















### 3.1 CSA Technical Committee Matrix

The matrix of the Committee is defined to ensure that the actual number of voting members in any one category shall not be more than the combined actual numbers of the voting members in the two smallest categories. The Committee is represented by the following interest categories and assigned based on the individual's predominant interest in the products or services:

**Producer Interest** – this category includes those who are predominately involved with production (manufacturing goods), promotion, retailing, or distribution of the products, materials, or services:

- ☐ **User Interest** – includes those who predominately represent consumer interests or end users of the products, materials, or services and are not involved in the production or distribution of these goods:
- ☐ **Regulatory and General Interest** – includes those involved with regulating the use of the product(s); and those who are not associated with the production, distribution, or direct use of the products, materials, or services. This interest category may include representatives of government, academic, and scientific interests.

*\*Source © 2021 Canadian Standards Association File No. A366-23, A350-13.*

### 3.2 USE CATEGORY SYSTEM (UCS)\*

The Use Category System (UCS) employed in the CAN / CSA O80 Series Standard is based on the UCS developed by the American Wood Protection Association (AWPA). Minor changes have been made to the AWPA system to account for treated wood production and use patterns in Canada and to align with ISO 21887 more closely. When a requirement of the CAN / CSA O80 Series Standards conflicts with a requirement of an AWPA Standard, the requirement of the CSA O80 Series Standards shall take precedence. *\*Source © 2021 Canadian Standards Association.*

The CSA O80-15 Use Category System\* (UCS) places wood uses into one of five primary use categories that clearly describe the exposure conditions that specific wood products can be subjected to in service. The primary use categories are further broken down into subcategories based on the degree of biodeterioration hazard and the product service life expectations associated with specific products and exposure conditions. In addition to the five use categories for biodeterioration, there is a sixth use category for fire retardant applications.

*\*Source © 2021 Canadian Standards Association – CSA O80.1-21 Specification of treated wood.*

### 3.3 Determining the Use Category for the Expected Service Condition

The specifier or user should first identify the appropriate Use Category (Table 2) for the intended or expected service condition.



<b>Table 2</b>				
<b>Use Category for the Expected Service Condition*</b>				
<b>USE CATEGORY</b>	<b>SERVICE CONDITIONS</b>	<b>USE ENVIRONMENT</b>	<b>COMMON AGENT(S) OF DETERIORATION</b>	<b>TYPICAL APPLICATIONS</b>
<b>UC1</b>	Interior construction – Above ground - dry	Protected against weather and other sources of moisture	Insects	Interior construction and furnishings
<b>UC2</b>	Interior construction – Above ground - damp	Protected against weather, but can be exposed to	Decay fungi and insects	Interior construction
<b>UC3.1</b>	Exterior construction – Above ground – coated and rapid water run off	Protected against weather by coating or cladding and not subject to prolonged wetting	Decay fungi, disfiguring fungi, and insects	Coated millwork, siding, and trim
<b>UC3.2</b>	Exterior construction – Above ground- uncoated or poor water run off	Exposed to all weather cycles, including prolonged wetting	Decay fungi, disfiguring fungi, soft rot fungi, and insects	Decking, deck joists, railings, fence pickets, and uncoated millwork
<b>UC4.1</b>	Ground contact or freshwater. Above ground – critical, or potential soil or freshwater contact	Exposed to all weather cycles; normal exposure conditions, including saltwater splash**	Decay fungi, disfiguring fungi, soft rot fungi, and insects	Guardrail posts, bridge beams, crossties, and utility poles (low-decay areas)
<b>UC4.2</b>	Ground contact or freshwater – high decay hazard or critical structural components or difficult replacement	Exposed to all weather cycles: high potential for decay	Decay fungi, disfiguring fungi, soft rot fungi, and insects (with increased potential for biodeterioration)	Land, freshwater, and foundation pile, permanent wood foundations, building poles, horticultural posts, crossties, and utility poles (high-decay areas)
<b>UC5A</b>	Coastal water – brackish water or salt water and adjacent mud zone	Continuous saltwater exposure	Saltwater organisms	Piles, bulkheads, and bracing
<b>UCF.1</b>	Fire protection as required by codes – interior construction – above ground	Protected against weather and other sources of moisture	Fire	Roof sheathing, roof trusses, studs, joists, and paneling

