AWPA Technical Committee P-3
Fall 2024 Standardization Cycle

AWPA Standard P38

24F-P3-P38: Proposal to Reaffirm without Revisions.

Proponent(s): Min Chen

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1616	AWPA P38 PD19R25	**Additional Comment:** Reaffirm without Revisions Attachment(s): *P3_P38 AAC Reaffirmation.pdf*	

AWPA Technical Committee P-3
Fall 2024 Standardization Cycle

AWPA Standard P40

24F-P3-P40: Proposal to Reaffirm without Revisions.

Proponent(s): Min Chen

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1612	AWPA P40 PD19R25	**Additional Comment:** Reaffirm without Revisions Attachment(s): *P3_P40 IPBC Reaffirmation.pdf*	

AWPA Technical Committee P-3
Fall 2024 Standardization Cycle

AWPA Standard P42

24F-P3-P42: Proposal to Reaffirm without Revisions.

Proponent(s): Navnit Upadhyay

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1617	AWPA P42 PD25	**Additional Comment:** Reaffirm without Revisions Attachment(s): *IRG papers 2018-2024 for Propiconazole.pdf*, *Preventol A12 II US EPA Label.pdf*, *Propiconazole regional RA update for P42 proposal reaffiraton.pdf*	

AWPA Technical Committee P-4
Fall 2024 Standardization Cycle

AWPA Standard P24

24F-P4-P24: Proposal to Reaffirm without Revisions.

Proponent(s): Min Chen

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1611	AWPA P24 PD19R25	**Additional Comment:** Reaffirm without Revisions Attachment(s): *P4_P24 AAC-W Reaffirmation.pdf*	

AWPA Technical Committee P-4
Fall 2024 Standardization Cycle

AWPA Standard P32

24F-P4-P32: Proposal to reaffirm P32 with minor revisions.

Proponent(s): Min Chen

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition

1610 — AWPA P32 PD24R25 SECTION STANDARD FOR COPPER AZOLE TYPE B (CA B) [Table Data]

Preservative Code	CA-B	Description of the Preservative	Application Method/Use Pattern	Acceptable Carriers/Diluents
Preservative Name	Copper Azole - Type B	Waterborne preservative, Alkali-based (amine/ammonia)	Vacuum-pressure treatment	Water

Preservative Composition & Physical Chemical Requirements

Composition on a 100% Active Basis	Copper as Cu: 96.1% Azole as Tebuconazole: 3.9%
Purity Criteria – Actives	The treating solution shall contain bivalent copper and tebuconazole derived from materials in excess of 95 percent purity on an anhydrous basis.
Essential Formulants	The copper component shall be dissolved in solutions of ethanolamine and/or ammonia in water. In ethanolamine solutions, the weight of ethanolamine shall be 3.5 ± 0.2 times the weight of copper. In ammonia solutions, the weight of the ammonia shall be at least 1.25 times the weight of copper. Azoles shall be stabilized in the solution with proprietary surfactant(s). To aid in dissolution of copper, carbonate expressed as CO_2 shall be added in at least 0.31 times the weight of copper.

Treating Solution

Tolerances	Work Solution Tolerances on a 100% Active Basis Component Minimum Maximum Copper as Cu: 95.4% 96.8% Azole as Tebuconazole: 3.2% 4.6% The composition of the treating solution in use may deviate outside the limits specified above provided A) The preservative retention in treated material is determined by assay and the retention so determined conforms to the requirements specified in the tables in Section 3 of AWPA Standard T1 B) Immediate action is taken to adjust the composition of the treating solution
Limitations	**pH:** None **Temperature:** None, except as limited under Standard UCS T1

Analytical Methods [Only major analytical methods are listed. Refer to the AWPA BOS for additionally applicable standards]	
Concentrate/Solutions	Cu: AWPA A9, A21 Azole: AWPA A28, A31
Wood	Cu: AWPA A9, A21 Azole: AWPA A31
Committee Recommendations	
Minimum Retentions	Committee P-4 recommended the following minimum retentions: UC1 to UC3B—0.10 pcf (1.7 kg/m^3), UC4A ~~to UC4B~~—0.21 pcf (3.3 kg/m^3), UC4B Posts listed in Commodity Specification B Tables 3.1.1 and 3.1.2—0.25 pcf (4.0 kg/m^3), UC4B to UC4C—0.31 pcf (5.0 kg/m^3), and UC4C Foundation, Land and Fresh Water Piling listed in Commodity Specification E Section 3.0—0.41 pcf (6.6 kg/m^3).
Enforcement	
Historical	Adopted in 2008 (formerly AWPA Standard P5 No. 18 – Included into the BOS 2002)
Reaffirmation	2008, 2013, 2019
Amendments	2010, 2013, 2015, 2024

Attachment(s): *P4_P32 CA-B Reaffirmation.pdf*

AWPA Technical Committee P-4
Fall 2024 Standardization Cycle

AWPA Standard P61

24F-P4-P61: Proposal to revise P61 with minor revisions.

Proponent(s): Doug Herdman

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

<table>
<tr><th>▼ ID</th><th>Item</th><th>Reason</th><th>Proposed Change</th><th>Committee Disposition</th></tr>
<tr><td>1687</td><td>AWPA P61 PD25 SECTION STANDARD FOR MICRONIZED COPPER AZOLE (MCA) [Table Data]</td><td>Proposal to revise Standard P61 to change retention level for P61 (MCA preservative system) for UC4B from 0.31 pcf (5.0 kg/m3) to 0.23 pcf (3.7 kg/m3). A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.</td><td>
<table>
<tr><th>Preservative Code</th><th>MCA</th><th>Assignment</th><th>Description of the Preservative</th><th>Application Method/ Use Pattern</th><th>Acceptable Carriers/Diluents</th></tr>
<tr><td>Preservative Name</td><td>Micronized Copper Azole</td><td>This standard has been assigned to Koppers Performance Chemicals, Inc.</td><td>Waterborne preservative, dispersed particles</td><td>Vacuum-pressure treatment</td><td>Water</td></tr>
<tr><th colspan="6">Preservative Composition & Physical Chemical Requirements</th></tr>
<tr><td colspan="2">Composition on a 100% Active Basis</td><td colspan="4">Copper as Cu: 96.1%
Azoles as Tebuconazole: 3.9%</td></tr>
<tr><td colspan="2">Purity Criteria – Actives</td><td colspan="4">The treating solution should contain basic copper carbonate and tebuconazole derived from materials in excess of 95% purity on anhydrous basis.</td></tr>
</table>
</td><td></td></tr>
</table>

Essential Formulants	The concentrate and the treating solution shall be a micronized dispersion in water. Both shall be stabilized with proprietary surfactant(s)
Particle Size Distribution	Micronized components shall be manufactured with a particle size distribution d95 of less than 1 micron.
Treating Solution	
Tolerances	Work solution tolerances on a 100% Active Basis Component — Minimum — Maximum Copper as Cu: 95.4% 96.8% Azole as Tebuconazole: 3.2% 4.6% The composition of the treating solution may deviate outside the limits specified above provided A) The preservative retention in treated material is determined conforms to the requirements specified in the tables in Section 3 of AWPA Standard T1 B) Immediate action is taken to adjust the composition of the treating solution
Limitations	**pH:** None
	Temperature: None, except as limited under Standard UCS T1
Analytical Methods [Only major analytical methods are listed. Refer to the AWPA BOS for additionally applicable standards]	
Concentrate/ Solutions	Cu: AWPA A9, A21 Azole: AWPA A28, A31
Wood	Cu: AWPA A9, A21 Azole: AWPA A28, A31
Committee Recommendations	
Minimum Retentions	Committee P-4 recommended the following minimum retentions: UC1 to UC3B—0.060 pcf (1.0 kg/m^3), UC4A—0.15 pcf (2.4 kg/m^3), UC4B-0.23 pcf (3.7 kg/m^3), ~~Posts listed in Standard U1 Commodity Spec B. Tables 3.1.1 and 3.1.2—0.25 pcf (4.0 kg/m^3), UC4B to~~ UC4C—0.31 pcf (5.0 kg/m^3), and Round Timber Piling Standard as listed in U1 Commodity Specification E Section 3.0—0.41 pcf (6.6 kg/m^3). Note: Retentions are suitable in areas with Formosan termite activity.

Enforcement	
Historical	Adopted in 2016
Reaffirmation	2022
Amendments	None

Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*

AWPA Technical Committee P-4
Fall 2024 Standardization Cycle

AWPA Standard Pxx(2)

24F-P4-Pxx(2): Proposal to create new P Standard for: Copper-Borax Encapsulated Protectant/Preservative

Proponent(s): Bill Abbott

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change						Committee Disposition
1694	AWPA PXX(2) PD25 SECTION PXX(2) 25 STANDARD FOR NEW COPPER BORAX ENCAPSULATED PROTECTANT/PRESERVATIVE	Preservative Code Preservative Name	CuBE Copper Borax, Encapsulated	Assignment	Description of the Preservative	Application Method/Use Pattern	Acceptable Carriers/Diluents	
				This standard has been assigned to Copper Care Wood Preservatives, Inc.	Diffusible waterborne preservative, polymer film encapsulated	Non-pressure treatment	Water	
		Preservative Composition & Physical Chemical Requirements						
		Composition on a 100% Active Basis	Copper as Cu: 10.9% Boron as B_2O_3: 89.1%					
		Purity Criteria - Actives	The treating solution shall contain copper hydroxide with at least 90.0% purity on an anhydrous basis. The treating solution shall contain sodium tetraborate decahydrate with at least 98.0% purity on an anhydrous basis.					
		Essential Formulants	The copper component shall be dissolved in ethanolamine so that the weight ofethanolamine shall be 2.75 ±0.25 times the weight of copper metal					

Treating Solution							
Tolerances	Work solution tolerances on a 100% Active Basis						
		Min%	Max%				
	Copper as Cu	8.9	12.9				
	Boron as B_2O_3	87.1	91.1				
Limitations	pH: 10-11						
	Temperature: None, except as limited under Standard T1						
Encapsulating Film							
Specifications	The encapsulating film(s) shall be composed of three or more layers of UV and chemical resistant polymer film with a cumulative minimum post-application thickness of 0.030 inches (0.76mm).						
Analytic Methods (only major analytical methods are listed. Refer to the AWPA BoS for additionally applicable standards)							
Concentrate/ Solutions	Cu: AWPA A9, A21 B_2O_3: AWPA A21, A40, A64						
Wood (for information only; retention is determined by gauge)	Cu: AWPA A9, A21, A96 B_2O_3: AWPA A21, A41, A65, A68						
Committee Recommendations							
Minimum Retentions	Committee P-4 recommended the following minimum retentions as determined by gauge (weight of actives per volume of wood): UC3B to UC4C—0.46 pcf (7.4 kg/m^3). Note: Retentions are suitable in areas with Formosan termite activity.						
Enforcement							
Historical	Adopted in 2025						
Reaffirmations	None						
Amendments	None						

Attachment(s): *Copper-Borax-Encapsulated-DataPackage.pdf*

AWPA Technical Committee P-4
Fall 2024 Standardization Cycle

AWPA Standard Pxx

24F-P4-Pxx: Proposal to create new P Standard for: Micronized Copper Azole Penflufen (MCAP)

Proponent(s): Doug Herdman

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

<table>
<tr><th>▼ID</th><th>Item</th><th>Proposal</th><th>Proposed Change</th><th>Committee Disposition</th></tr>
<tr><td>1618</td><td>AWPA PXX PD24 SECTION STANDARD FOR MICRONIZED COPPER AZOLE PENFLUFEN (MCAP)</td><td>Addition of New Standard for Micronized Copper Azole Penflufen</td><td>Standard for Micronized Copper Azole Penflufen (MCAP)

<table>
<tr><td>Preservative Code</td><td>MCAP</td></tr>
<tr><td>Preservative Name</td><td>Micronized Copper Azole Penflufen</td></tr>
<tr><td>Assignment</td><td>Koppers Performance Chemicals, Inc</td></tr>
<tr><td>Description of the preservative</td><td>Waterborne preservative, dispersed particles</td></tr>
<tr><td>Application Method/Use Pattern</td><td>Vacuum-pressure treatment</td></tr>
<tr><td>Acceptable Carriers/Diluents</td><td>Water</td></tr>
<tr><td>Preservative composition & Physical and</td><td></td></tr>
</table>
</td><td></td></tr>
</table>

Chemical Requirements · Composition on a 100% Active Basis	Copper as Cu: 95.2% Azole as Tebuconazole: 3.9% Penflufen: 0.9%
· Purity criteria – actives	The treating solution should contain basic copper carbonate, tebuconazole, and penflufen derived from materials in excess of 95% purity on anhydrous basis.
· Essential Formulants	The concentrate and the treating solution shall be a micronized dispersion in water. Both shall be stabilized with proprietary surfactant(s).
· Particle Size Distribution	Micronized components shall be manufactured with a particle size distribution d95 of less than 1 micron.
Acceptable Carriers/diluents	Water
Treating Solution · Tolerances	Work solution tolerances on a 100% active basis: Component Minimum Maximum Copper as Cu 94.5% 95.9% Azoles as Tebuconazole 3.5% 4.3% Penflufen 0.8% 1.0%
· Limitations	The composition of the treating solution may deviate outside the limits specified above provided.

