular and effective method to dry wood. The wood is placed in large "ovens" called kilns where heat and air circulation increase the evaporation process. Kiln drying reduces the need for inventory and land, is comparatively fast, and produces uniform drying resulting which in turn improves treatment results. Steam conditioning is a process in which the "green" wood is put in a treating cylinder where steam is introduced to heat and dry the wood. At the same time a vacuum is applied to remove the water from the cylinder. This method is limited to species that do not experience strength loss when subjected to high temperatures and is only used with oilborne preservative systems. In the Bolton process green wood is placed in a treatment cylinder; hot oil is introduced and a vacuum is applied. This causes the water to escape from the wood. When the wood is sufficiently dry, the cylinder is drained and the water and oil are later separated.

Another way to improve the penetration and retention of preservatives is a process known as incising. Incising wood is often used for railroad ties, thin sapwood, and refractory species (wood species whose cellular structure is such that they resist treatment). Incising results in hundreds a fine shallow slits in unique patterns which result in more uniform preservative penetration and reduced checking of the wood.

For a number of industrial wood products such as utility poles, cross and switch ties, and bridge timbers, mechanical preparation such as pre-boring, planing and cutting is done prior to preservative treatment. Pre-treatment fabrication minimizes treated wood sawdust and chips in the field and because there is no untreated wood exposure, the service life of the product is extended.

2.3 Wood Preservatives

There are a number of wood preservatives used to treat wood. Many of them are wood species and/or end use specific. The following is a list of the preservatives registered by the Pest Management Regulatory Agency (PMRA) and Health Canada for pressure treatment in Canada (table 1). They are separated into two groups, oilborne and waterborne based on the carrier solution used to penetrate the preservative into the wood.

Preservatives Registered for use in Canada (pressure process) table 1		
Oilborne Preservatives		
Preservative	Carrier Solution	Typical Applications
Copper naphthenate, CuN	Hydrocarbon Solvent	Field cut to exposed untreated wood
Creosote, Cr	Pure with no carrier solution	Railway ties, mine timbers, poles, foundation piles, marine piles and bulkheads
Creosote-petroleum solution, CR-PS	Hydrocarbon Solvent	
Creosote-solution, CR-S	No carrier solution	
Pentachlorophenol (Penta) solvent A, PCP-A	Hydrocarbon Solvent	Utility poles, cross arms, bridge timbers and ties
Pentachlorophenol (Penta) solvent A, PCP-A	Light Hydrocarbon Solvent	

Waterborne Preservatives		
Preservative	Carrier Solution	Typical Applications
Alkaline copper quat type C, ACQ-C	Water	Sawn products used in and around residential buildings
Alkaline copper quat type D, ACQ-C	Water	
Ammoniacal copper zinc arsenate, ACZA	Water	Primarily for refractory species (ie. Douglas Fir) poles, pilings and cross arms
Chromated Copper Arsenate type C, CCA	Water	Guide rail posts, utility poles, bridge timbers, piles, structural glued-laminated timbers, posts and permanent wood foundations
Chromated Copper Arsenate type C in an oil emulsion system, CCA-oil	Water	Utility pole additive
Chromated Copper Arsenate type C with polyethylene glycol, CCA-PEG	Water	Utility pole additive
Chromated Copper Arsenate type C with polyethylene glycol dimethacrylate, CCA-PA	Water	Utility pole additive
Chromated Copper Arsenate type C water repellent, CCA-WR	Water	Utility pole additive
Copper Azole type B, CA-B	Water	Sawn products used in and around residential buildings
Inorganic Boron, SBX	Water	Above ground interior construction and protected from moisture such as framing, trusses and joists