**\*\*In AWPAs Standards, saltwater splash is included in UC4.2**

*\*Source © 2021 Canadian Standards Association CSA O80-21 Wood Preservation*

Once the product and application have been defined, the appropriate Specification Sheet can be selected. The smaller the Use category number (ie. UC1 or UC2) the less preservative protection is required. Conversely, the higher the Use Category number (ie. UC4.1 or UC5A) 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 generally means that preservative retention and penetration requirements are higher 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 CAN/CSA O80.1-21 Wood Preservation.





<b>Table 3</b>			
<b>Specification Sheet Guide to Pressure Treated End Uses†</b>			
<b>PRODUCTS AND END USES</b>	<b>EXPOSURE CONDITIONS</b>	<b>USE CATEGORY</b>	<b>SPECIFICATION SHEETS</b>
<b>Crossarms</b>			
Critical or hard to replace	Above ground – exterior	4.1	WPC-01-2022
General	Above ground – exterior	3.2	WPC-01-2022
<b>Crossties and Switchties</b>			
General	Ground contact or freshwater	4.1	WPC-02-2022
Important and/or high decay	Ground contact or freshwater	4.2	WPC-02-2022
<b>Glued-laminated timber (Beams)</b>			
Above ground – Interior	Protected – insect only	1	WPC-03-2022
Above ground – Interior	Protected – damp	2	WPC-03-2022
Above ground – structural (Painted or unpainted)	Above ground – exterior	3.2	WPC-03-2022
General structural or highway structural	Ground contact or freshwater – low decay	4.1	WPC-03-2022
Highway – critical structural	Above ground – exterior	4.1	WPC-03-2022
Highway – critical structural or saltwater splash	Ground contact or freshwater – high decay	4.2	WPC-03-2022
<b>Lumber and Timbers in Building Construction</b>			
Aquaculture	Freshwater	4.2	WPC-04-2022
Brine Storage or highway construction materials	Ground contact or freshwater	4.1	WPC-04-2022
Building Construction	Above ground – interior, insect only	1	WPC-04-2022
Building Construction	Above ground – interior – wood exposed to dampness	2	WPC-04-2022
Cooling towers	Freshwater contact	4.1	WPC-04-2022
Crib walls, retaining walls, important structural, or greenhouse	Ground contact or freshwater	4.2	WPC-04-2022
Fire escapes – exterior exposed or wet industrial processing areas	Above ground or ground contact	4.1	WPC-04-2022
Food harvest, transport, and storage	Above ground – exterior	3.2	WPC-04-2022
Highway structural	Above ground – exterior	3.2	WPC-04-2022
Highway structural (critical member)	Above ground – exterior	4.1	WPC-04-2022
Highway construction or supporting residential and business structures	Ground contact or freshwater	4.2	WPC-04-2022
Non-residential – coated or painted	Above ground – exterior	3.1	WPC-04-2022
Non – residential – retaining walls, edging, agriculture, mariculture, boats, compost, plant and mushroom boxes, or flumes	Ground contact or freshwater	4.1	WPC-04-2022