	(a) The preservative retention in treated material is determined conforms to the requirements specified in the tables in Section 3 of AWPA Standard T1 (b) Immediate action is taken to adjust the composition of the treating solution
pH	None
Temperature	None, except as limited under Standard UCS T1
Analytical Methods [Only major analytical methods are listed. Refer to the AWPA BOS for additionally applicable standards]	Concentrate/Solutions: Cu: AWPA A9, A21 Azole: AWPA A28, A31 Penflufen: AWPA AXX-24 submitted to P-5 Wood: Cu: AWPA A9, A21 Azole: AWPA A28, A31 Penflufen: AWPA A31
Committee Recommendations	
Minimum Retentions	Committee P-4 recommended the following minimum retentions: UC1 to UC3A-0.060 pcf (1.0kg/m^3), UC3B-0.080 pcf (1.3 kg/m^3), UC4A-0.15 pcf (2.4 kg/m^3), UC4B-0.23 pcf (3.7 kg/m^3), UC4C-0.31 pcf (5.0 kg/m^3). Note: Retentions are suitable in areas with Formosan termite activity.
Historical	Adopted in 2024
Reaffirmation	None

			Amendments	None	
			Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*		

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A4

24F-P5-A4: Proposal to Reaffirm A4 without Revisions.

Proponent(s): Joe Pennock

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

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▼ID	Item	Proposed Change	Committee Disposition
1641	AWPA A4 PD19R25	**Additional Comment:** Reaffirm without Revisions	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A12

24F-P5-A51: Proposal to Revise with extensive Revisions.

Proponent(s): Jeffrey Morrell

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

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Submitted Proposal(s)

ID	▲Item	Reason	Proposed Change	Committee Disposition
1596	AWPA A12 PD19R25 SECTION SCOPE: PARA 1	Edits for clarity	Most of the analytical methods used for determining biocide retentions in treated wood are carried out on a mass/mass ~~weight/weight~~ basis. These retentions are then converted to a mass~~weight~~/volume basis using average wood density values. This standard gives the average values for wood densities of the wood species or species groupings in AWPA Standard U1 for use in biocide retention calculations for all applicable AWPA "A" Standards. More accurate sample retentions can be obtained by using the specific gravity of the untreated wood. When this option is used, the specific gravities should be determined in accordance with ASTM Standard D2395.	
1598	AWPA A12 PD19R25 SECTION SCOPE: [Table Data]	There were a number of species listed in the T1 Standard without corresponding densities in this standard. The proposal adds these based upon either the wood handbook or available references. It also clarifies that the densities for solid timber are based upon oven dry mass and green volume Attachment: AWPA A12 20 June 2024.docx	**Species Group** / **Common Name** / **Latin Name** / **Density** / **Reference** ~~**Softwood Species or Species Grouping**~~ **Solid Wood**[a] / **kg/m³** / **(pcf)** / ~~**Reference**~~ Cedar: Alaska Yellow — Chamaecyparis nootkatensis — 420 — (26) — 1 Western Red — Thuja plicata — 310 — (19) — 1 Northern White — Thuja occidentalis — 290 — 23 — 1 Incense — Libocedrus decurrens — 350 — 24 True Fir: Balsam — Abies balsamea — 330 — (21) — 1 Subalpine — Abies lasiocarpa — 310 — (19) — 1	

			Douglas-fir:	Coastal or Interior	Pseudotsuga menziesii	450	~~(~~28~~)~~	1	
			Hemlock:	Western	Tsuga heterophylla	420	~~(~~26~~)~~	1	
				Eastern	Tsuga heterophylla	380	~~(~~24~~)~~	1	
				Mountain	Tsuga mertensiana	420	~~(~~26~~)~~	1	
			Hem-fir		Tsuga heterophylla, Abies amabilis, A. grandis, A. concolor, A. magnifica, A. procera,	380	~~(~~24~~)~~	2	
			Larch:	Western	Larix occidentalis	480	~~(~~30~~)~~	1	
			Pine:	Caribbean	Pinus caribaea	475	30		
			~~Pine:~~	Eastern White	Pinus strobus	340	~~(~~21~~)~~	1	
				Honduran	Pinus oocarpa	410	26		
				Jack	Pinus banksiana	400	~~(~~25~~)~~	1	
				Lodgepole	Pinus contorta	380	~~(~~24~~)~~	1	
				Patula	Pinus patula	410	~~(~~25~~)~~	~~8~~3	
				Ponderosa	Pinus ponderosa	380	~~(~~24~~)~~	1	
				Radiata	Pinus radiata	420	~~(~~26~~)~~	3	
				Red	Pinus resinosa	410	~~(~~26~~)~~	1	
				Scots (Germany)	Pinus sylvestris	480	~~(~~30~~)~~	~~8~~3	
				Scots (Sweden)	Pinus sylvestris	420	~~(~~26~~)~~	~~8~~3	
				Southern	P. echinata, P. elliottii, P palustris, P. taeda	500	~~(~~32~~)~~	4	
				Spruce	Pinus glabra	410	~~(~~26~~)~~	1	

				Sugar	Pinus lambertiana	340	~~(~~21~~)~~	1
				Western White	Pinus monticola	360	~~(~~22~~)~~	1
			Redwood~~:~~ ~~(young growth)~~	Coastal Redwood (2nd Growth)	Sequoia sempervirens	340	~~(~~21~~)~~	1
			Spruce:	Spruce-pine-fir west	P. engelmanni, Picea mariana, P.glauca, Pinus contorta, Abies amabilis	350	~~(~~22~~)~~	5
				White spruce	Picea glauca	370	~~(~~23~~)~~	1
				Engelmann spruce	Picea engelmannii	330	~~(~~21~~)~~	1
				Colorado Blue spruce	Picea pungens	500	31	
				Sitka spruce	Picea sitchensis	330	~~(~~21~~)~~	1
				Red spruce	Picea rubra	450	28	
						Density		
			Hardwood Species or Species Grouping			**kg/m^3**	**~~(~~pcf~~)~~**	**Reference**
			Gum:	~~Sweet, b~~Black, tupelo	Nyssa sylvatica	465	~~(~~29~~)~~	1
				Sweet	Liquidambar styraciflua	460	29	1
			Oak:	Red	Quercus rubra	560	~~(~~35~~)~~	1
				White	Quercus alba	~~595~~600	~~(~~377~~)~~	1
			Maple:	Red	Acer rubrum	490	31	1
				Sugar	Acer saccharum	560	35	1
			Mixed Hardwoods:	Mixed Hardwoods		500	~~(~~31~~)~~	1

				Hickory:	Hickory	Carya spp.	640	35	1
				Aspen:	Quaking	Populus tremuloides	370	40	1
					Cottonwood	Populus trichocarpa	350	22	1
				Wood-Based Composites					
				Plywood:	Douglas-fir	Pseudotsuga menziesii	530	33	6
					Southern Pine	P. echinata, P. elliottii, P palustris, P. taeda	530	33	6
				Parallel Strand lumber (waterborne treatment)[a]	Douglas-fir	Pseudotsuga menziesii	600	37.5	7
					Southern Pine	P. echinata, P. elliottii, P palustris, P. taeda	625	39	7
				Parallel Strand Lumber (oilborne carrier)[b]	Southern Pine	P. echinata, P. elliottii, P palustris, P. taeda	690	43	7
					Douglas-fir	Pseudotsuga menziesii	635	39.5	8
					Yellow Poplar	Liriodendron tulipifera	615	38.5	7
				Laminated veneer lumber[b]	Southern Pine	P. echinata, P. elliottii, P palustris, P. taeda	660	42	8

			Red Maple Acer rubrum 620 39 8 Yellow Poplar Liriodendron tulipifera 570 36 8	
1599	AWPA A12 PD19R25 SECTION SCOPE: PARA 1 PARA 3	Explanations for table information	[a]Values are based upon oven dry mass and green volume. English units have been rounded to nearest whole number. Where green volume cannot be used, consult the USDA Wood Handbook, Chapter 4, Table 4-7. [b]Values based upon oven dry mass and volume.	
1600	AWPA A12 PD19R25 SECTION SCOPE: PARA 1 PARA 3	Not needed	~~**Precision Statement:** This standard is instructional in nature. Precision of the analytical result is determined by the final analytical test methodology employed.~~	
1601	AWPA A12 PD19R25 SECTION REFERENCES: PARA 1	Updating references	**1. U.S.D.A. (Robert Ross, Editor) 2021. Wood Handbook: wood as an engineering material. USDA Forest Service General Technical Report 113. Forest Products Laboratory, Madison, WI.** ~~Forest Products Society 1999, Wood Handbook: Wood as an Engineering Material, Table 4-3a Strength properties of some commercially important woods grown in the United States (OD wt./ green vol. basis) Reprinted from Forest Products Laboratory General Technical Report FPL-GTR-113~~	
1602	AWPA A12 PD19R25 SECTION REFERENCES: PARA 2	Updating reference	**2.** Based on the average specific gravity of ~~California Red fir, Grand fir, Noble fir, Pacific Silver fir, White fir, and Western hemlock~~of the species in the group.	
1603	AWPA A12 PD19R25 SECTION REFERENCES: PARA 3	Updated reference	**3.** ~~Forest Products Society 1999, Wood Handbook: Wood as an Engineering Material, Table 4-5a Mechanical properties of some woods imported into the United States other than Canadian imports (OD wt./ green vol. basis) Reprinted from Forest Products Laboratory General Technical Report FPL-GTR-113~~ Adopted by Technical Committee P5 in 2006.	
1604	AWPA A12 PD19R25 SECTION REFERENCES: PARA 7	Updating references	**7.** Adopted by Technical Committee ~~T-8 in 2003. (AWPA Proceedings, v. 89, p. 268)~~ P5 in 2009.	
1605	AWPA A12 PD19R25 SECTION REFERENCES: PARA 8	Updating references	**8.** Adopted by Technical Committee ~~P-5 in 2006~~ T-8 in 2003 (AWPA Proceedings 89:268).	
1606	AWPA A12 PD19R25 SECTION REFERENCES: PARA 9	Updating references	~~9. Adopted by Technical Committee P-5 in 2009~~	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A15

24F-P5-A15: Proposal to revise A15 with editorial changes to table data

Proponent(s): Min Chen

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition

1609 AWPA A15 PD19R25
SECTION SCOPE: PARA 1
[Table Data]

Preservative System	Standard	Wood		Solution
		Assay	Penetration	
Creosote (CR)	P1/P13	A6*(P)*	Visual	A52 *(P)*; A53 *(P)*; A55 *(P)*; A57*(P)*
Creosote Solutions (CR-S)	P2	A6*(P)*	Visual	A52 *(P)*; A53 *(P)*; A55 *(P)*; A57*(P)*
Creosote Petroleum (CR-PS)	P3	A6*(P)*	Visual	A22
Ammoniacal Copper Zinc Arsenate (ACZA)	P22	A9*(P)*; A21*(P, ~~exp Zn~~)*	A69	A9*(P)*; A21*(P, ~~exp Zn~~)*
Chromated Copper Arsenate (CCA-C)	P23	A9*(P)*; A21*(P)*	A69	A9*(P)*; A21*(P)*
Inorganic Boron (SBX)	P25	A40*(P)*	A68	A40*(P)*
Alkaline / Ammoniacal Copper Quat (ACQ)	P26; P27; P28; P29	A21*(P)*; A18*(P)*	A69	A21*(P)*; A17*(P)*
Copper Azole (CA-B, CA-C)	P32; P48	A21*(P)*; A31*(P)*	A69	A21*(P)*; A31*(P)*
Pentachlorophenol (PCP)	P35	A9*(P)*; A83*(P)*	A70	A9*(P)*; A83*(P)*
DCOI	P39	A30 *(P)*	A71	A30 *(P)*
Copper Naphthenate, Oilborne (CuN)	P36	A21*(P)*; A41	A69	A21*(P)*; A41
Copper Naphthenate, Waterborne (CuN-W)	P34	A21*(P)*; A41	A69	A21*(P)*; A41
Copper-8-Quinolinolate (oxine copper, Cu8)	P37	A21*(P)*	A76	A21*(P)*
3-Iodo-2-propynyl butyl carbamate (IPBC-SB-1)	P52	A91*(P)*		A90*(P)*
Zinc Borate (ZB)	P51	A21*(P)*		A21*(P)*

		IPBC / PPZ / TEB / SB-1	P53	A31*(P)*; A91*(P)*		A90*(P)*; A31*(P)*	
		Propiconazole Tebuconazole Imidacloprid (PTI)	P45	A31*(P)*; A43*(P)*		A31*(P)*; A43*(P)*	
		DCOI / Imidacloprid / Stabilizer (EL2)	P47	A30*(P)*; A43*(P)*		A30*(P)*; A43*(P)*	
		FR-1	P49	A26*(P)*	A73	A26*(P)*	
		FR-2	P50	A59; A21*(P)*	A73	A59; A21*(P)*	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A19