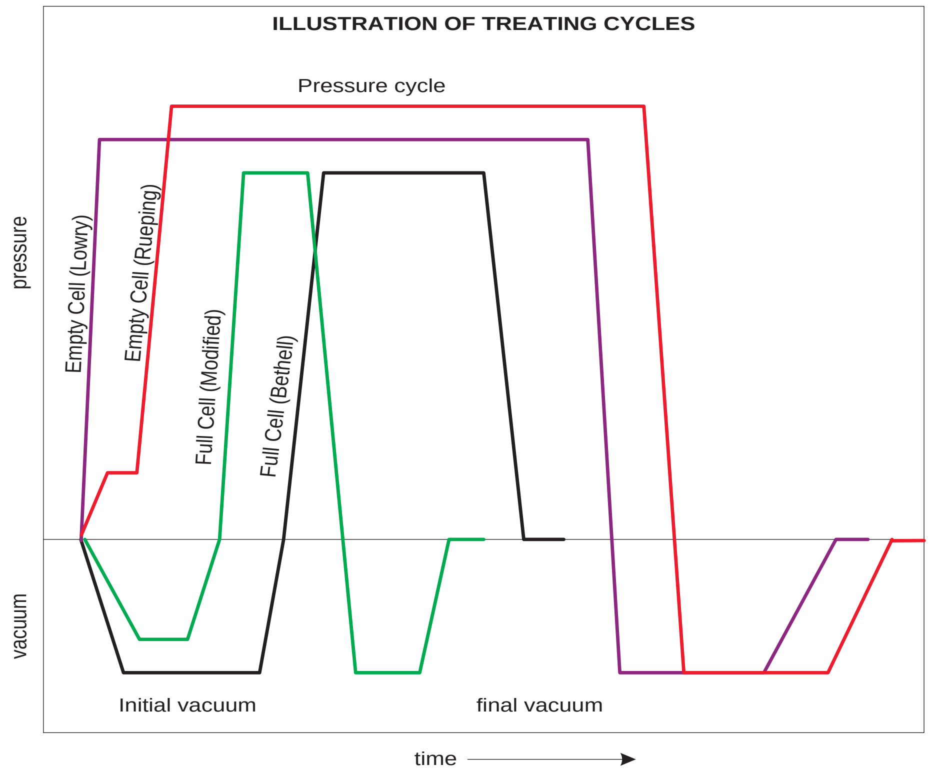
2.4 Treatment Processes

In a typical treatment process wood is placed in a horizontal cylinder from 60 to 200 feet (18 to 62 metres) in length and 6 to 8 feet (1.8 to 2.4 metres) in diameter. The preservative solution is introduced to the cylinder and cycles of vacuum and pressure inject the preservative to form a protective zone around the wood. The treatment processes are classified into two basic groups, the full cell and empty cell methods.

2.4.1 Full Cell Processes

The full cell (Bethall) process was one the first pressure processes used to treat wood and is primarily used for waterborne preservatives (figure 1). The wood is put into the cylinder