PRODUCTS AND END USES	EXPOSURE CONDITIONS	USE CATEGORY	SPECIFICATION SHEETS
<b>Lumber and Timbers in Building Construction – continued</b>			
Non-residential – uncoated (including agriculture and farms)	Above ground – exterior	3.2	WPC-04-2022
Permanent wood foundations	Above ground or ground contact	4.2	WPC-04-2022
Roof decking, flooring, or subflooring	Above ground – exterior	3.2	WPC-04-2022
Supporting residential and business structures	Ground contact or freshwater	4.2	WPC-04-2022
<b>Lumber and Timbers in Marine Applications</b>			
Marine – out of water and above ground	Significant saltwater splash	4.1	WPC-06-2022
Marine – out of water and above ground (critical)	Significant saltwater splash	4.2	WPC-06-2022
Marine, mariculture, highway, or boats	Brackish water or saltwater	5A	WPC-06-2022
<b>Piles - Round</b>			
Highway construction	Ground contact or freshwater	4.2	WPC-07-2022
Marine or highway construction	Brackish water or saltwater	5A	WPC-07-2022
Foundation piles – Building or highway construction (completely embedded in soil)	Ground contact	4.2	WPC-07-2022
<b>Piles – Sawn</b>			
Supporting residential and building structures	Ground contact or freshwater	4.2	WPC-07-2022
<b>Plywood</b>			
All (including agricultural or farms)	Above ground – exterior	3.2	WPC-10-2022
Building construction or subflooring	Above ground – interior – damp	2	WPC-10-2022
Fire escapes – exterior exposed	Above ground or ground contact	4.1	WPC-10-2022
Food harvest, storage, or contact	Above ground – exterior	3.2	WPC-10-2022
General (including edging, agriculture, mariculture, boats, furniture, gazebos, compost, plant and mushroom boxes, or flumes)	Ground contact or freshwater	4.1	WPC-10-2022
Marine and highway construction or boat building	Brackish water or saltwater	5A	WPC-10-2022
Permanent wood foundations	Ground contact	4.2	WPC-10-2022
Road salt storage or highway construction	Ground contact or freshwater	4.1	WPC-10-2022
Roof decking, flooring, or subflooring	Above ground but critical use	4.1	WPC-10-2022
Wet industrial processing areas	Ground contact or freshwater	4.1	WPC-10-2022

PRODUCTS AND END USES	EXPOSURE CONDITIONS	USE CATEGORY	SPECIFICATION SHEETS
<b>Poles – Round</b>			
Agriculture	Ground contact or freshwater – low decay	4.1	WPC-09-2022
Agriculture, highway construction, building structural, or lighting –	Ground contact or freshwater – high decay	4.2	WPC-09-2022
<b>Poles - Utility</b>			
Distribution, Transmission, or Laminated	Ground contact or freshwater – low decay	4.1	WPC-05-2022
Distribution, Transmission, or Laminated	Ground contact or freshwater – high decay	4.2	WPC-05-2022
<b>Poles – Sawn on four sides</b>			
Agricultural or farm	Ground contact or freshwater	4.2	WPC-04-2022
Structural building	Ground contact or freshwater – moderate decay	4.2	WPC-04-2022
Building construction or highway construction (guardrail posts,	Ground contact or freshwater – moderate decay	4.2	WPC-08-2022
General, farm, fence, or highway construction (including guide, sign,	Ground contact or freshwater	4.1	WPC-08-2022
Road salt storage	Ground contact or freshwater – moderate decay	4.2	WPC-08-2022
<b>Posts – sawn on four sides</b>			
General – fence or deck support, highway construction or playground equipment	Ground contact or freshwater	4.1	WPC-04-2022
Highway construction	Above ground – exterior	4.1	WPC-04-2022
Important building structural, agricultural, or spacer blocks	Ground contact or freshwater – high decay	4.2	WPC-04-2022
†For complete information refer to Canadian Standards Association CSA O80.1-15 Specification of treated wood®			