24F-P5-A19: Proposal to Revise A19 with Minor Changes

Proponent(s): Nelson Wanggui, Joe Pennock

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

<table>
<tr><th>▲ID</th><th>Item</th><th>Proposed Change</th><th>Committee Disposition</th></tr>
<tr><td>1640</td><td>AWPA A19
PD19R25
SECTION 3.1.1
[Table Data]</td><td>
<table>
<tr><th>METHOD(S)</th><th>SAMPLE SIZE</th></tr>
<tr><td>Standard Methods A79,
A80, A81, A82, A83, ~~A84~~, A85, A86, A87, A88, ~~A89~~, A90</td><td>Size limited by grinding mill and/or extraction capacity</td></tr>
<tr><td>Neutron Activation Analysis (AWPA Standard A91)</td><td>Size limited to reactor geometry and vial size, usually waters are V x 0.5" x 0.125"</td></tr>
<tr><td>X-Ray Fluorescence (XRF) (AWPA Standard A9)</td><td>Sample size based on XRF instrument manufacturer's recommendation</td></tr>
</table>
</td><td></td></tr>
<tr><td>1642</td><td>AWPA A19
PD19R25
SECTION 3.1.1
[Table Data]</td><td>
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<tr><th>METHOD(S)</th><th>SAMPLE SIZE</th></tr>
<tr><td>Standard Methods A79,
A80, A81, A82, A83,
A84, A85, A86, A87,
A88, A89, A90</td><td>Size limited by grinding mill and/or extraction capacity</td></tr>
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</table>
</td><td></td></tr>
</table>

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A30

24F-P5-A30: Proposal to Revise A30 with Updated Data

Proponent(s): Ryan Sturdivant

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1643	AWPA A30 PD25 SECTION 7.2	**7.2** Refrigerate all dilute DCOI standards when not in use. Dilute standards are stable for ~~four weeks~~ up to six months at 24~~-7~~°C. Tightly sealing glass bottles with PTFE seals are recommended, but other containers can be evaluated for use. Attachment(s): *A30 shelf-life extension data 07-2024.pdf*	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A31

24F-P5-A31: Proposal to Revise A31 with Extensive Changes

Proponent(s): Kim Merritt

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▲ID	Item	Proposal	Proposed Change	Committee Disposition
1644	AWPA A31 PD25 SECTION STANDARD METHODS FOR THE ANALYSIS OF SOLUTIONS AND WOOD FOR AZOLES BY GAS CHROMATOGRAPHY (GC)	Extensive revisions to A31 were needed to update equipment references, add hydrogen as a preferred option for carrier gas, and add penflufen as an additional analyte. Many of the analytical equipment references were outdated and are no longer available commercially. Equipment is now revised to provide specifications only without reference to supplier. The addition of hydrogen as a carrier gas is needed due to the emerging helium shortage. The primary advantages of utilizing hydrogen (H2) instead of helium are enhanced speed and reduced costs. (see additional technical data attached) There are major benefits of using Hydrogen as the carrier gas: • Increased speed: increasing the linear flow rate allows for shorter run times, thereby increasing the throughput of the	~~Standard Methods for the Analysis of Solutions and Wood for Azoles by Gas Chromatography (GC)~~ Standard Methods for the Analysis of Azoles in Solutions and Azoles and Penflufen in Wood by Gas Chromatography (GC) Attachment(s): *A31 Revision - H2 as Carrier Gas Data Review.pdf*	

		laboratory. • Lower temperature separations: at the faster elution times, it may not be necessary to increase the column temperature run rate. It may even be possible to lower the maximum temperature needed for the analysis. • Longer column life: lower temperatures lead to less column bleed, which in turn can mean a longer column life. In addition, hydrogen is a reducing gas and can remove potential acidic sites off the column, further increasing column life! • Availability: Hydrogen is readily available through the electrolysis of water and with a Peak Gas Generator it can be generated on demand. • Hydrogen gas is already being used in the laboratory for a variety of purposes: It is the fuel gas for the most commonly used detectors (FID) and therefore already present in most GC Labs. The revisions also provide a quantitative method for the analysis of penflufen (2'-[(RS)-1,3-Dimethylbutyl]-5-fluoro-1,3-dimethylpyrazole-4-carboxanilide, or 5-fluoro-1,3-dimethyl-N-[2-(4-methylpentan-2-yl)phenyl]-1H-pyrazole-4-carboxamide in treated wood using the same extraction and chromatographic conditions as azoles.		
1645	AWPA A31 PD25 SECTION 1.0 PARA 1	See justification in title revision above.	~~This method provides a gas chromatography (GC) analysis of azoles in aqueous solutions and in wood. The azoles included in this method consist of propiconazole and tebuconazole in organic and inorganic based preservatives such as Copper Azole (CA) Type A (CBA-A), Type B (CA-B), and Type C (CA-C).~~ This standard provides a quantitative gas chromatography (GC) analysis method for azoles in aqueous solutions and for the analysis of azoles and penflufen in treated wood. The azoles included in this method consist of propiconazole and tebuconazole in organic and inorganic-based preservative systems such as Copper Azole. The penflufen included in this method may also be used as a co-biocide in treated wood preservative systems.	
1646	AWPA A31 PD25 SECTION 2.1	See justification in title revision above.	**2.1** Aqueous solutions of propiconazole and tebuconazole are diluted with methanol and determined by GC using azaconazole as an internal standard. For copper azole ~~CA~~, separation of the azole(s) from the inorganic portions of the preservative is recommended prior to GC analysis. One method is to use a C-18 extraction column, which binds the azole(s) but allows the aqueous, inorganic materials to pass through. Azole(s) are removed from the column using an organic solvent, acetonitrile. An alternative method is to use an amino extraction column to remove the copper from a diluted solution.	

1647	AWPA A31 PD25 SECTION 2.2	See justification in title revision above.	**2.2** ~~For extraction of propiconazole or tebuconazole from treated wood, two procedures may be used. One requires a refluxing methanol extraction procedure (Procedure 8.2.1), while the second uses an ultrasonic bath to extract the azole from wood (Procedure 8.2.2).~~ Azoles are extracted from wood using one of two extraction methods. One requires a refluxing methanol extraction procedure (Procedure 8.2.1), while the second utilizes an ultrasonic bath to extract the azole from wood (Procedure 8.2.2). Penflufen may also be extracted from treated wood using the ultrasonic bath procedure (Procedure 8.2.2). The extracts are followed by a filtration and the amount of azoles or penflufen is determined using Gas Chromatography (GC) with Nitrogen/Phosphorous detection (NPD).	
1648	AWPA A31 PD25 SECTION 3.0 PARA 1	See justification in title revision above.	Interference is minimized using this methodology. For the aqueous solutions of copper azole ~~CA~~, the inorganic portion of the preservative system is separated from the azole(s) by a solid phase extraction operation. For analysis of wood samples, wood extractives frequently interfere with many other methodologies; however, this method uses a Thermionic Specific Detector (NPD~~TSD~~) so that interferences are minimized.	
1649	AWPA A31 PD25 SECTION 4.0 PARA 1	See justification in title revision above.	Methanol is used extensively in this procedure. Methanol is highly flammable and toxic by inhalation. ~~Appropriate safe laboratory practices should be observed at all times. Personnel involved must have sufficient training and experience in the analytical laboratory.~~The SDS should be reviewed, and the use of appropriate personal protective equipment and good laboratory practices should always be observed.	
1650	AWPA A31 PD25 SECTION 5.0 PARA 1	See justification in title revision above.	~~The standard laboratory volumetric equipment, 10x100 mm test tubes or 16x100 mm test tubes with caps, an analytical balance, an oven, and a gas chromatograph (temperature programmable fitted with capillary split/splitless injector and thermionic - nitrogen/phosphorus – detector, with data acquisition/sampling software) are required. For the specific samples, the following apparatus is recommended:~~The standard laboratory volumetric equipment, 10x100 mm test tubes or 16x100 mm test tubes with caps, an analytical balance, an oven, a grinding mill, and a gas chromatograph (temperature programmable fitted with capillary split/splitless injector and thermionic nitrogen phosphorus detector, with data acquisition/sampling software) are required. For the specific samples, the following apparatus is recommended:	
1651	AWPA A31 PD25 SECTION 5.1	See justification in title revision above.	**5.1** ~~For the extraction of azole(s) from aqueous solutions of CA, the following is recommended: Procedure 8.1.1) solid phase extraction column (J.T. Baker 7020-13 Octadecyl), 10 cc plastic syringes, Tygon tubing 3/8", 12 position vacuum manifold (Baxter 9400) and a vacuum pump or water aspirator; Procedure 8.2.2) solid phase extraction column (J.T. Baker 7088-03 Amino), single sample SPE processor (Supelco 57080-U).~~For the extraction of azole(s) from aqueous solutions of copper based preservative systems, the following is recommended: Procedure 8.1.1) C18 solid phase extraction column with 500mg sorbent and 10 cc PP/PE syringes. Procedure 8.1.2) amino solid phase extraction column with 500mg sorbent and 10cc PP/PE syringes. For both methods, a vacuum manifold or single sample processor may be used for efficiency.	
1652	AWPA A31 PD25 SECTION 5.2	See justification in title revision above.	**5.2** ~~To extract propiconazole or tebuconazole from wood meal or sawdust, the following equipment is recommended: Procedure 8.2.1) round or flat bottom flasks and condensers (fitted with ground glass joints, e.g. 24/40), heating mantles, powerstats and glass beads or boil easers; Procedure 8.2.2) an ultrasonic bath capable of maintaining a temperature of 55°C, 0.45 µm filters disks and 10 cc syringes.~~To extract propiconazole or tebuconazole from wood meal or sawdust, the following equipment is recommended: Procedure 8.2.1) round or flat bottom flasks and condensers (fitted with ground glass joints, e.g. 24/40), heating mantles, and glass beads or boil easers. To extract propiconazole, tebuconazole or Penflufen from wood meal or sawdust the following equipment is recommended: Procedure 8.2.2) an ultrasonic bath capable of maintaining a temperature of 55°C, 0.45 µm PVDF syringe filters and 10 cc PP/PE syringes.	
1653	AWPA A31 PD25 SECTION 6.0 PARA 1	See justification in title revision above.	~~Propiconazole, tebuconazole and azaconazole standards are required for analysis of both solutions and treated wood samples.~~ Propiconazole, tebuconazole, azaconazole, and penflufen standards are required for analysis.	
1654	AWPA A31 PD25 SECTION 6.2	See justification in title revision above.	**6.2** For wood samples, HPLC grade methanol is required. 6.3 Propiconazole, with Certificate of Analysis, PESTANAL®, or equivalent 6.4 Tebuconazole, with Certificate of Analysis, PESTANAL®, or equivalent 6.5 Azaconazole, with Certificate of Analysis, PESTANAL®, or equivalent 6.6 Penflufen, with Certificate of Analysis, PESTANAL®, or equivalent	

1655	AWPA A31 PD25 SECTION 8.1	See justification in title revision above.	**8.1 Solution samples.** For solutions of tebuconazole or propiconazole, weigh an amount of sample into a volumetric flask such that about 120 mg/L of either propiconazole or tebuconazole is contained in the final volume. Dilute to the mark with HPLC grade methanol. Add a 1000 ppm azaconazole internal standard at the rate of 20 µL/mL of solution. If copper azole ~~CA~~ solutions are to be analyzed, then azole analysis can be performed using either of the following methods.	
1656	AWPA A31 PD25 SECTION 8.1.1	See justification in title revision above.	**8.1.1 Solid phase extraction of azole(s).** Activate column active sites by measuring 10 ml of HPLC grade methanol into a syringe and dispensing the solvent onto the column bed. Allow the solvent to go to waste. Once the column has been activated, it must not be allowed to dry out at any stage prior to adsorption of the analyte. Therefore, stop the flow of liquid once the liquid meniscus reaches the top of the column bed. Rinse the methanol from column with two 10 ml aliquots of deionized water or HPLC grade water. Pass a weighed amount of copper azole ~~CA~~ containing solution slowly through the column. Rinse the column three times with 10 ml of deionized or HPLC grade water to remove any water-soluble interferents (copper or boric acid) and discard. Slowly extract the analyte from the column with a known volume of acetonitrile, typically 10 ml, and collect the eluent in a test tube or vial. A 1000 ppm azaconazole internal standard should be added to the eluent at the rate of 20 µL/mL of solution.	
1657	AWPA A31 PD25 SECTION 8.1.2	See justification in title revision above.	**8.1.2 Dilution and extraction of copper.** Weigh an amount of copper azole ~~CA~~ solution into a volumetric flask. Dilute to volume with HPLC grade methanol such that the final volume is within the range of the GC calibration standards. Add a 1000 ppm azaconazole internal standard to the solution at the rate of 20 µL/mL. Cap the flask and invert several times to thoroughly mix the solution. Fill the amino SPE column with the methanol solution and insert the single sample processor. Depress the plunger and dispense the eluent into an autosampler vial or other container.	
1658	AWPA A31 PD25 SECTION 8.2.2	See justification in title revision above.	**8.2.2 Extraction by ultrasonic bath[1].** Obtain a tare weight on a test tube and cap. Weigh approximately 0.50 g of sample to the nearest 0.1 mg and quantitatively transfer to the test tube. Add 10 mL of HPLC grade methanol to the test tube and cap. Place the test tube in an ultrasonic bath that has been preheated to 55°C and sonicate for 3 hours. Remove the sample at 30 minute intervals and shake gently ~~vigorously~~. It may be necessary to carefully vent the cap to remove any pressure build-up within the test tube. After 3 hours, remove the sample and dry the test tube with a lint-free cloth. Allow it to cool and then reweigh the contents. The final weight of methanol can then be determined by subtracting the weight of the test tube, cap and sample. Remove any wood particulate from the extract using a 0.45 µm PVDF filter disk and 10 cc PP/PE syringe. Prior to GC analysis, a 1000 ppm azaconazole standard should be added to the extract at the rate of 20 µL/mL.	
1659	AWPA A31 PD25 SECTION 9.1	See justification in title revision above.	**9.1 ~~Calibration standards.~~** ~~Standards for instrument calibration should be prepared using tebuconazole and propiconazole of known purity. Prepare a 1000 ppm stock solution of each. Using A grade pipets and volumetric flasks, prepare standard solutions of tebuconazole and propiconazole from the 1000 ppm stock solution to give the appropriate concentration ranges. Typical standard concentrations are 25, 50, 100, 150 and 200 ppm azole.~~ Calibration Stock Solutions. Standards for instrument calibration should be prepared using azaconazole, tebuconazole, propiconazole or penfluflen of known purity. Prepare a 1000 ppm stock solution of each. Using Class A pipets and volumetric flasks, prepare standard solutions of azaconazole, tebuconazole, propiconazole or penflufen from the 1000 ppm stock solution to give the appropriate concentration ranges.	
1660	AWPA A31 PD25 SECTION 9.1.1	See justification in title revision above.	**9.1.1 Standard Solutions.** Typical standard concentrations are 12.5, 25, 50, 150, and 200 ppm azole.	
1661	AWPA A31 PD25 SECTION 9.1.2	See justification in title revision above.	**9.1.2 ~~Wood.~~** ~~Typical standard concentrations are 1.25, 2.5, 5, 10, and 25 ppm azole.~~ Standard Wood Solutions. Typical azole standard concentrations are 1.25, 2.5, 5, 10, and 25 ppm azole. Typical Penflufen standard concentrations are 0.5, 1, 2.5, 5, 10 and 20 ppm.	
1662	AWPA A31 PD25 SECTION 10.0 [Table Data]	See justification in title revision above.	Injector: ~~Split/Splitless @ 250°C, using silanized glass insert with silanized quartz wool and low bleed silicone septa. 1 µL splitless injection. Vent valve open @ 1 minute.~~ Split/Splitless @ 250°C, using a 4mm ID Deactivated (silanized) glass inlet liner packed with quartz wool and low bleed silicone septa. 1 µL splitless injection. Vent valve open @ 1 minute. Detector: ~~Thermionic: Nitrogen/Phosphorus (NPD) @ 280°C.~~ Thermionic: Nitrogen Phosphorus D	