figure 1

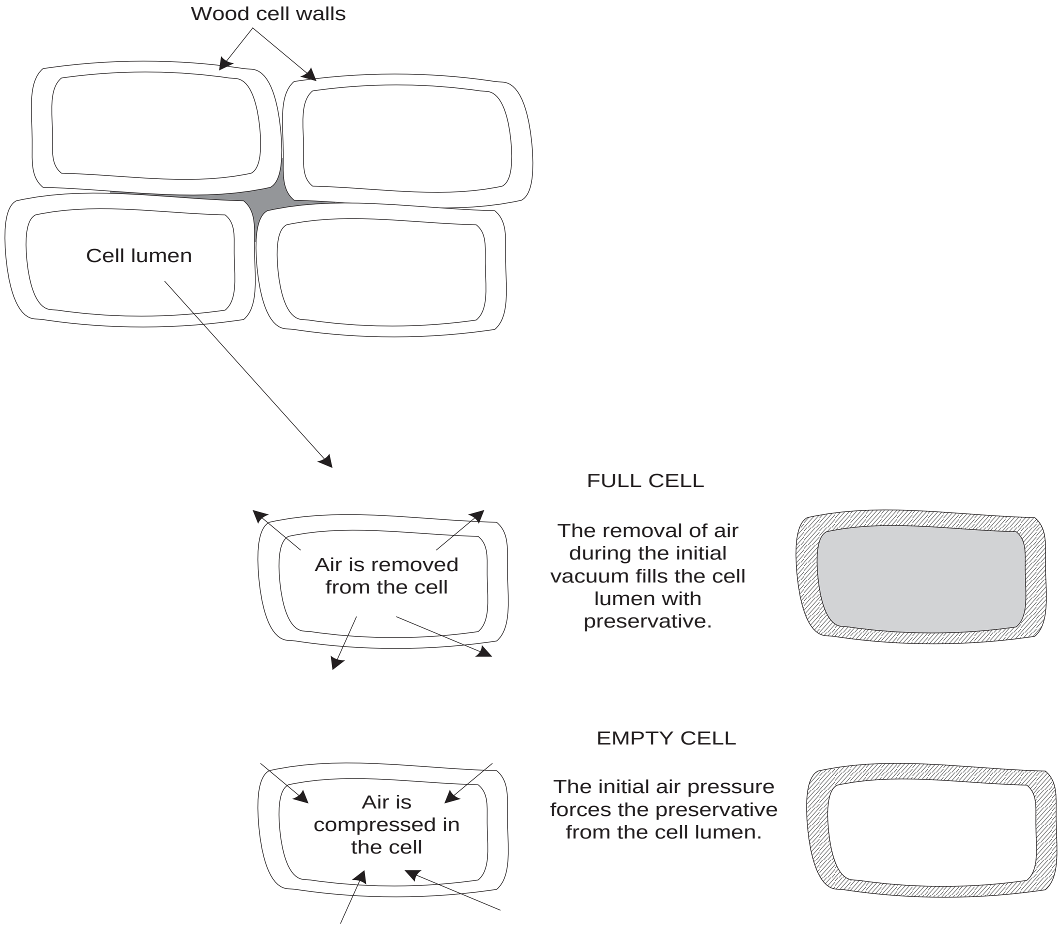


and a vacuum is introduced (70 kPa / 20 inHg) removing air and water from the cell lumens (figure 2). While under vacuum the preservative solution is introduced and the cylinder is filled. Pressure is then applied (maximum of 1040 kPa / 150 psi) to force the preservative into the wood. After a specified time period or a measured amount of preservative uptake, the pressure is released and the solution is removed to a storage tank. This cycle maximizes the amount of preservative uptake into the wood. The modified full cell process (MFC) is a modern enhancement to the original process. A shorter and lower initial vacuum (50 kPa / 15 inHg) followed by the introduction of a final vacuum (70 kPa / 20 inHg). This modified cycle lowers the amount of chemical uptake and drippage or “kick-back” at the end of the cycle. The modified full cell or MFC process is used to treat most wood products with waterborne preservatives in Canada. The MFC process helps to control the preservative uptake so that preservative retention and penetration are reached and at the same time the product is not over treated.

2.4.2 Empty Cell Processes

The two typical empty cell processes in widespread use are the Rueping and Lowry processes (figure 1). The empty cell processes are usually used when treating with oilborne preservatives. The Rueping processes starts with the application of an initial air pressure, then the preservative solution is introduced and the pressure is raised. The pressure is maintained until the desired gross (or gauge) retention is reached. The pressure is then released and the solution is returned to the work (storage) tank. When the pressure in the cylinder drops below the initial air pressure, the pressure inside the wood cell lumen becomes higher than the surrounding atmosphere forcing the excess preservative from the wood (figure 2). The Lowry process is based on the same principles with the exception that the preservative solution is introduced and the process begins at atmospheric pressure. The result is that the gross retentions are higher when compared to the Rueping process. The advantage of the Rueping process is that final (or net) retentions can be better controlled, minimizing over-treated and delivering a clean product.

figure 2



2.5 Post Treatment Processes

Post treatment conditioning is an important step to minimize the environmental impacts of treated wood in-service. Following treatment with waterborne preservatives, the active ingredients in the preservative and the wood chemically react together making them resistant to water leaching. The reaction process or stabilization is time/temperature dependent and can be effectively achieved a number of ways. For example, the wood can be placed in a chamber where heat (70-75^{o}C) with high humidity (100%) is applied or can be placed in covered storage at ambient temperature. Oilborne preservatives leave the wood a light to dark brown colour and are only used to treat commercial products. Following pressure treatment the wood remains in the treatment cylinder and undergoes a steam/vacuum cycle. These processes generally use low steam temperatures (115^{o}C) with an applied vacuum of 70 kPa / 20 inHg for many hours. The final product has a dry surface which is free of excess oil.

An important aspect of post treatment processes and handling is adherence to the Best Management Practices (BMPs) for the Use of Treated Wood in Aquatic and Other Sensitive Environments. The BMPs have been developed and are maintained by a group of organizations which include; Wood Preservation Canada (WPC), the Western Wood Preservers Institute (WWPI), the Southern Pressure Treaters' Association (SPTA) and the Timber Piling Council (TPC). The BMPs are a guide to the selection, specification, production, quality assurance inspection, and installation and maintenance of all the various pressure treated wood products. The core philosophy of the BMPs is chemical minimization. Environmental and ecological concerns support this goal of:

1. placing enough preservative chemical into the wood to provide enough protection for its intended application and at the same time;
2. minimizing the amount of preservative above the required minimum to reduce the amount of preservative available for movement into the environment.

