



## Introduction to AWPAs Use Category System

The purpose of the Use Category System (UCS) is to provide a simple way of meeting user needs by relating the end-use of the treated wood product directly to the appropriate AWPAs Standard. UCS defines a series of different exposures for treated wood products. Each exposure has a different degree of biodegradation hazard and/or product service life expectation. The system helps specifiers and product users to locate the appropriate AWPAs Standards that provide recommendations for a specific combination of product and use environment.

The advantage of the UCS is simplicity. All treated wood commodities can be placed into one of the Use Categories. The system consists of five Use Categories, based on exposures and expected product performance, ranging from weather protected to salt water marine. A separate Use Category is provided for fire retardant applications.

The user of this system should first find the appropriate Use Category for the expected service conditions and a definite application in the Guide to Treated Wood End Uses.

In general, as the Use Category number rises, there is a consequent increase in the required preservative retention. The depth of penetration may also increase. The dimensions of the treated product may also influence the penetration requirement. The smaller the Use Category number, the least amount of protection is required as it relates to the level of protection necessary for decay or insect attack. Likewise, the largest Use Category number provides the highest degree of protection to wood used in the most severe service condition zones.

The UCS was developed as a format change for the AWPAs Commodity or "C" Standards and is not

intended to make substantive technical changes to those Standards. As of April 24, 2002, the UCS Standards govern and the C Standards are secondary and published for information only. They each will be so watermarked in the 2002 Book of Standards. The C Standards will be slowly phased out as Building Codes are progressively updated to reflect the UCS.

### USE CATEGORY SELECTION GUIDE

**UC1** — Wood and wood based materials used in interior construction not in contact with the ground or foundations. Such products are protected from weather and interior sources of water such as leaking plumbing, condensate, pools and spas.

**SERVICE CONDITIONS:**

Interior construction, dry, above ground

**USE ENVIRONMENT:**

Continuously protected from weather or other sources of moisture

**COMMON AGENTS OF DETERIORATION:**

Insects only

**TYPICAL APPLICATIONS:**

Interior construction

**UC2** — Wood and wood based materials used for interior construction that are not in contact with ground, but may be subject to dampness. These products are continuously protected from the weather, but may be exposed to occasional sources of moisture.

**SERVICE CONDITIONS:**

Interior construction, damp above ground

*(continued)*

## **UC2** *continued*

### USE ENVIRONMENT:

Protected from weather, but subject to sources of moisture

### COMMON AGENTS OF DETERIORATION:

Decay fungi and insects

### TYPICAL APPLICATIONS:

Interior construction — beams, timbers, flooring, framing, millwork, floor plate

**UC3A** — Wood and wood based materials used in exterior construction that are coated and not in contact with the ground. Such products may be exposed to the full effects of weather, such as vertical exterior walls or other types of construction that allows water to quickly drain from the surface.

### SERVICE CONDITIONS:

Exterior construction, coated, above ground

### USE ENVIRONMENT:

Coated. Exposed to all weather cycles. Rapid water runoff

### COMMON AGENTS OF DETERIORATION:

Decay fungi and insects

### TYPICAL APPLICATIONS:

Coated millwork, siding and trim

**UC3B** — Wood and wood based materials used in exterior construction and not in contact with the ground. Materials do not require an exterior coating, but may be finished to achieve a desired aesthetic appearance.

### SERVICE CONDITIONS:

Exterior construction, above ground

### USE ENVIRONMENT:

Exposed to all weather cycles and prolonged wetting.

### COMMON AGENTS OF DETERIORATION:

Decay fungi and insects

### TYPICAL APPLICATIONS:

Decking, deck joists, sills, walkways, railings, fence pickets

**UC4A** — Wood and wood based materials used

in contact with the ground, fresh water, or other situations favorable to deterioration.

### SERVICE CONDITIONS:

Ground contact or fresh water

### USE ENVIRONMENT:

For normal ground or fresh water contact. Exposed to all weather cycles.

### COMMON AGENTS OF DETERIORATION:

Decay fungi and insects

### TYPICAL APPLICATIONS:

Fence posts, structural lumber & timbers, guardrail posts, utility poles in regions of low decay potential

**UC4B** — Wood and wood based materials used in contact with the ground either in severe environments, such as horticultural sites, in climates with a high potential for deterioration, in critically important components.