					Detector gas settings: Air Dry Ultra Zero @ 100mls/min Hydrogen U.H.P @ 2mls/min	
				Column	~~SGE BPX 35, 25 m, 0.32 mm ID, 0.25 µm film, fitted with a 500 mm section of deactivated silica tubing as a retention gap.~~ 35% diphenyl / 65% dimethyl polysiloxane capillary column, 30m, 0.32mm ID, 0.25 mm film, or equivalent	
				Carrier Gas	~~Helium U.H.P @ 14.8 psig (program start conditions).~~ ~~Split Flow @ 50 ml/min.~~ Helium U.H.P. @ 1 ml/min of constar Split Flow @ 50 ml/min. Or Hydrogen U.H.P. @ 3 ml/min of cons Split Flow @ 30 ml/min.	
				Oven	Initial temperature @ 100°C Hold for 1 minute. 15°C/min to 260°C. Hold for 5 minutes. Oven ramp may be adjusted for baseline and peak optimization.	
				~~Integrator Software~~ Chromatography Data System (CDS)	~~Integrator or data acquisition system capable of performing internal standard type calibration and quantitative analysis.~~ A chromatography data system (CDS) is a typical laboratory informatics solution that facilitates chromatography-based analysis. It controls data from chromatography instruments, records and processes, and generates chromatograms and reports.	
1682	AWPA A31 PD25 SECTION 11.0 PARA 1	See justification in title revision above.	Inject the reference and sample solutions and calculate the peak areas. In case of peak splitting (propiconazole is a mixture of diastereomers) use peak grouping, mode for the integrator or add peaks areas. ~~To obtain the calibration curve, perform a linear regression on the ratio of As/Ais versus concentration of tebuconazole or propiconazole (Cs).~~ To obtain the calibration curve, perform a linear regression on the ratio of As/Ais versus concentration of tebuconazole, propiconazole or penflufen (Cs). This will give you a formula in the following form:			
1683	AWPA A31 PD25 SECTION 11.0 PARA 1	See justification in title revision above.	*As = area of sample peak* *Ais = area of internal standard peak* *Cs = ~~tebuconazole or propiconazole concentration (mg/L)~~tebuconazole, propiconazole, or penflufen concentration (mg/L)* *m = slope*			

	[Table Data]		*b = intercept*	
1684	AWPA A31 PD25 SECTION 12.2	See justification in title revision above.	**12.2 Wood Samples.** The azole or penflufen concentration (Cs) is determined using Equation 2 above. The concentration of the azole in the treated wood sample is calculated using Equations 5 and 6. If Procedure 8.2.2 was used, then the weight of methanol must be divided by its density, 0.7924 g/mL, to obtain the final volume of methanol.	
1685	AWPA A31 PD25 SECTION 14.0 PARA 2	See justification in title revision above.	Sample Chromatograms and Regressions Figure 1 – Sample chromatogram of propiconazole and tebuconazole in wood using hydrogen carrier Figure 2 – Sample linear regression analysis curve for peak area ratio versus concentration of propiconazole using hydrogen carrier Figure 3 – Sample chromatogram of penflufen in wood Figure 4 – Sample linear regression analysis curve for peak area ratio versus concentration of penflufen Attachment(s): *AWPA KAM Figure 4.png*, *AWPA KAM Figure 3.png*, *AWPA KAM Figure 2.png*, *AWPA KAM Figure 1.png*	
1686	AWPA A31 PD25 SECTION 13.5 [Table Data]	See justification in title revision above.	95% Confidence Limits Analyte in Treated Wood / ppm / Within Lab: Repeatability / Between Labs: Reproducibility Sample 1 — Penflufen Sample 2 — Penflufen Sample 3 — Penflufen Precision data to be submitted after E691 interlaboratory study is complete Precision data to be submitted after E691 interlaboratory study is complete.	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A35

24F-P5-A35: Proposal to revise with changes for clarity and to update definitions

Proponent(s): Jim Brient

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▲ID	Item	Proposed Change	Committee Disposition
1589	AWPA A35 PD19R25 SECTION 2.1	**2.1** This test method uses a commercially viable use concentration of a ready to use (RTU) wood preservative and evaluates its propensity to form a stable emulsion or "cuff" layer, which may interfere with common treatment practices and influence final treated wood commodity performance. A more severe test method is also described and is recommended where steaming and/or boultonization is to take place in the same common cylinder used for conditioning and treating. ~~A~~ 50 mL each of RTU sample and ~~50 mL of~~ distilled water or wood extractive water both, at the specified treating temperature ~~71°C (160°F)~~ are shaken vigorously in a graduated cylinder. The separation of the cuff into distinct water phase, emulsion, and oil phase is measured in mL at 5, 15, and 30-minute intervals.	
1590	AWPA A35 PD19R25 SECTION 3.1	**3.1** Use and follow all recommendations as stated on the U.S. EPA Registered Pesticide Label for pesticide containing products. Follow and use all recommended language on commercial ~~material~~ safety data sheets (~~M~~SDS's) when they are available for the solvents or the treating solution concentrates and ready to use treating solutions. Practice good hygiene guidelines when exposed to common chemical laboratory environments. Heat RTU solutions in a fume hood or well-ventilated area. Be careful of warm or hot solutions. Other hazards may be present.	
1591	AWPA A35 PD19R25 SECTION 4.16	**4.16** Fresh Sapwood shavings of the desired species.	
1592	AWPA A35 PD19R25 SECTION 5.1.1	**5.1.1** In separate beakers, heat the ready to use preservative solution to be evaluated ~~solution~~ and the distilled water to a temperature representative of actual treating conditions ~~160-170°F (65-75°C)~~. The RTU solution is the solution in question, containing the concentration of biocide (from dry chemical or from solution concentrates) in use and the concentration of auxiliary solvent, if any, in use.	
1593	AWPA A35 PD19R25 SECTION 5.1.6 PARA 3	The Emulsion Cuff is the intermediate layer, which is found between the oil (upper) and water (lower) layers after shaking. Note that with creosote (CR, CR-S, and CR-PS) solutions, the water phase will be the upper layer. In recording the separation, note whether the water layer contains oil droplets and whether the oil layer contains water droplets. In both cases these usually adhere to the sides of the cylinder. Also note whether oil and water layers are clear or turbid. Note whether the emulsion of "cuff" layer is tight or loose or lacy at each time interval. This refers to the size of the bubbles in the "cuff." The best results are those in which there is a minimum of "cuff" and a maximum of clean, non-hazy,	

		oil and water separation in the least time. Extreme care should be employed in the treating plant and precautions taken if the amount of emulsion cuff exceeds 10 mL at the end of the 30-minute cycle. Precautions may include, but are not limited to, ceasing to use the RTU in question, contacting alternate material suppliers, etc.	
1594	AWPA A35 PD19R25 SECTION 5.2 PARA 1	For a more severe test procedure and one that will ultimately provide the user with a more beneficial screening mechanism, substitute the distilled~~tap~~ water in the above procedure with a wood substrate/extractives water made by preparing wood test water as follows: Into 1000 mL of distilled~~tap~~ water, disperse 100 grams of freshly prepared wood shavings made by grinding sapwood of the desired wood species into a rough ground particle size (~10 mesh) and boil the wood/ water mixture for 1 hour. Filter the wood shavings from the water and allow to cool. Preserve the water in a glass container sealed from air contamination with a tightly fitting non-metal lid. Wood infused water should be used within 48 hours to prevent contamination or possible fermentation. When testing the RTU solution, use the exact treating solutions strengths that will yield the desired retention under typical operating conditions of the plant using commercially available Rueping or Lowry treating cycles.	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A51

24F-P5-A51: Proposal to Reaffirm without Revisions.

Proponent(s): Nelson Wanggui

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1588	AWPA A51 PD19R25	**Additional Comment:** Reaffirm without Revisions	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A85

24F-P5-A85: Proposal to Revise with additions to Section 5.2

Proponent(s): Nelson Wanggui

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

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▼ID	Item	Proposed Change	Committee Disposition
1608	AWPA A85 PD19R25 SECTION 5.2	**5.2** The co-solvent. 5.3 Petroleum oil 5.4 Pentachlorophenol (PCP)	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A86

24F-P5-A86: Proposal to Reaffirm without Revisions.

Proponent(s): Jim Brient

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1595	AWPA A86 PD19R25	**Additional Comment:** Reaffirm without Revisions	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard A92

24F-P5-A92: Proposal to Reaffirm without Revisions.

Proponent(s): Ryan Sturdivant

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▼ID	Item	Proposed Change	Committee Disposition
1525	AWPA A92-19	Reaffirm without Revisions	

AWPA Technical Committee P-5
Fall 2024 Standardization Cycle

AWPA Standard Axx

24F-P5-Axx: Proposal to create new A Standard for: Standard Method for Determination of Penflufen in Solutions by High Performance Liquid Chromatography (HPLC)

Proponent(s): Nelson Wanggui

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

ID	Item	Proposed Change	Committee Disposition
1633	AWPA AXX PD25 PARA 1	1. Scope: This standard provides quantitative method for analysis of penflufen (2'-[(RS)-1,3-Dimethylbutyl]-5-fluoro-1,3-dimethylpyrazole-4-carboxanilide, or 5-fluoro-1,3-dimethyl-N-[2-(4-methylpentan-2-yl)phenyl]-1H-pyrazole-4-carboxamide in treating solutions by a High Performance Liquid Chromatography (HPLC). 2. Summary of Method: The treating solutions are diluted with methanol and the resulting solutions are filtered with syringe filters. The amount of penflufen is then determined using HPLC with ultraviolet (UV) detection. 3. Interference: Filtration prior to HPLC analysis is employed in this procedure to reduce these interferences. However, filters should be tested to ensure that none of the actives are retained on the filter media. The use of an appropriate quality control program is recommended as well to reduce potential interferences to a minimum. 4. Safety Precautions: Methanol and acetonitrile are required for this procedure. Both liquids and their vapor are flammable and toxic by inhalation and ingestion. The SDS should be reviewed, and the use of appropriate personal protective equipment and good laboratory practices should always be observed. 5. Apparatus: 5.1 Analytical balance capable of weighing to 0.1mg 5.2 High Performance Liquid Chromatography (HPLC) with a UV detector capable of measuring wavelength of 230 nm, column heater, binary gradient elution capability and data acquisition system, Agilent, Shimadzu or equivalent. 5.2.1 HPLC Column Pinnacle™ DB Biphenyl 3 mm, 100 x 4.6mm, Restek cat. No.9409315, or equivalent	