3.0 CANADIAN STANDARDS ASSOCIATION (CSA) 080 WOOD PRESERVATION STANDARDS

The CSA O80 standard is written by a volunteer technical committee represented by groups from industry, research, government, interest groups and users. The varied groups and matrix ensure no one group dominates the process. The committee uses a consensus based process during the development of the standard. The CSA O80 describes and specifies the requirements for the treatment of wood with preservative chemicals. The standard describes all aspects from pre-treatment handling through treatment, and final testing and analysis.

3.1 THE USE CATERGORY SYSTEM (UCS)

A Use Category System (UCS) has been introduced to the CSA O80 Standard based on the UCS developed by the American Wood Protection Association (AWPA). The CSA O80 UCS has made changes to account for differences in treated wood production and use in Canada and to align the standard more closely with the International Organization for Standardization, ISO 21887. The CSA O80 UCS places all treated wood products into one of five major Use Categories based on the treated woods exposure condition in-service. For example, wood in an above ground application will not need as much protection in the form of preservative retention and penetration as a product in ground contact exposed to extreme weather cycles. The system is designed with specifiers and product users in mind to assist them in identifying the appropriate clauses of the CSA Standard for the specific product needed. The five primary Use Categories are broken down into sub-categories and there is a separate sixth category for fire retardants. The specifier or user should first identify the appropriate Use Category (table 2) for the intended or expected service condition.

Use Category for the Expected Service Condition
table 2

Use Category	Service Conditions	Intended Environment	Typical Applications
UC1	Interior construction, above ground-dry	Protected from weather and subjected to moisture	Interior construction
UC2	Interior construction, above ground-damp	Protected from weather and exposed to moisture	Interior construction
UC3.1	Exterior construction, above ground-coated & rapid water run-off	Coated or cladding and not exposed to prolonged wetting	Coated millwork, siding, trim
UC3.2	Exterior construction, above ground uncoated or poor water run-off	Uncoated and exposed to all weather conditions and prolonged wetting	Decking, deck joists, fence boards and pickets, millwork
UC4.1	Ground contact or freshwater-uncritical components	Normal ground and freshwater exposure in all weather cycles and salt water splash	Fence and deck posts, structural lumber and timber, crossarms, utility poles in low decay areas
UC4.2	Ground contact or freshwater-important and/or critical components	Ground and freshwater exposure in all weather cycles – high decay potential	Regions of high potential for decay – permanent wood foundations, land, freshwater and foundation piles, building poles, horticultural posts, crossties and switchties, utility poles in high decay areas

Use Category for the Expected Service Condition table 2			
Use Category	**Service Conditions**	**Intended Environment**	**Typical Applications**
UC5A	Coastal waters, salt or brackish water and adjacent a mud zone	Continuous marine/salt water exposure	Piles, cribbing, bulkheads, bracing, lumber and timbers
UCF.1	Fire protection as per codes – above ground interior construction	Protected from weather and sources of moisture	Roof trusses and sheathing, studs, joist, panelling

Once the product and application have been defined, the appropriate Specification Sheet can be selected. The smaller the Use category number (ie. UC1 or 2) the less preservative protection is required. Conversely, the higher the Use Category number (ie. UC4.1 or 5A) the more severe the service condition will be. Therefore, as the Use Category numbers increase the more protection the wood product needs from decay and insect attack. This usually means that preservative retention and penetration requirements are higher in order to achieve effective, long term protection (table 3). Preservative retention levels for each Use Category by wood species and preservative chemical are identified in the CSA O80.1-08.