#### 4.0 QUALITY ASSURANCE - CONTROL AND INSPECTION

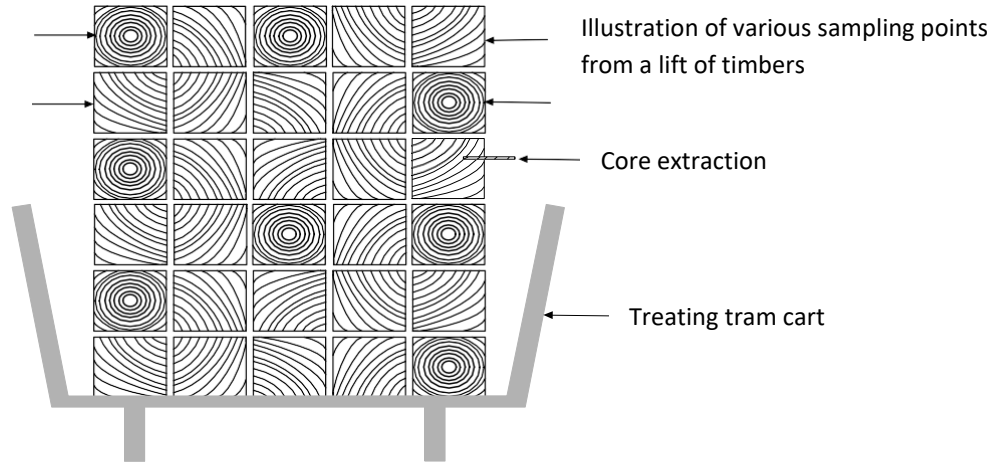
Third party inspection agencies conduct on-site visits to test and verify that the products to be delivered meet the Canadian Standards Association, CAN / CSA O80 Wood Preservation Standards and/or the Best Management Practices (BMPs), as specified. The inspection agency will mark the product with a unique "stamp" or provide the purchaser with a certificate of compliance. To obtain a list of inspection agencies contact Wood Preservation Canada [info@woodpreservation.ca](mailto: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 CAN / CSA O80 Wood Preservation Standards. These requirements are results based tests that are measured by sampling the wood after treatment. The CAN/CSA O80 Wood Preservation 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).

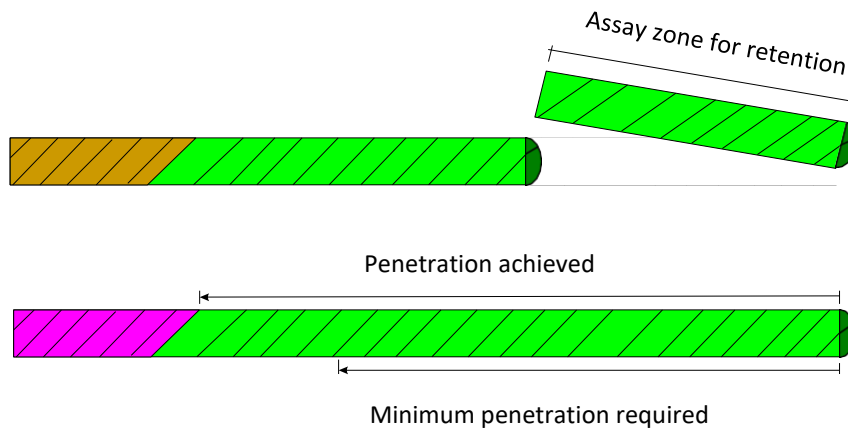
Following treatment, the "charge" of wood is removed from the cylinder and a random sample of borings (typically 20) are removed from the different pieces of wood in the charge. This is achieved by core drilling into the centre of the wood product and removing a cylindrical sample 5mm in diameter and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

**Figure 3**



The "core borings" are then taken to an on-site laboratory for analysis. Typically, the borings are split in half lengthwise with half being used to measure the depth of penetration and the other half is used to measure the preservative retention level.

**Figure 4**



**CORE SAMPLE SPLIT IN HALF FOR ANALYSIS**



The penetration samples are sprayed with a reagent that 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 determine the minimum amount of preservative has been achieved and the charge meets the specified target retention for the specified Use Category.

## 5.0 WOOD COMMODITY DEFINITIONS

Commercially, wood products are 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 terminologies are:

**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 milling 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 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, select de-limbed trees used to support overhead utility lines. Poles, by definition, 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 like 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 5 to 25 mm and are usually in sheet sizes of 4' x 8'.

## SPECIFICATION SHEETS

The following Specification Sheets have been designed to assist specifiers, purchasers, and/or user groups more accurately communicate to the manufacturer their treated wood requirements.

These Specification Sheets are not intended to replace the CSA O80 Wood Preservation Standard, but serve as a guide to specifiers, purchasers, and/or user groups in navigating the standard and identifying the correct section(s) for each product or product group required. For complete specifications, refer to CSA O80 Wood Preservation Standards, and check with local suppliers for product availability in your area.

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