		5.2.2 Trident XG-XF Fitting for 1 cm Guard Cartridge, Restek No. 25026, or equivalent. 5.2.3 Guard Cartridge: Pinnacle DB Biphenyl 3-pack 10 x 4.0 mm, Restek No. 940950210, or equivalent 5.3 Syringe with slip tip, disposable, 3 mL, VWR Cat. No. BD301603 or equivalent, 5.4 PTFE Membrane Filters 0.20 µm, 25 mm diameter (VWR Cat No. 28144-593) or equivalent. 5.5 Standard laboratory equipment, e.g. volumetric flasks, pipets, test tubes with caps, magnetic stirrer, etc. vortexer or equivalent 6. Reagents: 6.1 HPLC grade Water 6.2 HPLC grade Methanol 6.3 HPLC grade Acetonitrile 6.4 HPLC grade formic acid 6.5 Penflufen, with Certificate of Analysis, PESTNAL®, or equivalent 7. Standard Preparation: 7.1 Prepare a 500 ppm (nominal) penflufen stock standard: Weigh approximately 0.050 g (record to the nearest 0.1 mg) of penflufen into a 100 mL volumetric flask. Add 50 mL of methanol and mix until the material is fully dissolved. (NOTE: A sonication bath may be used, if necessary, to aid in the solubilization process.) Dilute to the volume with methanol. Mix well by inversion. Transfer to an amber glass bottle for storage. Calculate and record the exact concentrations of penflufen based on the amount of standard weighed and corrected for purity to the nearest 1ppm. 7.2 Use Grade A volumetric pipets and volumetric flasks to prepare calibration standards by diluting the appropriate volume of stock solution with methanol. The concentration range of the standards should cover the anticipated sample concentration. 7.3 A minimum of three calibration standards should be used for HPLC calibration. Typical concentrations are 1.0 - 50 ppm (recommend 1, 10, 25, and 50 ppm for penflufen). 7.4 Refrigerated storage is recommended. 8. Solution Samples: 8.1 Preparation of Solution Samples: Gently shake or vortex the treating solution, weigh approximately 10.0g (record to the nearest 0.1 mg) of the liquid sample into a 50 ml volumetric flask. Add 30 ml of methanol into the sample. Shake or Vortex for about 1 minutes. Dilute to volume with methanol and mix well. Filter an aliquot of the solution using a 0.20 µm filter disk and syringe assembly prior to the HPLC analysis. 8.2. HPLC Chromatographic Conditions:	

The following chromatographic conditions are recommended. Some deviation from these parameters (e.g. flow rate, temperature, mobile phase composition) may be necessary to adapt the method to available equipment and to avoid interferences.

8.2.1 Column temperature: 40ºC +/- 2ºC

8.2.2 Flow rate: 1.0 ml/min

8.2.3 Injection volume: 15 µL

8.2.4 Wavelengths: 230 nm (penflufen)

8.2.5 Mobile Phases: A: HPLC Grade Water containing 0.1% formic acid, B: HPLC Grade Acetonitrile containing 0.1% formic acid.

8.2.6 Mobile Phase Composition

Gradient	Time (min.)	% A	% B
	0.00	95.0	5.0
	1.00	95.0	5.0
	4.00	50.0	50.0
	8.00	50.0	50.0
	10.00	3.0	97.0
	12.00	3.0	97.0
	12.10	95.0	5.0

8.2.7 Retention times: Under the conditions specified above, the retention times of penflufen should be approximately 8.0 min.

8.2.8 Total Run Time: 15 minutes

8.3. Solution Sample Analysis and Calculations:

8.3.1 Inject a solvent blank (i.e., methanol) followed by the 1, 10, 25 and 50 ppm (nominal) penflufen calibration standards prepared in §7. Examine the resulting chromatograms to ensure that peak responses are being integrated properly by the data acquisition system.

8.3.2 Construct a calibration curve by plotting the peak areas of the calibration standards against the respective concentrations (ppm). The HPLC software is designed to perform linear regression by the method of the least-squares. An acceptable curve should have a correlation coefficient (r) ≥ 0.995.

8.3.3 Analyze the sample prepared in §8.1.

NOTE: It is recommended that a check standard (i.e., one of the calibration standards) and a solvent blank (i.e., methanol) be injected after every four or five sample injections to verify system stability and cleanliness. The check standard injections should quantify to a value within ±15% of its specified concentration while solvent blank injections should be free of the analytes.

8.3.4 Determine penflufen concentrations in the samples using the equations shown in §8.4, "Calculations."

8.4 Calculations:

8.4.1 Use the calibration curve constructed in § 8.3.2 to quantify penflufen (analyte) concentrations of the solution samples prepared in § 8.1 by means of the following equation:

$$C = \frac{y - b}{m}$$

where:

C = concentration of analyte in the sample dilution in ppm

y = Peak area of analyte in the sample dilution

b = y-intercept of the calibration curve

m = slope of the calibration curve

8.4.2 Calculate the concentration of penflufen in the original liquid samples using the following equation:

$$\text{ppm Analyte} = \frac{C \times V}{W}$$

% w/w = ppm /10000

where:

C = concentration of the analyte in the sample dilution in ppm (from §8.4.1)

V = Final volume of sample solution in mL (from § 8.1)

W = Weight of liquid sample in g used for analysis (from § 8.1)

9. Precision Statement:

9.1 The following statement and tables should be used to evaluate the acceptability of an analysis using this method. The precision data will be developed following the guidelines in ASTM E691-18

9.2 Repeatability: Duplicate determinations by the same analyst using the same equipment should not be suspect at the 95% confidence level if the averages of the duplicate do not differ from another by equal to or less than the limits shown in the following table.

9.3 Reproducibility: Duplicate determination on the same sample by analysts in different laboratories should not be suspect at the 95% confidence level if they do not differ from one another by equal to or less than the limits shown in the following table.

Precision Table:

			95% Confidence Limits	
#	Analyst in Treating Solution	ppm	Within Lab: Repeatability	Between Labs: Reproducibility
Sample 1	Penflufen	10		
Sample 2	Penflufen	30		
Sample 3	Penflufen	50		

The above precision statements will base on an interlaboratory study using 6 laboratories, 3 level materials and 3 test results over three different days.

Figure 1. HPLC Chromotogram of Solvent Bank

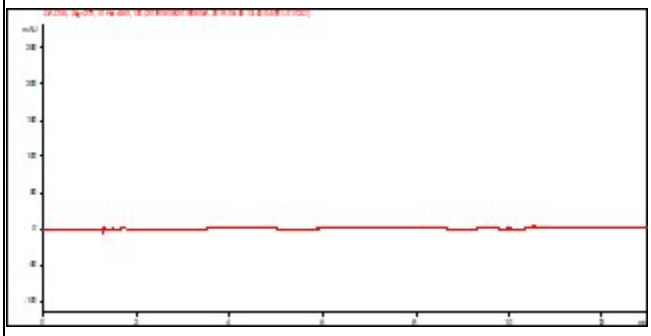


Figure 2. HPLC Chromotogram of Penflufen in Micronized Copper Treating Solution

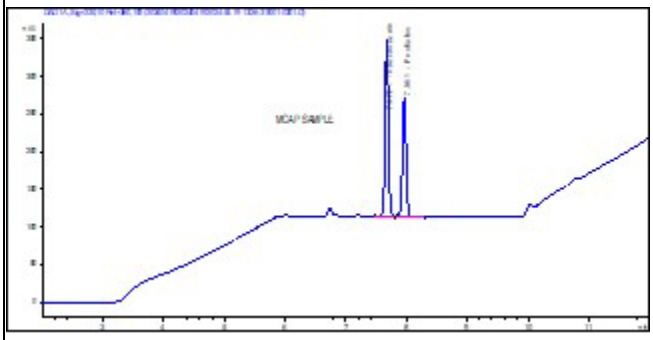
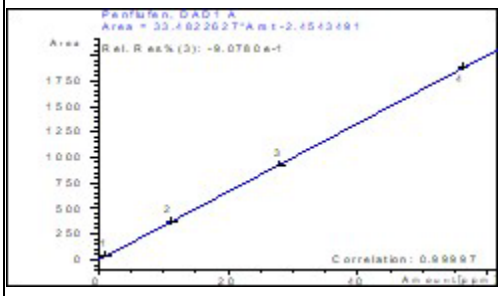


Figure 3. HPLC Linear Regression Analysis Curve for Peak Area Versus Concentration of Penflufen



		Attachment(s): *FINAL AXXX Standard Method for Determination of Penflufen in Solutions -final.docx*	

AWPA Technical Committee T-1
Fall 2024 Standardization Cycle

AWPA Standard U1-24, Section 4

24F-T1-U14: Proposal to revise U1(4) with changes to add the listing of MCAP.

Proponent(s): Doug Herdman

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

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▲ID	Item	Proposed Change	Committee Disposition
1619	AWPA U1 SECTION 4 PD25 SECTION TABLE 1. PRESERVATIVES FOR PRESSURE TREATMENT PROCESSES [Table Data]		

Preservative Abbreviation	P Standard Reference	Preservative	Retention Basis, as	Preservative Carrier
Oilborne and Creosote-Based				
CR	P1/P13	Creosote	Creosote	Not applicable
CR-S	P2	Creosote Solution	Creosote Solution	Not applicable
CR-PS	P3	Creosote-Petroleum Solution	Creosote plus Petroleum	Petroleum Oil
Cu8	P37	Oxine Copper	Oxine Copper	Hydrocarbon Solvent Type A or C
CuN	P36	Copper Naphthenate	Copper	Hydrocarbon Solvent Type A
DCOI-A	P39	DCOI Solvent A	DCOI	Hydrocarbon Solvent Type A
DCOI-C	P39	DCOI Solvent C	DCOI	Hydrocarbon Solvent Type C
IPBC/PER	P58	IPBC/Permethrin	IPBC + PER	Hydrocarbon Solvent Type C
PCP-A	P35	Pentachlorophenol (Penta) Solvent A	PCP	Hydrocarbon Solvent Type A
PCP-C	P35	Pentachlorophenol (Penta) Solvent C	PCP	Hydrocarbon Solvent Type C
PCP-G	P35	Pentachlorophenol (Penta) Solvent G	PCP	Hydrocarbon Solvent Type G
SBX-O	P60	Inorganic Boron, Oilborne	B_2O_3	Creosote, Creosote Solution
Waterborne, Acid-based				
CCA	P23	Chromated Copper Arsenate Type C	Metal Oxides	Water
Waterborne, Alkali-based (amine/ammonia)				
ACQ-A	P26	Alkaline Copper Quat Type A	CuO + Quat	Water
ACQ-B	P27	Alkaline Copper Quat Type B	CuO + Quat	Water
ACQ-C	P28	Alkaline Copper Quat Type C	CuO + Quat	Water

ACQ-D	P29	Alkaline Copper Quat Type D	CuO + Quat	Water
ACZA	P22	Ammoniacal Copper Zinc Arsenate	Metal Oxides	Water
CA-B	P32	Copper Azole Type B	Cu + azole	Water
CA-C	P48	Copper Azole Type C	Cu + azoles	Water
KDS	P55	Alkaline Copper Betaine	CuO + DPAB + H_3BO_3	Water
KDS-B	P56	Alkaline Copper Betaine Type B	CuO + DPAB	Water
Waterborne, Other				
CuN-W	P34	Waterborne Copper Naphthenate	Copper	Water
EL2	P47	4,5-dichloro-2-n-octyl-4-isothiazolin-3-one (DCOI) and 2-Imidazolidinimine, 1-((6-chloro-3-pyridinyl)methyl)-nitro (Imidacloprid)	DCOI + Imidacloprid	Water
MCA	P61	Micronized Copper Azole	Cu + Tebuconazole	Water
MCA-C	P62	Micronized Copper Azole Type C	Cu + azoles	Water
MCAP	PXX	Micronized Copper Azole Penflufen	Cu + Tebuconazole + Penflufen	Water
PTI	P45	Propiconazole Tebuconazole Imidacloprid	Propiconazole Tebuconazole Imidacloprid	Water
SBX	P25	Inorganic Boron (SBX)	B_2O_3	Water

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

AWPA Technical Committee T-2
Fall 2024 Standardization Cycle

AWPA Standard T1 Section A

24F-T2-T1A: Proposal to Revise with changes in Section 9.