### SERVICE CONDITIONS:

Ground contact, fresh water or important construction components

### USE ENVIRONMENT:

Severe ground contact or salt water splash. Difficult replacement. Exposed to all weather cycles.

### COMMON AGENTS OF DETERIORATION:

Decay fungi and insects with increased potential for biodeterioration

### TYPICAL APPLICATIONS:

Permanent wood foundations, building poles, horticultural posts, utility poles in regions of moderate to severe potential for decay or economic loss.

**UC4C** — Wood and wood based materials used in contact with the ground either in very severe environments or climates demonstrated to have extremely high potential for deterioration, and in critical structural components.

### SERVICE CONDITIONS:

Ground contact, fresh water or critical structural components

### USE ENVIRONMENT:

Very severe ground contact. Exposed to all weather cycles. Critical structural components.

*(continued)*

### **UC4C** *continued*

#### COMMON AGENTS OF DETERIORATION:

Decay fungi and insects with high potential for biodeterioration

#### TYPICAL APPLICATIONS:

Land or fresh water piling, foundation piling, utility poles with a severe potential for decay.

**UC5A** — Wood and wood based materials exposed to salt and brackish water generally from New Jersey and north on the east coast and north of San Francisco on the west coast to the extent that the marine borers can attack them.

#### SERVICE CONDITIONS:

Salt or brackish water and adjacent mud zone

#### USE ENVIRONMENT:

Continuous marine (salt water) exposure

#### COMMON AGENTS OF DETERIORATION:

Salt water organisms; Teredo, Limnoria quadripunctata

#### TYPICAL APPLICATIONS:

Piling, bulkheads, bracing

**UC5B** — Wood and wood based materials exposed to salt and brackish water between New Jersey and Georgia on the east coast and south of San Francisco on the west coast to the extent that the marine borers can attack them.

#### SERVICE CONDITIONS:

Salt or brackish water and adjacent mud zone

#### USE ENVIRONMENT:

Continuous marine (salt water) exposure

#### COMMON AGENTS OF DETERIORATION:

Salt water organisms; Teredo, Limnoria tripunctata

#### TYPICAL APPLICATIONS:

Piling, bulkheads, bracing

**UC5C** — Wood and wood based materials exposed to salt and brackish water south of Georgia and along the Gulf coasts in the eastern U.S. to the extent that the marine borers can attack them

#### SERVICE CONDITIONS:

Salt or brackish water and adjacent mud zone

#### USE ENVIRONMENT:

Continuous marine (salt water) exposure

#### COMMON AGENTS OF DETERIORATION:

Salt water organisms; Teredo, Martesia, Sphaeroma

#### TYPICAL APPLICATIONS:

Piling, bulkheads, bracing

**UCFA** — Wood and wood based materials intended for fire protection and used in interior construction where wood material is not in contact with the ground and is protected from exterior weather.

#### SERVICE CONDITIONS:

Fire protection as required by codes. Above ground interior construction

#### USE ENVIRONMENT:

Continuously protect from weather or other sources of moisture

#### COMMON AGENTS OF DETERIORATION:

Fire

#### TYPICAL APPLICATIONS:

Roof sheathing, roof trusses, studs, joists, paneling

**UCFB** — Wood and wood based materials intended for fire protection and used in exterior construction that is not in contact with the ground or with foundations, but may be exposed to full effects of weather such as intermittent rain, dew, sunlight and wind.

#### SERVICE CONDITIONS:

Fire protection as required by codes. Above ground exterior construction

#### USE ENVIRONMENT:

Wetting

#### COMMON AGENTS OF DETERIORATION:

Fire

#### TYPICAL APPLICATIONS:

Vertical exterior walls, inclined roof surfaces or other types of construction that allow water to quickly drain from surface