Standard Sheet Guide to Pressure Treated End Uses table 3			
Products and End Uses	**Exposure Conditions**	**Use Category**	**Specification Sheet**
Crossarms			
General	Above ground - exterior	3.2	WPC-01-2012
Critical or hard to replace	Above ground - exterior	4.1	WPC-01-2012
Crossties and Switchties			
General	Ground contact or freshwater	4.1	WPC-02-2012
Critical and/or high decay	Ground contact or freshwater	4.2	WPC-02-2012
Glued-laminated timber			
Above ground – interior	Protected – insect only	1	WPC-03-2012
Above ground – interior	Protected – damp	2	WPC-03-2012
Above Ground – structural (painted or unpainted)	Exterior	3.2	WPC-03-2012
General structural	Ground contact or freshwater – low decay	4.1	WPC-03-2012
Lumber and Timbers in Building Construction			
Building construction	Above ground – interior, insect only	1	WPC-04-2012
Building construction	Above ground interior – damp	2	WPC-04-2012

Products and End Uses	Exposure Conditions	Use Category	Specification Sheet
Non-residential - coated	Above ground - exterior	3.1	WPC-04-2012
Non-residential – uncoated all uses	Above ground – exterior	3.2	WPC-04-2012
Non-residential – decking, joists, handrails, rails	Above ground – exterior	3.2	WPC-04-2012
Roof decking, flooring, subflooring	Above ground – exterior	3.2	WPC-04-2012
Food harvest, transport, storage	Above ground exterior	3.2	WPC-04-2012
Non-residential – deck joists, deck posts	Ground contact or freshwater	3.2	WPC-04-2012
Siding – uncoated	Above ground – exterior	3.2	WPC-04-2012
Brine storage, highway construction	Ground contact or freshwater	4.1	WPC-04-2012
Cooling towers	Freshwater contact	4.1	WPC-04-2012
Fire escapes – exterior exposed, wet industrial areas	Above ground or ground contact	4.1	WPC-04-2012
Highway bridge crossties	Above ground – exterior	4.1	WPC-04-2012
Marine – out of water, above ground	Salt water splash	4.1	WPC-06-2012
Cribbing – round or sawn	Ground contact or freshwater	4.1	WPC-04-2012
Non-residential -retaining walls(> 1.2 m), edging, agriculture, mariculture, boats, compost, plant/mushroom boxes, flumes	Ground contact or freshwater	4.1	WPC-04-2012
Playground equipment	Above ground, ground contact, freshwater	4.1	WPC-04-2012
Mine and bridge ties	Ground contact or freshwater	4.1	WPC-04-2012
Veranda Supports	Veranda supports	4.1	WPC-04-2012
Aquaculture	Freshwater	4.2	WPC-04-2012
Cribbing – round or sawn, highway construction	Ground contact or freshwater	4.2	WPC-04-2012
Important structural -crib and retaining walls, greenhouses	Ground contact or freshwater	4.2	WPC-04-2012
Highway construction or supporting residential and business structures	Ground contact or freshwater	4.2	WPC-04-2012

Products and End Uses	Exposure Conditions	Use Category	Specification Sheet
Marine – mine or bridge ties, mariculture, highway, boats, cribbing, sheathing	Brackish or salt water	5A	WPC-06-2012
Fire retardant or protection	Interior	F.1	WPC-04-2012
Piles			
Highway construction	Ground contact or freshwater	4.2	WPC-07-2012
Marine construction	Brackish or saltwater	5A	WPC-07-2012
Building or highway – completely embedded in soil	Ground contact		WPC-07-2012
Sawn piles - supporting business or residential structures	Ground contact or freshwater	4.2	WPC-07-2012
Posts			
Round, Half and Quarter Round			
General, farm, fence or highway construction	Ground contact or freshwater	4.1	WPC-08-2012
Playground equipment	Above ground, ground contact or freshwater	4.1	WPC-08-2012
Building or highway construction (guide rails, blocks and lighting)	Ground contact or freshwater – moderate decay	4.2	WPC-08-2012
Agricultural use	Ground contact – severe	4.2	WPC-08-2012
Agricultural – round structural members	Ground contact or freshwater – moderate decay	4.2	WPC-08-2012
Road salt storage	Ground contact or freshwater – moderate decay	4.2	WPC-08-2012
Sawn on Four Sides			
General – fence or deck support	Ground contact or freshwater	4.1	WPC-04-2012
Highway construction	Above ground, ground contact or freshwater	4.1	WPC-04-2012
Playground equipment	Ground contact or freshwater	4.1	WPC-04-2012
Important building structural, agricultural, or spacer blocks	Ground contact or freshwater – high decay	4.2	WPC-04-2012