Proponent(s): Andy Zahora

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

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ID	▲Item	Proposed Change	Committee Disposition
1507	AWPA T1 SECTION A PD25 SECTION 9.1	~~**9.1** When treated with pentachlorophenol, the treating solution strength shall be a minimum of 5% and a maximum of 9% wt/wt.~~	
1513	AWPA T1 SECTION A PD25 SECTION 9.1	9.1.1 Coastal Douglas-fir: Incising is required and 4.5 mm (3/16 in) of penetration is required into the incised heartwood of these species. 9.1.2 Determination of Penetration of Crossarms.	
1508	AWPA T1 SECTION A PD25 SECTION 9.2	**9.1~~2~~ Penetration (All Species and Preservatives)**	
1509	AWPA T1 SECTION A PD25 SECTION 9.2 PARA 1	~~**a.**~~ 100% penetration of the sapwood of the allowable species is required.	
1510	AWPA T1 SECTION A PD25 SECTION 9.2 PARA 2	~~**b.** Sampling of crossarms for heartwood penetration in Douglas-fir, Western Larch and Western Hemlock shall be done at the following minimum longitudinal distances from holes and/or ends for the listed retention requirements.~~ ~~**i.** 63 mm (2.5 in.) and 75 mm (3.0 in.) for 96 kg/m^3 and 128 kg/m^3 (6 pcf and 8 pcf) Creosote,~~ ~~**ii.** 63 mm (2.5 in.) and 75 mm (3.0 in.) for 4.8, 6.4 kg/m^3 (0.30, 0.40 pcf) Pentachlorophenol,~~	

		~~**iii.** 63 mm (2.5 in.) and 75 mm (3.0 in.) for 0.64 and 1.3 kg/m^3 (0.040 and 0.080 pcf) Copper Naphthenate, respectively.~~ ~~**iv.** 63 mm (2.5 in.) for 2.1 kg/m3 (0.13 pcf) DCOI 4,5-Dichloro-2-n-Octyl-4-Isothiazonlin-3-One~~	
1511	AWPA T1 SECTION A PD25 SECTION 9.2 PARA 3	~~**c.** Penetration of 4.5 mm (3/16 in) is required in the incised heartwood of Douglas-fir, Western Larch and Western Hemlock.~~	
1514	AWPA T1 SECTION A PD25 SECTION 9.3	~~**9.3 Determination of Penetration of Crossarms.**~~	
1526	AWPA T1 SECTION A PD25 SECTION 9.3 PARA 1	~~The penetration of preservative may be determined by either of the following two methods:~~	
1516	AWPA T1 SECTION A PD25 SECTION 9.3 PARA 2	~~**a. Method A (Borings).**~~ A borer core shall be taken from not less than 20 crossarms in each treating charge.	
1517	AWPA T1 SECTION A PD25 SECTION 9.3 PARA 2 PARA 1	The borings shall be taken from the side or bottom of the crossarms and should be taken in the end sections, beyond the brace-bit holes. Cores must be taken at least 75 mm (3.0 inches) longitudinally away from holes and ends. The bored holes shall be plugged with preservative treated plugs driven into the arms.	
1518	AWPA T1 SECTION A PD25 SECTION 9.3 PARA 3	~~**b. Method B (Sample Crossarm Sections).**~~	
1519	AWPA T1 SECTION A PD25 SECTION 9.3 PARA 3 PARA 1	~~Forty sample crossarm sections shall be treated with each charge of crossarms. The samples shall be so placed as to be representative of the actual treatment given the crossarms themselves. The sections may be taken from rejected untreated crossarms and shall be not less than 600 mm (24 in.) in length. Care must be taken to ensure that the sections are typical of the crossarms being treated and have the same moisture content. After treatment, 20 of the sections shall be split open longitudinally for examination and determination of penetration. The remaining 20 sections shall be retained intact for use in case retreatment is required. If retreatment is not required, the sections may be split open for additional information. If 90 percent or more of the borings or sections have satisfactory penetration, the entire charge shall be accepted.~~	
1520	AWPA T1 SECTION A PD25 SECTION 10.0	9.2 Retention Assay Zones Coastal Douglas-fir: The outer 0-15 mm (0-0.6 inch) All other species: As in Table 11. Sawn Products	

Rev

American Wood Protection Association
Protecting Wood Since 1904

24F-T2T3T4T8-T13

AWPA Technical Committee T-2/T3/T4/T8
Fall 2024 Standardization Cycle

AWPA Standard T1 Section 3

24F-T2T3T4T8-T13: Proposal to Revise Section Three with changes to Table 3.2.A and 3.2.B.

Proponent(s): Doug Herdman

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

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▲ID	Item	Reason	Proposed Change	Committee Disposition
1678	AWPA T1 SECTION 3 PD25 SECTION TABLE 3.2A RETENTIONS AS SPECIFIED IN KG/M3 IN AWPA COMMODITY SPECIFICATIONS [Table Data]2	Listing of MCAP wood preservative system in T1 - Section 3: Results of Treatment, Table 3.2A (kg/m3) and to list minimum retention of individual		

Preservative		Specified Retention	Minimum Retention of Individual Components (kg/m3)												Min. Sum of Component Retentions
Abbrev.	Name		Copper (CuO)	Copper as Cu	Azole(s) as Tebuconazole	Propiconazole	Azole(s)	H_3BO_3	HDO	Imidacloprid	IPBC	Permethrin	DPAB	Penflufen	
CuN-W	Copper Naphthenate, Waterborne	1.12 1.76		1.12 1.76											**1.12 1.76**
EL2	DCOI Imidacloprid + 3.2 kg/m^3 MCS	0.30								0.0050					**0.30**

components (kg/m3).

	as non-volatile solids by gauge															
IPBC/PER	IPBC/Permethrin	0.88										0.56	0.32			**0.88**
KDS	Alkaline Copper Betaine	3.0	1.1					0.73						0.54		**3.0**
		7.5	2.8					1.8						1.4		**7.5**
KDS-B	Alkaline Copper Betaine, Type B	2.2	1.49											0.71		**2.2**
		4.7	3.18											1.52		**4.7**
		8.4	5.68											2.72		**8.4**
MCA	Micronized Copper Azole	1.0		0.95	0.035											**1.0**
		2.4		2.3	0.083											**2.4**
		4.0		3.8	0.14											**4.0**
		5.0		4.8	0.17											**5.0**
		6.6		6.3	0.23											**6.6**
MCA-C	Micronized Copper Azole, Type C	0.80		0.77			0.025									**0.80**
		1.0		0.95			0.030									**1.0**
		2.4		2.3			0.074									**2.4**
		5.0		4.8			0.16									**5.0**
MCAP	Micronized Copper Azole Penflufen	1.0		0.95			0.035								0.0070	1.0
		1.3		1.22			0.046								0.0090	1.3
		2.4		2.3			0.083								0.017	2.4
		3.7		3.5			0.13								0.027	3.7
		5.0		4.8			0.17								0.036	5.0
PTI	Propiconazole Tebuconazole Imidacloprid	0.21 0.29			0.080 0.11	0.080 0.11				0.0080 0.011						**0.21 0.29**

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1679 AWPA T1 SECTION 3 PD25 SECTION TABLE 3.2B RETENTIONS AS SPECIFIED IN — Listing of MCAP wood preservative system in T1 - Section 3: Results of Treatment,

Preservative			Minimum Retention of Individual Components (pcf)												
Abbrev.	**Name**	**Specified Retention**	**Copper (CuO)**	**Copper as Cu**	**Azole(s) as Tebuconazole**	**Propiconazole**	**Azole(s)**	**H_3BO_3**	**Imidacloprid**	**DCOI**	**IPBC**	**Permethrin**	**DPAB**	**Penflufen**	**Min. Sum of Component Retentions**

	(PCF) IN AWPA COMMODITY SPECIFICATIONS [Table Data]2	Table 3.2B (pcf) and to list minimum retention of individual components (pcf).	**CuN-W**	Copper Naphthenate, Waterborne	0.070 0.11		0.070 0.11											**0.070** **0.11**
			EL2	DCOI Imidacloprid + 0.20 pcf MCS as non-volatile solids by gauge	0.019							0.00031	0.018					**0.019**
			IPBC/PER	IPBC/Permethrin	0.055									0.035	0.020			**0.055**
			KDS	Alkaline Copper Betaine	0.19 0.47	0.071 0.18					0.045 0.11					0.034 0.084		**0.19** **0.47**
			KDS-B	Alkaline Copper Betaine, Type B	0.14 0.29 0.53	0.095 0.196 0.358										0.045 0.094 0.172		**0.14** **0.29** **0.53**
			MCA	Micronized Copper Azole	0.060 0.15 0.25 0.31 0.41		0.057 0.14 0.24 0.30 0.39	0.0021 0.0052 0.0087 0.0107 0.0142										**0.060** **0.15** **0.25** **0.31** **0.41**
			MCA-C	Micronized Copper Azole, Type C	0.050		0.048			0.0016								**0.050**
					0.060 0.15 0.31		0.057 0.14 0.30			0.0019 0.0046 0.0097								**0.060** **0.15** **0.31**
			MCAP	Micronized Copper Azole Penflufen	0.060 0.080 0.15 0.23 0.31		0.057 0.075 0.14 0.22 0.30			0.0021 0.0028 0.0052 0.0080 0.107							0.0040 0.0060 0.0011 0.0017 0.0022	0.060 0.080 0.15 0.23 0.31
			PTI	Propiconazole Tebuconazole Imidacloprid	0.013 0.018			0.0050 0.0070	0.0050 0.0070			0.00050 0.00070						**0.013** **0.018**

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1692	AWPA T1 SECTION 3 PD25 SECTION TABLE 3.2A RETENTIONS AS SPECIFIED IN KG/M3 IN AWPA COMMODITY SPECIFICATIONS [Table Data]2	Proposal to revise Standard P61 in T1, Section 3.0, Table 3.2A. Remove 4.0 kg/m3 retention level for P61 (MCA) and replace with 3.7 kg/m3 along with associated minimum retentions of individual components. A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.	**Preservative**		**Specified Retention**	**Minimum Retention of Individual Components (kg/m3)**												**Min. Sum of Component Retentions**				
			Abbrev.	**Name**		**Copper (CuO)**	**Copper as Cu**	**Azole(s) as Tebuconazole**	**Propiconazole**	**Azole(s)**	**H_3BO_3**	**HDO**	**Imidacloprid**	**IPBC**	**Permethrin**	**DPAB**					
			CuN-W	Copper Naphthenate, Waterborne	1.12 1.76		1.12 1.76										**1.12** **1.76**				
			EL2	DCOI Imidacloprid + 3.2 kg/m³ MCS as non-volatile solids by gauge	0.30								0.0050				**0.30**				
			IPBC/PER	IPBC/Permethrin	0.88									0.56	0.32		**0.88**				
			KDS	Alkaline Copper Betaine	3.0 7.5	1.1 2.8					0.73 1.8					0.54 1.4	**3.0** **7.5**				
			KDS-B	Alkaline Copper Betaine, Type B	2.2 4.7 8.4	1.49 3.18 5.68										0.71 1.52 2.72	**2.2** **4.7** **8.4**				
			MCA	Micronized Copper Azole	1.0 2.4 ~~4.0~~3.7 5.0 6.6		0.95 2.3 ~~3.8~~3.5 4.8 6.3	0.035 0.083 ~~0.14~~0.13 0.17 0.23									**1.0** **2.4** **~~4.0~~3.7** **5.0** **6.6**				
			MCA-C	Micronized Copper Azole, Type C	0.80 1.0 2.4 5.0		0.77 0.95 2.3 4.8			0.025 0.030 0.074 0.16							**0.80** **1.0** **2.4** **5.0**				
			PTI	Propiconazole Tebuconazole Imidacloprid	0.21 0.29			0.080 0.11	0.080 0.11				0.0080 0.011				**0.21** **0.29**				
			Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*																		
1693	AWPA T1 SECTION 3 PD25 SECTION TABLE 3.2B RETENTIONS AS SPECIFIED IN (PCF) IN AWPA COMMODITY SPECIFICATIONS [Table Data]2	Proposal to revise Standard P61 in T1, Section 3.0, Table 3.2B. Remove 0.25 pcf retention level for P61 (MCA) and replace with 0.23 pcf along with associated minimum	**Preservative**		**Specified Retention**	**Minimum Retention of Individual Components (pcf)**											**Min. Sum of Component Retentions**				
			Abbrev.	**Name**		**Copper (CuO)**	**Copper as Cu**	**Azole(s) as Tebuconazole**	**Propiconazole**	**Azole(s)**	**H_3BO_3**	**Imidacloprid**	**DCOI**	**IPBC**	**Permethrin**	**DPAB**					
			CuN-W	Copper Naphthenate, Waterborne	0.070 0.11		0.070 0.11										**0.070** **0.11**				
			EL2	DCOI Imidacloprid + 0.20 pcf MCS	0.019							0.00031	0.018				**0.019**				

		retentions of individual components. A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.		as non-volatile solids by gauge													
				IPBC/PER	IPBC/Permethrin	0.055									0.035	0.020		**0.055**
				KDS	Alkaline Copper Betaine	0.19 0.47	0.071 0.18					0.045 0.11					0.034 0.084	**0.19** **0.47**
				KDS-B	Alkaline Copper Betaine, Type B	0.14 0.29 0.53	0.095 0.196 0.358										0.045 0.094 0.172	**0.14** **0.29** **0.53**
				MCA	Micronized Copper Azole	0.060 0.15 ~~0.25~~0.23 0.31 0.41		0.057 0.14 ~~0.24~~0.22 0.30 0.39	0.0021 0.0052 ~~0.0087~~0.0080 0.0107 0.0142									**0.060** **0.15** **~~0.25~~0.23** **0.31** **0.41**
				MCA-C	Micronized Copper Azole, Type C	0.050 0.060 0.15 0.31		0.048 0.057 0.14 0.30			0.0016 0.0019 0.0046 0.0097							**0.050** **0.060** **0.15** **0.31**
				PTI	Propiconazole Tebuconazole Imidacloprid	0.013 0.018			0.0050 0.0070	0.0050 0.0070			0.00050 0.00070					**0.013** **0.018**
			Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*															

AWPA Technical Committee T-2
Fall 2024 Standardization Cycle

AWPA Standard U1-24, Commodity Specification A

24F-T2-U1A: Proposal to revise U1(A) with changes to remove retention as a required element of treated wood end tags on sawn products.

