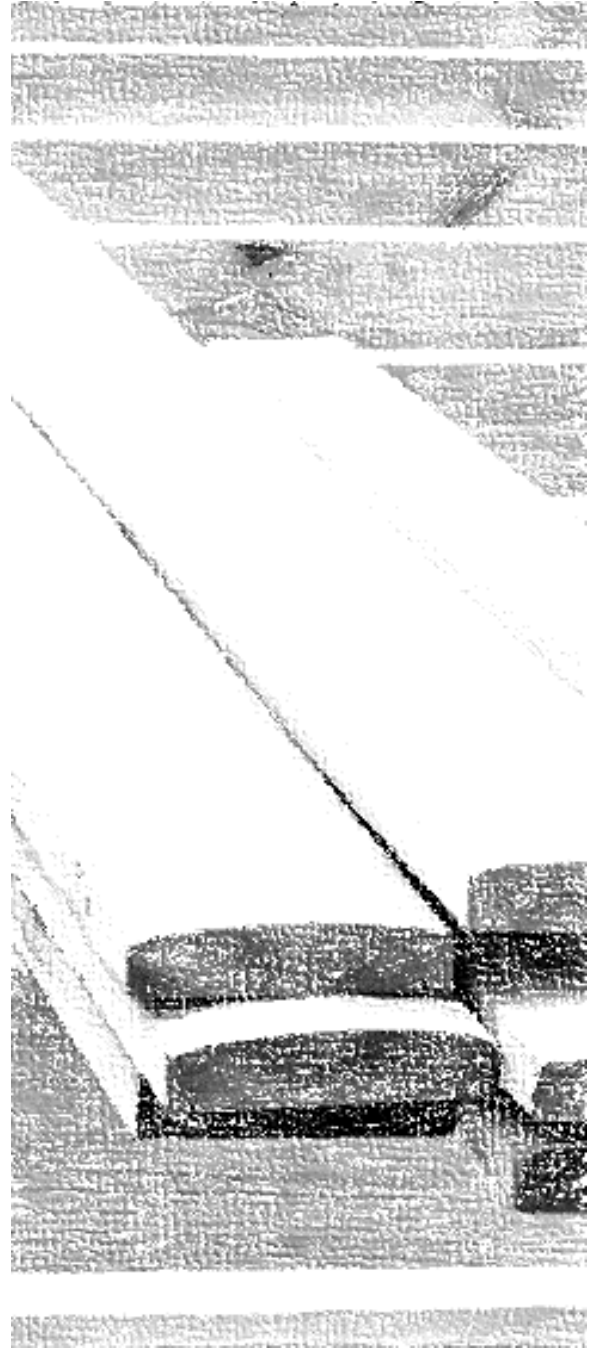


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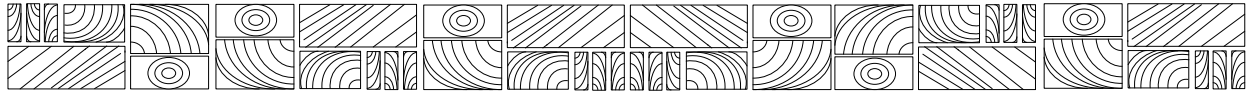
SPECIFIER GUIDE

No. WPC – 04-2025

Lumber and Timber in Building Construction



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Product Introduction

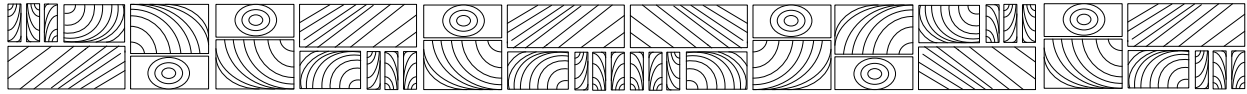
Wood has been used in building construction for hundreds of years and its popularity continues to expand. Building materials that come from renewable resources, such as lumber and timber products continue to increase in popularity, not only in Canada, but worldwide as these products use less energy, emit fewer greenhouse gases (GHG) and pollutants over their life cycle than energy intensive construction materials. Wood based products are also very workable and cost effective. The addition of a preservative treatment ensures the durability in exposed applications that will further extend the life cycle of the product.

For details on the manufacturing and dimensional and physical requirements of untreated lumber and timber used in building construction refer to the National Lumber Grades Authority (NLGA), Standard Grading Rules for Canadian Lumber. The information in this guide focuses on the requirements for pressure treated wood in building construction as specified in the CAN / CSA O80 Series – 21 Wood Preservation®.