## SERVICE CONDITIONS USE CATEGORY SELECTION GUIDE

USE CATEGORY	SERVICE CONDITIONS	USE ENVIRONMENT	COMMON AGENTS OF DETERIORATION	TYPICAL APPLICATIONS
<b>UC1</b>	Interior construction, dry, above ground	Continuously protected from weather or other sources of moisture	Insects only	Interior construction and furnishings
<b>UC2</b>	Interior construction, damp above ground	Protected from weather, but subject to sources of moisture	Decay fungi and insects	Interior construction
<b>UC3A</b>	Exterior construction, coated, above ground	Coated. Exposed to all weather cycles. Rapid water runoff.	Decay fungi and insects	Coated millwork
<b>UC3B</b>	Exterior construction, above ground	Exposed to all weather cycles and prolonged wetting.	Decay fungi and insects	Decking, deck joists, railings, fence pickets
<b>UC4A</b>	Ground contact or fresh water	For normal ground or fresh water contact. Exposed to weather cycles.	Decay fungi and insects	Privacy fence posts, structural lumber & timbers, guardrail posts, utility poles in regions of low decay potential.
<b>UC4B</b>	Ground contact, fresh water or important construction components	Severe ground contact or salt water splash. Difficult replacement. Exposed to all weather cycles.	Decay fungi and insects with increased potential for biodeterioration	Permanent wood foundations, utility poles in regions of moderate to severe potential for decay or economic loss, building poles, horticultural posts
<b>UC4C</b>	Ground contact, fresh water or critical structural components	Very severe ground contact. Exposed to all weather cycles. Critical structural components.	Decay fungi and insects with high potential for biodeterioration	Land or fresh water piling. Foundation piling. Utility poles with a severe potential for decay.
<b>UC5A</b>	Salt or brackish water and adjacent mud zone	Continuous marine (salt water) exposure	Salt water organisms Teredo, Limnoria quadripunctata	Piling, bulkheads, bracing
<b>UC5B</b>	Salt or brackish water and adjacent mud zone	Continuous marine (salt water) exposure	Salt water organisms Teredo, Limnoria tripunctata	Piling, bulkheads, bracing
<b>UC5C</b>	Salt or brackish water and adjacent mud zone	Continuous marine (salt water) exposure	Salt water organisms Teredo, Martesia, Sphaeroma	Piling, bulkheads, bracing
<b>UCFA</b>	Fire protection as required by codes. Above ground interior construction	Continuously protected from weather or other sources of moisture	Fire	Roof sheathing, roof trusses, studs, joists, paneling
<b>UCFB</b>	Fire protection as required by codes. Above ground exterior construction	Wetting	Fire	Vertical exterior walls, inclined roof surfaces or other types of construction which allow water to quickly drain from surface

**DISCLAIMER:** The Western Wood Preservers Institute believes the information contained herein to be based on up-to-date, scientific and economic information and is intended for general information purposes. In furnishing this information, the Institute makes no warranty or representation, either expressed or implied, as to the reliability or accuracy of such information; nor does the Institute assume any liability resulting from use of or reliance upon the information by any party. This document should not be construed as a specific endorsement of warranty, direct or implied, of treated wood products or preservatives, in terms of performance, environmental impact, or safety. The information contained herein should not be construed as a recommendation to violate any federal, provincial, state or municipal law, rule or regulation, and any party using or producing pressure-treated wood products should review all such laws, rules or regulations prior to using or producing treated wood products.