Proponent(s): Kari Gaviria, Andy Zahora, Doug Herdman

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▲ID	Item	Reason	Proposed Change	Committee Disposition
1482	AWPA U1 COMM SPEC A PD25 SECTION 2.2	This proposal is the work of the 'End Tag Requirement' Task Group to remove retention as a required element of treated wood end tags on sawn products.	**2.2 Marking.** Each piece of sawn material conforming to this standard shall have a mark including AWPA U1, the producer, preservative, ~~retention~~ and Use Category when the size of the material permits such identification. Major model building codes require sawn material used in residential/commercial construction to include the identification of an accredited independent inspection agency. Sawn products in a production category per standard M22 shall use the quality mark of an ALSC accredited inspection agency adjacent and to the right of the WWPI CheckMark certification mark as shown below. The CheckMark shall be a minimum 0.20 inches (5 mm) high, placed on the front of the label and formatted in the following manner:	
1521	AWPA U1 COMM SPEC A PD25 SECTION 4.5	Changes to U1 Commodity Specification A, Section 4.5 to correct inconsistencies and confusion in what is said in this section of the U1 Standard and what is described in the T1 Standard	**4.5 Sawn Crossarms~~, UC3B, UC4A (for critical uses) Retentions~~.** Attachment(s): *U1 T1 Crossarm final proposed.docx*	

		Section A Sawn Products, subsection 9.0 Sawn Crossarms. Creosote, Copper Naphthenate, and Penta are removed from the table for coastal Douglas-fir, larch and hemlock as the required retentions listed in T1 for these chemicals are not the same as listed in U1 for UC3B and UC4A. A new table is then included as 4.5.2 where these retentions are listed specific for these oil-type preservatives. The old section 4.5.2 on penetration is removed because this is typically only described in T1 and not U1. Then a second option is to remove penta references and Western Larch, Western Hemlock and Hem-fir, hem-fir North references due to lack of use		
1522	AWPA U1 COMM SPEC A PD25 SECTION 4.5.1	Changes to U1 Commodity Specification A, Section 4.5 to correct inconsistencies and confusion in what is said in this section of the U1 Standard and what is described in the T1 Standard Section A Sawn Products, subsection 9.0 Sawn Crossarms. Creosote, Copper Naphthenate, and Penta are removed from the table for coastal Douglas-fir, larch and hemlock as the required retentions listed in T1 for these chemicals are not the same as listed in U1 for UC3B and UC4A. A new table	**4.5.1 Allowable Species and Preservatives Requiring Above Ground UC3B Retentions for Standard Uses and UC4A Retentions for Critical Uses**	

		is then included as 4.5.2 where these retentions are listed specific for these oil-type preservatives. The old section 4.5.2 on penetration is removed because this is typically only described in T1 and not U1. Then a second option is to remove penta references and Western Larch, Western Hemlock and Hem-fir, hem-fir North references due to lack of use		
1523	AWPA U1 COMM SPEC A PD25 SECTION 4.5.1 [Table Data]	Changes to U1 Commodity Specification A, Section 4.5 to correct inconsistencies and confusion in what is said in this section of the U1 Standard and what is described in the T1 Standard Section A Sawn Products, subsection 9.0 Sawn Crossarms. Creosote, Copper Naphthenate, and Penta are removed from the table for coastal Douglas-fir, larch and hemlock as the required retentions listed in T1 for these chemicals are not the same as listed in U1 for UC3B and UC4A. A new table is then included as 4.5.2 where these retentions are listed specific for these oil-type preservatives. The old section 4.5.2 on penetration is removed because this is typically only described in T1 and not U1. Then a second option is to remove penta references and Western Larch, Western Hemlock		

Species	Preservatives
Southern Pine	ACQ-A, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, CuN, DCOI-A, MCA, MCA-C~~, PCP-A, PCP-C,~~
Coastal Douglas-fir	ACQ-A, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, ~~CR, CuN,~~ DCOI-A~~, PCP-A, PCP-C~~
~~Western Larch~~	~~ACZA, CCA, CR, PCP-A, PCP-C~~
~~Western Hemlock~~	~~ACQ-A, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, MCA, MCA-C, PCP-A, PCP-C~~
~~Hem-fir, Hem-Fir North~~	~~ACQ-A, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, MCA, MCA-C, PCP-A, PCP-C~~

<table>
<tr><td></td><td></td><td>and Hem-fir, hem-fir North references due to lack of use.</td><td></td><td></td></tr>
<tr><td>1524</td><td>AWPA U1 COMM SPEC A PD25 SECTION 4.5.2</td><td>Changes to U1 Commodity Specification A, Section 4.5 to correct inconsistencies and confusion in what is said in this section of the U1 Standard and what is described in the T1 Standard Section A Sawn Products, subsection 9.0 Sawn Crossarms. Creosote, Copper Naphthenate, and Penta are removed from the table for coastal Douglas-fir, larch and hemlock as the required retentions listed in T1 for these chemicals are not the same as listed in U1 for UC3B and UC4A. A new table is then included as 4.5.2 where these retentions are listed specific for these oil-type preservatives. The old section 4.5.2 on penetration is removed because this is typically only described in T1 and not U1. Then a second option is to remove penta references and Western Larch, Western Hemlock and Hem-fir, hem-fir North references due to lack of use. Please note if the committee does not agree to the removal of western larch and hemlock from table 4.5.1, they will need to be added to the header of 4.5.2.</td><td>4.5.2
Penetration. ~~Penetration of crossarms shall be determined in accordance with T1.~~ Special Retentions. For the heartwood species Coastal Douglas-fir treated with the following oil-type preservatives.

<table><tr><td>Preservative</td><td>Standard Uses</td><td>Critical Uses</td></tr><tr><td>Creosote</td><td>96 kg/m3
(6.0 pcf)</td><td>128 kg/m3
(8.0 pcf)</td></tr><tr><td>Copper Naphthenate</td><td>0.64 kg/m3
(0.040 pcf)</td><td>1.3 kg/m3
(0.080 pcf)</td></tr><tr><td>DCOI-A</td><td>2.1 kg/m3</td><td>2.1 kg/m3</td></tr></table></td><td></td></tr>
</table>

				(0.13 pcf)	(0.13 pcf)

1620 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]3 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC1 (0.060 pcf)

pcf (US Customary units)	Pines				Spruce								
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West Spruce Pine Fir	Coastal Douglas-fir	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Western Redcedar Alaska Yellow Cedar Incense Cedar Redwood	White Oak	Red Oak[a]	Maple	Black & Red Gum
ACQ-A[b]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#	#	#
ACQ-B[b]	0.25	0.25	#	#	0.25	#	0.25	0.25	0.25	#	#	#	#
ACQ-C[b]	0.25	0.25	#	0.25	#	0.25	0.25	0.25	#	#	#	#	#
ACQ-D[b]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#	#	#
ACZA[b]	0.25	0.25	#	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	#	0.25
CA-B[b]	0.10	0.10	0.10	#	#	#	0.10	0.10	#	#	#	#	#
CA-C[b]	0.060	0.060	0.060	#	#	#	0.060	0.060	#	#	#	#	#
Cu8	0.020	0.020	#	#	#	#	#	0.020	0.020	#	#	#	#
CuN-W[b]	0.070	0.070	0.070	0.070	#	#	0.070	0.070	#	#	#	#	#
EL2[b] (+MCS at 0.20 pcf)	0.019	0.019	#	#	#	#	0.019	0.019	#	#	#	#	#
KDS[b]	0.19	0.19	0.19	#	#	#	0.19	0.19	#	#	#	#	#
MCA[b]	0.060	0.060	0.060	#	#	#	#	0.060	#	#	#	#	#
MCA-C[b]	0.050	#	#	#	#	#	#	0.050	#	#	#	#	#
MCAP[b]	0.060	0.060	0.060	#	#	#	#	0.060					
PTI[b]	0.013	0.013	#	#	#	#	0.013	0.013	#	#	#	#	#
SBX Non-Formosan	0.17	0.17	#	0.17	0.17	0.17	0.17	0.17	#	#	#	#	#
SBX Formosan[b]	0.28	0.28	#	0.28	0.28	0.28	0.28	0.28	#	#	#	#	#
Preservatives Not Recommended for Interior-Residential Uses											<5"	≥5"		
CR (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	10.0	6.0
CR-S (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0
CR-PS (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0
CuN (as Cu metal)[b]	0.040	0.040	#	#	0.040	#	0.040	0.040	0.040	R	0.047	0.040	0.050	0.050
PCP-A	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30
PCP-C	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1622	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]7	Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC2 (0.060 pcf)																		
				Pines				**Spruce**												
			pcf (US Customary units)	Southern	Ponderosa	Scots Pine-Ger		Western White	Spruce-Pine-Fir West	Coastal Douglas-fir	Hem-fir	Western Redcedar	White Oak	Red Oak[a]	Maple	Black & Red Gum				
			Preservative	Mixed Southern Radiata, Patula Caribbean	Red Eastern White	Scots Pine-Swe	Jack Lodgepole	Engelmann Sitka Spruce	Spruce Pine Fir		Hem-fir North Eastern Hemlock Subalpine Fir	Alaska Yellow Cedar Incense Cedar Redwood								
			ACQ-A[b]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#	#	#				
			ACQ-B[b]	0.25	0.25	#	#	0.25	#	0.25	0.25	0.25	#	#	#	#				
			ACQ-C[b]	0.25	0.25	#	0.25	#	0.25	0.25	0.25	#	#	#	#	#				
			ACQ-D[b]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#	#	#				
			ACZA[b]	0.25	0.25	#	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	#	0.25				
			CA-B[b]	0.10	0.10	0.10	#	#	#	0.10	0.10	#	#	#	#	#				
			CA-C[b]	0.060	0.060	0.060	#	#	#	0.060	0.060	#	#	#	#	#				
			Cu8	0.020	0.020	#	#	#	#	#	0.020	0.020	#	#	#	#				
			CuN-W[b]	0.070	0.070	0.070	0.070	#	#	0.070	0.070	#	#	#	#	#				
			EL2[b] (+MCS at 0.20 pcf)	0.019	0.019	#	#	#	#	0.019	0.019	#	#	#	#	#				
			KDS[b]	0.19	0.19	0.19	#	#	#	0.19	0.19	#	#	#	#	#				
			MCA[b]	0.060	0.060	0.060	#	#	#	#	0.060	#	#	#	#	#				
			MCA-C[b]	0.050	#	#	#	#	#	#	0.050	#	#	#	#	#				
			MCAP	0.060	0.060	0.060	#	#	#	#	0.060	#								
			PTI[b]	0.013	0.013	#	#	#	#	0.013	0.013	#	#	#	#	#				
			SBX Non-Formosan	0.17	0.17	#	0.17	0.17	0.17	0.17	0.17	#	#	#	#	#				
			SBX Formosan[b]	0.28	0.28	#	0.28	0.28	0.28	0.28	0.28	#	#	#	#	#				
			Preservatives Not Recommended for Interior-Residential Uses											<5"	≥5"					
			CR (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	10.0	6.0			
			CR-S (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0			
			CR-PS (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0			
			CuN (as Cu metal)[b]	0.040	0.040	#	#	0.040	#	0.040	0.040	0.040	R	0.047	0.040	0.050	0.050			
			PCP-A	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30			
			PCP-C	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30			
			Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*																	
1623	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]11	Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine,																		
				Pines				**Spruce**												
			pcf (US Customary units)	Southern Mixed Southern	Ponderosa Red	Scots Pine-Ger	Jack Lodgepole	Western White Engelmann	Spruce-Pine-Fir West	Coastal Douglas-fir	Hem-fir Hem-fir North	Western Redcedar Alaska Yellow	White Oak	Red Oak[a]	Maple	Black & Red Gum					

		Hem-fir in UC3A (0.060 pcf)		**Preservative**	Radiata, Patula Caribbean	Eastern White	Scots Pine-Swe		Sitka Spruce			Eastern Hemlock Subalpine Fir	Cedar Incense Cedar Redwood		<5"	≥5"		
				CR (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	10.0	6.0
				CR-S (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0
				CR-PS (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0
				Cu8	0.020	0.020	#	#	#	#	#	0.020	0.020	#	#	#	#	#
				CuN (as Cu metal)[(b)]	0.040	0.040	#	#	0.040	#	0.040	0.040	0.040	R	0.047	0.040	0.050	0.050
				DCOI-C	0.13	#	#	#	#	#	#	#	#	#	#	#	#	#
				PCP-A	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30
				PCP-C	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30
				ACQ-A[(b)]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#		#	#
				ACQ-B[(b)]	0.25	0.25	#	#	0.25	#	0.25	0.25	0.25	#	#		#	#
				ACQ-C[(b)]	0.25	0.25	#	0.25	#	0.25	0.25	0.25	#	#	#		#	#
				ACQ-D[(b)]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#		#	#
				ACZA[(b)]	0.25	0.25	#	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25		#	0.25
				CA-B[(b)]	0.10	0.10	0.10	#	#	#	0.10	0.10	#	#	#		#	#
				CA-C[(b)]	0.060	0.060	0.060	#	#	#	0.060	0.060	#	#	#		#	#
				CuN-W[(b)]	0.070	0.070	0.070	0.070	#	#	0.070	0.070	#	#	#		#	#
				EL2[(b)] (+MCS at 0.20 pcf)	0.019	0.019	#	#	#	#	0.019	0.019	#	#	#		#	#
				KDS[(b)]	0.19	0.19	0.19	#	#	#	0.19	0.19	#	#	#		#	#
				MCA[(b)]	0.060	0.060	0.060	#	#	#	#	0.060	#	#	#		#	#
				MCA-C[(b)]	0.050	#	#	#	#	#	#	0.050	#	#	#		#	#
				MCAP	0.060	0.060	0.060	#	#	#	#	0.060	#	#	#		#	#
				PTI[(b)]	0.013	0.013	#	#	#	#	0.013	0.013	#	#	#		#	#
			Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*															
1624	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]15	Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC3B (0.080 pcf)		**pcf** (US Customary units)	**Pines**				**Spruce**						Red Oak[(b)]			
				Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Western Redcedar Alaska Yellow Cedar Incense Cedar Redwood	White Oak	<5"	≥5"	Maple	Black & Red Gum
				CR (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	10.0	6.0