Lumber and Timber Uses and Related Use Categories

Lumber and timber in building construction can be subjected to a wide variety of decay threats and therefore requires a wide range of Use Category ratings from UC1 for lumber used in interior above ground applications to a UC4.2 rating for exterior ground contact or freshwater applications on supporting timber beams in residential or business structures. For complete details regarding treatment specifications of sawn lumber and timber products used in building construction consult CAN/CSA O80.1 – 21, Section 5 – use categories for specific products, uses and exposures.

Use Categories – General Examples of Lumber & Timber Uses and Exposures			
Application	Use	Common Exposure	Use Category
Interior construction – above ground - dry	Protected against weather and other sources of moisture	Insects	UC1
Interior construction – above ground - damp	Protected against weather, but can be exposed to moisture	Decay fungi and insects	UC2
Exterior construction – above ground – uncoated and rapid water run off	Protected against weather by coating or cladding and not subject to prolonged wetting	Decay fungi, disfiguring fungi, soft-rot fungi, and insects	UC3.1
Exterior construction – above ground – coated or poor water run off	Exposed to all weather cycles, normal exposure conditions	Decay fungi, disfiguring fungi, soft-rot fungi, and insects	UC3.2
Ground contact or freshwater. Above ground – critical, or	Exposed to all weather cycles; normal exposure conditions	Decay fungi, disfiguring fungi, soft-rot fungi, and insects	UC4.1



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potential soil or freshwater contact			
Ground contact or freshwater – high decay hazard or critical structural components or difficult replacement.	Exposed to all weather cycles; high potential for decay, such as Permanent Wood Foundations	Decay fungi, disfiguring fungi, soft-rot fungi, and insects (with increased potential for biodeterioration)	UC4.2

Preservative Systems Used in Treatment of Lumber and Timber in Building Construction							
Use Category	ACQ*	ACZA	CA-B	CCA**	MCA	MCQ	SBX
UC1	Yes	No	Yes	No	Yes	Yes	Yes
UC2	Yes	No	Yes	No	Yes	Yes	Yes
UC3.1	Yes	No	Yes	No	Yes	Yes	No
UC3.2	Yes	No	Yes	No	Yes	Yes	No
UC4.1	Yes	No	Yes	No	Yes	Yes	No
UC4.2	Yes	Yes	Yes	Yes	Yes	Yes	No

**ACQ – Includes Types A, C & D*
***To be used only in accordance with PMRA requirements. Permanent wood foundations are an example of allowable uses.*

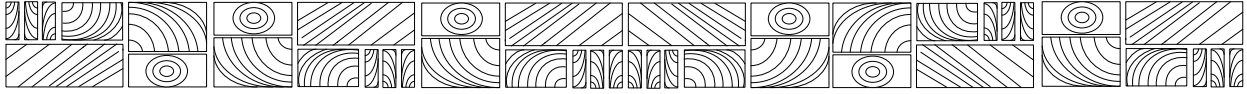
Preservative Systems Used in Treatment of Residential Products		
Chemical Name	Abbreviation	Allowable Use Categories
Alkaline Copper Quat Type A	ACQ – A	UC1, UC2, UC3.2, UC4.1
Alkaline Copper Quat Type C	ACQ - C	UC1, UC2, UC3.2, UC4.1
Alkaline Copper Quat Type D	ACQ - D	UC1, UC2, UC3.2, UC4.1
Ammoniacal Copper Zinc Arsenate	ACZA	UC4.2
Copper Azole Type B	CA-B	UC1, UC2, UC3.2, UC4.1
Chromated Copper Arsenate	CCA	UC4.2
Micronized Copper Azole	MCA	UC1, UC2, UC3.2, UC4.1
Micronized Copper Quat	MCQ	UC1, UC2, UC3.2, UC4.1
Inorganic Boron	SBX	UC1, UC2

Product Registration

Wood preservatives and their uses are regulated by Health Canada’s Pest Management Regulatory Agency (PMRA).

Recommended Reference Standards

- National Lumber Grades Authority (NLGA), Standard Grading Rules for Canadian Lumber (2014)
 - CAN / CSA – O80 Series – 21 Wood Preservation
 - CAN / CSA – O322 – 02 (R2012) – Procedure for certification of pressure-treated wood materials for use in preserved wood foundations*
 - CAN / CSA – S406 - 16 - Specification of permanent wood foundations for housing and small buildings*
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