# SPECIFICATION GUIDE TO TREATED WOOD END USES

	AWPA STANDARDS		OILBORNE PRESERVATIVES		
	UCS	C	COPPER NAP <sup>1</sup>	CREO <sup>2</sup>	PENTA <sup>3</sup>
<b>AGRICULTURE, FARM USE</b>					
Round poles and posts as structural members	4B	C5, C16	.075	7.5 – 16.0	.38 – .60
Sawn poles and posts as structural members	4B	C2, C16	.075	12.0	.60
Posts, fence					
• Round, half and quarter round	4A	C5, C16	.055	8.0	.40
• Sawn four sides	4A	C2, C16	.060	10.0	.50
Lumber, in soil contact	4A	C2, C16	.060	10.0	.50
Lumber, not in soil contact	3B	C2, C16	.040	8.0	.40
Lumber, food harvesting and storage	3B	C16, C29	NR	NR	NR
Plywood, in soil contact	4A	C9, C16	.060	10.0	.50
Plywood, not in soil contact	3B	C9, C16	.040	8.0	.40
Grape stakes, sawn	4A	C2, C16	.060	10.0	.30
<b>BEAMS &amp; TIMBERS, glue laminated before treatment</b>					
Dry environment, above ground	1, 2	C28	.040	8.0	.30
Damp environment, above ground	3B	C28	.040	8.0	.30
Ground contact	4A	C28	.060	10.0	.60
Highway construction	4B, 4C	C14	.075	12.0	.60
<b>BUILDING CONSTRUCTION MATERIAL</b>					
Floor plate	2, 3B	C2, C15, C31	NL	NR	NR
Flooring, residential					
• Damp environment	3B	C2	NL	NR	NR
• Dry environment	1, 2	C2, C31	NL	NR	NR
Framing, interior	1, 2	C2, C15, C31	NL	NR	NR
Joists					
• Interior, above ground	1, 2	C2, C15, C31	NL	NR	NR
• Exterior, above ground	3B	C2, C15	NL	NR	NR
• Soil contact	4A	C2, C15	NL	NR	NR
Lumber					
• Above ground	3B	C2	.04	8.0	.40
• Ground contact and fresh water use	4A	C2	.06	10.0	.50
• Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL
Permanent Wood Foundation					
• Lumber	4B	C22	NL	NL	NL
• Plywood	4B	C22	NL	NL	NL
Plywood					
• Sub-floor, damp above ground	2	C9	NL	8.0	.40
• Exterior, above ground	3B	C9	NL	8.0	.40
• Ground contact and fresh water use	4A	C9	NL	8.0	.40
• Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL
Poles, building					
• Round	4A, 4B	C4, C16	NL	7.5 – 16.0	.38 – .60
• Sawn	4A, 4B	C2, C16	.075	12.0	.60
Studs	3B	C2, C15	NL	NR	NR
<b>DECKING</b>					
Highway Bridge	4B	C2, C14	.075	12.0	.60
Above ground	3B	C2, C15	.040	8.0	.40
Ground contact	4B	C2, C15	.060	10.0	.50
<b>FENCES</b>					
Pickets, slats, trim	3A, 3B	C2, C15	.055	8.0	.50
Posts, sawn	4A	C2, C15	NL	10.0	.50
Posts, round	4A	C5	.055	8.0	.40
<b>HIGHWAY MATERIAL</b>					
Lumber and timbers for bridges, structural members, decking, cribbing, and culverts	4B	C2, C14	.075	12.0	.60
• Structural lumber and timbers:					
– In salt water use and subject to marine borer attack	5A, 5B, 5C	C3, C14	NL	25.0	.60
– Piles, foundation, land and fresh water use	4C	C3, C14	NL	12 – 17	.60 – .85
– Piling in salt water use and subject to marine borer attack	5A, 5B, 5C	C3, C14	NL	16 – 20	NR
– Posts: Round, half-round, quarter round	4A	C5, C14	.055	8.0	.40
– Posts: Sawn	4A	C2, C14	.060	10.0	NL
– Handrails and guardrails	3B	C2, C14	.040	8.0	.40
Posts, guardrail					
• Round	4A	C2, C14	.069	10.0	.50
• Sawn	4A	C2, C14	.075	12.0	.60
<b>LUMBER</b>					
Above ground	3B	C2	.04	8.0	.40
Ground contact and fresh water use	4A	C2	.06	10.0	.50
Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL
<b>MARINE LUMBER &amp; TIMBERS</b>					
Fresh water	4A	C2	.06	10.0	.50
In brackish or saltwater use and subject to marine borer attack	5A, 5B, 5C	C2, C18	NL	25.0	NR
<b>PILES</b>					
Foundation (round)	4C	C3	NL	12 – 17	.60 – .85
Land and fresh water use (round)	4C	C3	.14	12 – 17	.60 – .85
Marine (round) in salt or brackish and subject to marine borer attack	5A, 5B, 5C	C3, C18	NL	16 – 20	NR
Marine, dual treatment (round)	5A, 5B, 5C	C3, C18	NL	20	NR
Sawn timber piles	4B	C24	NL	9 – 12	.45 – .60
<b>PLYWOOD</b>					
Sub-floor, damp above ground	2	C9	NL	8.0	.40
Exterior, above ground	3B	C9	NL	8.0	.40
Ground contact and fresh water use	4A	C9	NL	8.0	.40
Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL

## FOOTNOTES

(1) Copper Naphthenate.

(2) Creosote-coal tar creosote.