Products and End Uses		Exposure Conditions	Use Category	Specification Sheet
Plywood				
	Building construction or subflooring	Above ground – interior, damp	2	WPC-09-2012
	All – including agricultural	Above ground – exterior	3.2	WPC-09-2012
	Food harvest, storage or contact	Above ground – exterior	3.2	WPC-09-2012
	Fire escapes - exterior exposed	Above ground or ground contact	4.1	WPC-09-2012
	General – including edging, agricultural, mariculture, boats, furniture, gazebos, compost, plant or mushroom boxes, flumes	Ground contact or freshwater	4.1	WPC-09-2012
	Road salt storage or highway construction	Ground contact or freshwater	4.1	WPC-09-2012
	Wet industrial processing areas	Ground contact or freshwater	4.1	WPC-09-2012
	Roof decking, flooring or subflooring	Above ground but critical use	4.1	WPC-09-2012
	Permanent wood foundations	Ground contact	4.2	WPC-09-2012
	Marine, highway construction, boats	Brackish or salt water	5A	WPC-06-2012
Utility Poles				
	General, distribution, transmission, thermal	Ground contact or freshwater	4	WPC-05-2012
	General, distribution, transmission, laminated	Ground contact or freshwater	4.1	WPC-05-2012
	Important distribution, transmission, laminated	Ground contact or freshwater – high decay	4.2	WPC-05-2012

4.0 QUALITY ASSURANCE – CONTROL AND INSPECTION

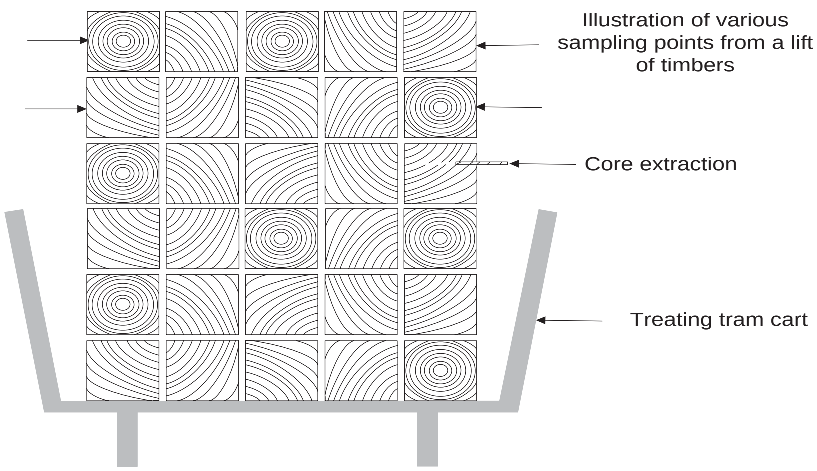
The purchaser or user of pressure treated wood products can be assured that their product purchase meets the specified standard through the use of a third party inspection company. Third party inspection companies are certified through the Canadian Wood Preservation Bureau (CWPB) which is administered by the Canadian Wood Preservation Association (CWPA). The inspection agencies conduct on-site visits to test and verify that the products to be delivered meet the Canadian Standards Association, CSA O80 and/or the Best Management Practices (BMPs), as specified. The inspection agency will mark the product with a unique "stamp" or provide the purchaser with a certificate of compliance. To obtain a list of inspection companies the purchaser can contact Wood Preservation Canada at 613 737 4337 or email WPC at info@woodpreservation.ca.

4.1 Quality Control and Inspection

The quality control and inspection of treated wood products is set out by product type in the CSA O80. These requirements are results based tests that are measured by sampling the wood after treatment. The CSA O80 Standards provide instructions to the treater for sampling (quantity), analysis (methodology), and minimum depth of penetration and chemical retention (amount of preservative injected into the wood).

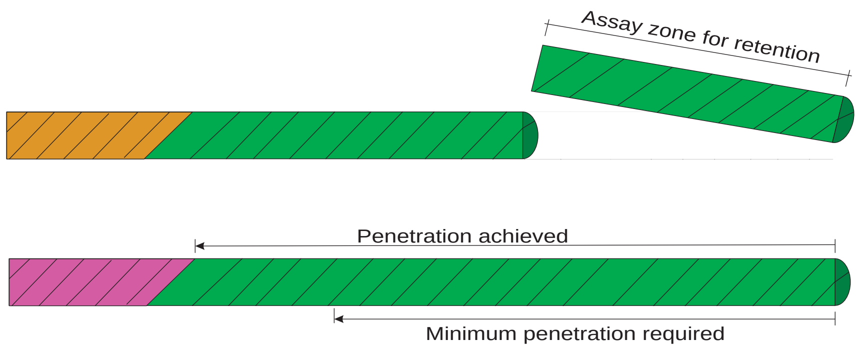
Following treatment the “charge” of wood is removed from the cylinder and a random sample of borings (typically 20) are removed from the different pieces of wood in the charge. This is achieved by core drilling into the centre of the wood product and removing a cylindrical sample 5mm in diameter and to a typical depth of 15 to 75 mm (½ to 3 inches) depending on the product being sampled (figure 3).