(3) Pentachlorophenol may be dissolved with several solvents. The solvents specified in AWWA P-9 are: Type A-Oil; Type C-Light Hydrocarbon solvent with auxilliary solvent; Use Type C where conditions require cleanliness and ability for staining.

# SPECIFICATION GUIDE TO TREATED WOOD END USES

	AWPA STANDARDS		WATERBORNE PRESERVATIVES						
	UCS	C	ACQ <sup>4</sup>	ACZA <sup>5</sup>	CA-B <sup>6</sup>	CBA <sup>7</sup>	CCA <sup>8</sup>	CC <sup>9</sup>	DOT <sup>10</sup>
<b>AGRICULTURE, FARM USE</b>									
Round poles and posts as structural members	4B	C5, C16	.60	.60	NL <sup>11</sup>	NL	.60	NR <sup>12</sup>	NL
Sawn poles and posts as structural members	4B	C2, C16	.60	.60	.31	.61	.60	NR	NL
Posts, fence									
• Round, half and quarter round	4A	C5, C16	.40	.40	.21	.41	.40	.40	NL
• Sawn four sides	4A	C2, C16	.40	.40	.21	.41	.40	.40	NL
Lumber, in soil contact	4A	C2, C16	.40	.40	.21	.41	.40	.40	NL
Lumber, not in soil contact	3B	C2, C16	.25	.25	.10	.20	.25	.25	NL
Lumber, food harvesting and storage	3B	C16, C29	NR	NR	NR	NR	NR	NR	NL
Plywood, in soil contact	4A	C9, C16	.40	.40	.21	.41	.40	.40	NL
Plywood, not in soil contact	3B	C9, C16	.25	.25	.10	.20	.25	.25	NL
Grape stakes, sawn	4A	C2, C16	.40	.40	.21	.41	.40	.40	NL
<b>BEAMS &amp; TIMBERS, glue laminated before treatment</b>									
Dry environment, above ground	1, 2	C28	NL	.30 <sup>13</sup>	NL	NL	NL	NL	NL
Damp environment, above ground	3B	C28	NL	.30 <sup>13</sup>	NL	NL	NL	NL	NL
Ground contact	4A	C28	NL	.60 <sup>13</sup>	NL	NL	NL	NL	NL
Highway construction	4B, 4C	C14	NL	NL	NL	NL	NL	NL	NL
<b>BUILDING CONSTRUCTION MATERIAL</b>									
Floor plate	2, 3B	C2, C15, C31	.25	.25	.10	.20	.25	.25	.25
Flooring, residential									
• Damp environment	3B	C2	.25	.25	.10	.20	.25	.25	NL
• Dry environment	1, 2	C2, C31	.25	.25	.10	.20	.25	.25	.25
Framing, interior	1, 2	C2, C15, C31	.25	.25	.10	.20	.25	.25	.25
Joists									
• Interior, above ground	1, 2	C2, C15, C31	.25	.25	.10	.20	.25	.25	.25
• Exterior, above ground	3B	C2, C15	.25	.25	.10	.20	.25	.25	NL
• Soil contact	4A	C2, C15	.40	.40	.21	.41	.40	NL	NL
Lumber									
• Above ground	3B	C2	.25	.25	.10	.20	.25	.25	NL
• Ground contact and fresh water use	4A	C2	.40	.40	.21	.41	.40	.40	NL
• Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL	NL	NL	NL	.25
Permanent Wood Foundation									
• Lumber	4B	C22	.60	.60	NL	NL	.60	NL	NL
• Plywood	4B	C22	.60	.60	NL	NL	.60	NL	NL
Plywood									
• Sub-floor, damp above ground	2	C9	.25	.25	.10	.20	.25	.25	NL
• Exterior, above ground	3B	C9	.25	.25	.10	.20	.25	.25	NL
• Ground contact and fresh water use	4A	C9	.40	.40	.21	.41	.40	.40	NL
• Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL	NL	NL	NL	.25
Poles, building									
• Round	4A, 4B	C4, C16	.60	.60	NL	NL	.60	NL	NL
• Sawn	4A, 4B	C2, C16	.60	.60	.31	.61	.60	NL	NL
Studs	3B	C2, C15	.25	.25	.10	.20	.25	.25	.25
<b>DECKING</b>									