figure 3



These samples are then taken to an on-site laboratory for analysis. The borings are typically split in half lengthwise. One half is used to measure the depth of penetration achieved and the other half to measure the preservative retention (figure 4).

figure 4



Core Sample Split in half for Analysis

The penetration samples are sprayed with a reagent that brightly colours the wood making measurement easier. Each of the 20 samples are measured and recorded, and typically 90% of the samples must pass. The assay zone is cut from the other half of the borings. The assay zone samples are dried, ground, pelletized and analyzed to ensure the minimum amount of preservative has been retained. Each charge of wood is sampled and tested to ensure the specified minimums for each Use Category are met.

5.0 WOOD COMMODITY DEFINITIONS

Commercially, wood is rarely referred to simply as "wood". Other words are used which tell us the product, shape or form that a wood-based material takes. Their most common forms are as follows:

Boards - Boards refer to lumber which is usually 6' or longer (in 2' increments); thicknesses up to, but not including 2", and are usually at least 3" wide. After being sawn to rough sizes, boards may be smoothed or “dressed” by planing the surface.

Dimensional Lumber – Dimensional lumber is a classification of lumber that is nominally two inches up to, but not including, five inches in thickness. The most common thickness of dimension lumber is 2" nominal size. Nominal dimensions are marketing sizes or "name" sizes of thicknesses and widths in contrast with actual dimensions which are true sizes. For example, the actual dimensions of a nominal 2 x 4 is 1 1/2" x 3 1/2". For lengths, nominal dimensions and actual dimensions are the same. Common nominal sizes of dimension lumber are 2” x 4”, 2” x 6”, 2” x 8”, 2” x 10”, and 2” x 12”. Like boards, dimension lumber is typically dressed.

Timbers - Timbers are any square or rectangular item of solid wood 5 or more inches in nominal thickness in the least dimension. Common cross-sections are 6" x 6"and 8" x 8", but they may be 4" x 8", 6” x 8”, 12" x 12" or larger. Crossarms, crossties and cribbing are typical examples of timbers. Timbers are sold for use in their rough-sawn or dressed condition for heavy construction.

Millwork or Trim - This describes the large variety of specialty wooden items produced in a factory making door and window frames, mouldings, siding, dowels and other items used in the internal or external finishing of buildings.

Posts - Posts are round, part-round, square or rectangular wooden items designed to give structural support when inserted in the ground. They typically range in length from 8 to 18 feet.

Poles - Poles are round, tree stems used to support overhead utility lines. By definition, poles are at least 25' long. Before treatment and use, poles nearly always have the bark removed, and a certain amount of surface dressing to produce a smooth, circular cross-section.

Piles or Pilings - Piles are similar to poles, but their purpose is for marine structures and to support buildings and bridges. The piles are driven into the ground to form a good base on which to build.

Plywood – Plywood is a manufactured wood product made from thin sheets of veneer glued together under pressure. Thicknesses range from 15 to 75 mm and are usually in sheet sizes of 4 x 8 ft.

SPECIFICATION SHEETS

The Following Specification Sheets are intended to assist specifiers, purchasers, and/or user groups to correctly communicate to the manufacturer the treated product they need for its intended purpose. This will ensure that the product selected will have a long and successful life in-service.

These Specification Sheets are not meant to replace the CSA O80 Standard, but rather help specifiers, purchasers, and/or user groups in navigating the standard and identifying the correct section(s) for each product or product group required. To this end, the Specification Sheets are a reflection of the species, treatment preservatives, and treatment types that have been tested and approved by the CSA O80 Standard Technical Committee. It is important to note that although a species and/or treatment is allowable, it may not be commercially available. For example, because of geography and economics a red pine utility pole may not be available in Saskatchewan or a specific preservative may not be available to you because treating plants in your area supply a different, albeit acceptable, alternative product. Checking with local suppliers to identify specific product availability is important prior to issuing a tender document and can save time and money.

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