Highway Bridge	4B	C2, C14	.60	.60	NL	NL	.60	NL	NL
Above ground	3B	C2, C15	.25	.25	.10	.20	.25	NL	NL
Ground contact	4B	C2, C15	.40	.40	.21	.41	.40	NL	NL
<b>FENCES</b>									
Pickets, slats, trim	3A, 3B	C2, C15	.40	.40	.21	.41	.40	NL	NL
Posts, sawn	4A	C2, C15	.40	.40	.21	NL	.40	NL	NL
Posts, round	4A	C5	.40	.40	.21	NL	.40	.40	NL
<b>HIGHWAY MATERIAL</b>									
Lumber and timbers for bridges, structural members, decking, cribbing, and culverts	4B	C2, C14	.60	.60	NL	NL	.60	NL	NL
• Structural lumber and timbers:									
– In salt water use and subject to marine borer attack	5A, 5B, 5C	C3, C14	NL	2.5	NL	NL	2.5	NL	NL
– Piles, foundation, land and fresh water use	4C	C3, C14	NL	.80 – 1.0	NL	NL	.80	NL	NL
– Piling in salt water use and subject to marine borer attack	5A, 5B, 5C	C3, C14	NL	1.5 – 2.5	NL	NL	1.5 – 2.5	NL	NL
– Posts: Round, half-round, quarter round	4A	C5, C14	.40	.40	NL	NL	.40	NL	NL
– Posts: Sawn	4A	C2, C14	.40	.40	.21	.41	.40	NL	NL
– Handrails and guardrails	3B	C2, C14	.25	.25	.10	.20	.25	NL	NL
Posts, guardrail									
• Round	4A	C2, C14	.50	.50	NL	NL	.50	NL	NL
• Sawn	4A	C2, C14	.50	.50	.31	.41	.50	NL	NL
<b>LUMBER</b>									
Above ground	3B	C2	.25	.25	.10	.20	.25	.25	NL
Ground contact and fresh water use	4A	C2	.40	.40	.21	.41	.40	.40	NL
Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL	NL	NL	NL	.25
<b>MARINE LUMBER &amp; TIMBERS</b>									
Fresh water	4A	C2	.40	.40	.21	NL	.40	NL	NL
In brackish or saltwater use and subject to marine borer attack	5A, 5B, 5C	C2, C18	NL	2.5	NL	NL	2.5	NL	NL
<b>PILES</b>									
Foundation (round)	4C	C3	NL	.80 – 1.0	NL	NL	.80	NL	NL
Land and fresh water use (round)	4C	C3	NL	.80 – 1.0	NL	NL	.80	NL	NL
Marine (round) in salt or brackish and subject to marine borer attack	5A, 5B, 5C	C3, C18	NL	1.5 – 2.5	NL	NL	1.5 – 2.5	NL	NL
Marine, dual treatment (round)	5A, 5B, 5C	C3, C18	NL	1.0	NL	NL	1.0	NL	NL
Sawn timber piles	4B	C24	NL	.60 – .80	NL	NL	.60 – .80	NL	NL
<b>PLYWOOD</b>									
Sub-floor, damp above ground	2	C9	.25	.25	.10	.20	.25	.25	NL
Exterior, above ground	3B	C9	.25	.25	.10	.20	.25	.25	NL
Ground contact and fresh water use	4A	C9	.40	.40	.21	.41	.40	.40	NL
Out of contact with ground and continuously protected from liquid water	2	C31	NL	NL	NL	NL	NL	NL	.25

**FOOTNOTES**

- |                                      |  |   |
|--------------------------------------|--|---|
| (4) Ammoniacal Copper Quat.          | (9) Copper Citrate.  | (12) Not recommended in AWPA Standards. |
| (5) Ammoniacal Copper Zinc Arsenate. | (10) DOT (Disodium Octaborate Tetrathrydrate): a retention of 0.25 pcf DOT is equivalent to 0.17 pcf B <sub>2</sub> O <sub>3</sub> . | (13) Douglas fir only.                  |
| (6) Copper Azole.                    |  |   |
| (7) Copper Boron Azole.              |  |   |
| (8) Chromated Copper Arsenate.       | (11) Not listed in AWPA Standards.   |   |