CR-S (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0
CR-PS (as solution)	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0	R	6.0	5.0	#	6.0
Cu8	0.020	0.020	#	#	#	#	#	0.020	0.020	#	#	#	#	#
CuN (as Cu metal)[(c)]	0.040	0.040	#	#	0.040	#	0.040	0.040	0.040	R	0.047	0.040	0.050	0.050
DCOI-A	0.13	#	#	#	#	#	0.13	#	#	#	#	#	#	#
DCOI-C	0.13	#	#	#	#	#	#	#	#	#	#	#	#	#
PCP-A	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30
PCP-C	0.40	0.40	#	0.40	0.40	#	0.40	0.40	0.40	R	0.30	0.25	#	0.30
ACQ-A[(c)]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#		#	#
ACQ-B[(c)]	0.25	0.25	#	#	0.25	#	0.25	0.25	0.25	#	#		#	#
ACQ-C[(c)]	0.25	0.25	#	0.25	#	0.25	0.25	0.25	#	#	#		#	#
ACQ-D[(c)]	0.15	0.15	0.15	0.15	#	#	0.15	0.15	#	#	#		#	#
ACZA[(c)]	0.25	0.25	#	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25		#	0.25
CA-B[(c)]	0.10	0.10	0.10	#	#	#	0.10	0.10	#	#	#		#	#
CA-C[(c)]	0.060	0.060	0.060	#	#	#	0.060	0.060	#	#	#		#	#
CCA[(c)]	0.25	0.25	#	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25		#	0.25
CuN-W[(c)]	0.070	0.070	0.070	0.070	#	#	0.070	0.070	#	#	#		#	#
EL2[(c)] (+MCS at 0.20 pcf)	0.019	0.019	#	#	#	#	0.019	0.019	#	#	#		#	#
KDS[(c)]	0.19	0.19	0.19	#	#	#	0.19	0.19	#	#	#		#	#
MCA[(c)]	0.060	0.060	0.060	#	#	#	#	0.060	#	#	#		#	#
MCA-C[(c)]	0.060	#	#	#	#	#	#	0.060	#	#	#		#	#
MCAP[(c)]	0.080	0.080	0.080	#	#	#	#	0.080	#	#	#		#	#
PTI[(c)]	0.018	0.018	#	#	#	#	0.018	0.018	#	#	#		#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1625 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]19 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC4A (0.15 pcf)

pcf (US Customary units)	Pines				Spruce						Red Oak[(b)]			
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood	White Oak	<5"	≥5"	Maple	Black & Red Gum
CR (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0	R	7.0	6.0	10.0	8.0
CR-S (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0	R	7.0	6.0	#	8.0
CR-PS (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0	R	7.0	6.0	#	8.0
CuN (as Cu metal)[(c)]	0.060	0.060	#	#	0.060	#	0.060	0.060	0.060	R	0.060	0.060	0.060	0.060

DCOI-A	0.15	#	#	#	#	#	0.13	#	#	#	#	#	#	#		
DCOI-C	0.15	#	#	#	#	#	#	#	#	#	#	#	#	#		
PCP-A	0.50	0.50	#	0.40	0.40	#	0.40	0.40	0.50	R	0.35	0.30	#	0.40		
PCP-C	0.50	0.50	#	0.40	0.40	#	0.40	0.40	0.50	R	0.35	0.35	#	0.40		
ACQ-A[(c)]	0.40	0.40	0.40	0.40	0.40	#	0.40	0.40	#	#	#		#	#		
ACQ-B[(c)]	0.40	0.40	#	#	0.40	#	0.40	0.40	#	#	#		#	#		
ACQ-C[(c)]	0.40	0.40	#	0.40	#	0.40	0.40	0.40	#	#	#		#	#		
ACQ-D[(c)]	0.40	0.40	0.40	0.40	0.40	#	0.40	0.40	#	#	#		#	#		
ACZA[(c)]	0.40	0.40	#	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40		#	0.40		
CA-B[(c)]	0.21	0.21	0.21	#	#	#	0.21	0.21	#	#	#		#	#		
CA-C[(c)]	0.15	0.15	0.15	#	#	#	0.15	0.15	#	#	#		#	#		
CCA[(c)]	0.40	0.40	#	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40		#	0.40		
CuN-W[(c)]	0.11	0.11	0.11	0.11	#	#	0.11	0.11	#	#	#		#	#		
KDS[(c)]	0.47	#	#	#	#	#	0.47	0.47	#	#	#		#	#		
MCA[(c)]	0.15	0.15	0.15	#	#	#	#	0.15	#	#	#		#	#		
MCA-C[(c)]	0.15	#	#	#	#	#	#	0.15	#	#	#		#	#		
MCAP[(c)]	0.15	0.15	0.15	#	#	#	#	0.15	#	#	#		#	#		

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1626 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]23 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC4B (0.23 pcf)

pcf (US Customary units)	**Pines**				**Spruce**				
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood
CR (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0
CR-S (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0
CR-PS (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0
CuN (as Cu metal)[(b)]	0.075	0.075	#	#	0.075	#	0.075	0.075	#
DCOI-A	0.17	#	#	#	#	#	0.17	#	#
DCOI-C	0.17	#	#	#	#	#	#	#	#
PCP-A	0.50	0.50	#	0.50	0.50	#	0.50	0.50	0.50
PCP-C	0.50	0.50	#	0.50	0.50	#	0.50	0.50	0.50
ACQ-B[(b)]	0.60	0.60	#	#	0.60	#	0.60	0.60	#
ACQ-C[(b)]	0.60	0.60	0.60	0.60	0.60	0.60	#	0.60	#
ACQ-D[(b)]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	#
ACZA[(b)]	0.60	0.60	#	0.60	0.60	0.60	0.60	0.60	0.60
CA-B[(b)]	0.31	0.31	0.31	0.31	#	#	0.31	0.31	#
CA-C[(b)]	0.31	0.31	0.31	#	#	#	0.31	0.31	#

				CCA[b]	0.60	0.60	#	0.60	0.60	0.60	0.60	0.60	0.60
				MCA[b]	0.31	0.31	0.31	#	#	#	#	0.31	#
				MCA-C[b]	0.31	#	#	#	#	#	#	0.31	#
				MCAP[b]	0.23	0.23	0.23	#	#	#	#	0.23	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1627 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]27 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC4C. (0.31 pcf)

pcf (US Customary units)	**Pines**				**Spruce**				
Preservative	Southern Mixed Southern Radiata Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[a]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood
CR (as solution)	12.0	12.0	#	12.0	12.0	#	12.0	12.0	12.0
CR-S (as solution)	12.0	12.0	#	12.0	12.0	#	12.0	12.0	12.0
CR-PS (as solution)	12.0	12.0	#	12.0	12.0	#	12.0	12.0	12.0
CuN (as Cu metal)[b]	0.075	0.075	#	#	0.075	#	0.075	0.075	#
DCOI-A	0.17	#	#	#	#	#	0.17	#	#
DCOI-C	0.17	#	#	#	#	#	#	#	#
PCP-A	0.50	0.50	#	0.50	0.50	#	0.50	0.50	0.50
PCP-C	0.50	0.50	#	0.50	0.50	#	0.50	0.50	0.50
ACQ-B[b]	0.60	#	#	#	0.60	#	0.60	0.60	#
ACQ-C[b]	#	0.60	#	0.60	#	0.60	#	0.60	#
ACQ-D[b]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	#
ACZA[b]	0.60	0.60	#	0.60	0.60	0.60	0.60	0.60	0.60
CA-B[b]	0.31	0.31	0.31	#	#	#	0.31	0.31	#
CA-C[b]	0.31	0.31	0.31	#	#	#	0.31	0.31	#
CCA[b]	0.60	0.60	#	0.60	0.60	0.60	0.60	0.60	0.60
MCA[b]	0.31	0.31	0.31	#	#	#	#	0.31	#
MCA-C[b]	0.31	#	#	#	#	#	#	0.31	#
MCAP[b]	0.31	0.31	0.31	#	#	#	#	0.31	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1628 | AWPA U1 COMM SPEC A PD25 SECTION 4.2.1 [Table Data] | Listing of MCAP in Table 4.2.1, Allowable Species and Preservatives, Lumber for Permanent Wood Foundations (PWF) UC4B Retentions.

Species	**Preservatives**
Southern Pine	ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, MCA, MCA-C, MCAP
Red Pine	ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, MCA, MCAP

			<table><tr><td>Ponderosa Pine</td><td>ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, MCA, MCAP</td></tr><tr><td>Scots Pine-Ger, Scots Pine-Swe, Patula Pine</td><td>ACQ-D, CA-B, CA-C, MCA, MCAP</td></tr><tr><td>Coastal Douglas-fir</td><td>ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C</td></tr><tr><td>Western Hemlock, Hem Fir</td><td>ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, MCA, MCA-C, MCAP</td></tr><tr><td>Alpine Fir</td><td>CCA</td></tr><tr><td></td><td></td></tr></table> Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*	
1629	AWPA U1 COMM SPEC A PD25 SECTION 4.3 [Table Data]	Listing of MCAP in Table 4.3.1, Allowable Species and Preservatives. Lumber, timbers, and decking used for bridges, structural members, cribbing and culverts, UC4C retentions.	<table><tr><th>Species</th><th>Preservatives</th></tr><tr><td>Southern Pine</td><td>ACQ-B, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, CR-S, CR-PS, CuN, DCOI-A, DCOI-C, MCA, MCA-C, PCP-A, PCP-C, MCAP</td></tr><tr><td>Coastal Douglas-fir</td><td>ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, CR, CR-S, CR-PS, CuN, DCOI-A, PCP-A, PCP-C</td></tr><tr><td>Western Hemlock</td><td>ACQ-B, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, CR-S, CR-PS, CuN, MCA, MCA-C, PCP-A, PCP-C, MCAP</td></tr><tr><td>Hem-fir, Hem-Fir North</td><td>ACQ-C, CA-B, CA-C, MCA, MCA-C, MCAP</td></tr></table> Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*	
1630	AWPA U1 COMM SPEC A PD25 SECTION 4.4.1 [Table Data]	Listing of MCAP in Table 4.4.1, Allowable Species and Preservatives. Lumber and Timbers Used for Cooling	<table><tr><th>Species</th><th>Preservatives</th></tr></table>	

		Towers, UC4A Retentions.			

Southern Pine	ACQ-A, ACQ-B, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, KDS, MCA, MCA-C, MCAP
Ponderosa Pine	ACQ-A, ACZA, CA-B, CA-C, CCA, CR, MCA, MCAP
Coastal Douglas-fir	ACQ-A, ACQ-B, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, CR, KDS
Western Hemlock	ACQ-A, ACQ-B, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, KDS, MCA, MCA-C, MCAP
Hem-fir, Hem-Fir North	ACQ-A, ACQ-C, CA-B, CA-C, KDS, MCA, MCA-C, MCAP
Redwood	ACQ-A, ACQ-B ACZA, CCA, CR

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1631	AWPA U1 COMM SPEC A PD25 SECTION 4.6.1 [Table Data]	Listing of MCAP in Table 4.6.1, Allowable Species and Preservatives. Shakes and Shingles, UC3B Retentions.			

Species	**Preservatives**
Southern Pine	ACQ-A, ACQ-C, ACQ-D, CA-B, CA-C, CCA, CuN-W, MCA, MCA-C, MCAP
Western Redcedar	ACQ-A, ACQ-C, ACQ-D, CA-B, CA-C, CCA, CuN-W

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1634	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]	Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC1 (1.0 kg/m3)			

kg/m³ (SI units)	**Pines**				**Spruce**								
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West Spruce Pine Fir	Coastal Douglas-fir	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Western Redcedar Alaska Yellow Cedar Incense Cedar Redwood	White Oak	Red Oak[a]	Maple	Black & Red Gum
ACQ-A[b]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#	#	#
ACQ-B[b]	4.0	4.0	#	#	4.0	#	4.0	4.0	4.0	#	#	#	#
ACQ-C[b]	4.0	4.0	#	4.0	#	4.0	4.0	4.0	#	#	#	#	#
ACQ-D[b]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#	#	#

ACZA[(b)]	4.0	4.0	#	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	#	4.0						
CA-B[(b)]	1.7	1.7	1.7	#	#	#	1.7	1.7	#	#	#	#	#						
CA-C[(b)]	1.0	1.0	1.0	#	#	#	1.0	1.0	#	#	#	#	#						
Cu8	0.32	0.32	#	#	#	#	#	0.32	0.32	#	#	#	#						
CuN-W[(b)]	1.12	1.12	1.12	1.12	#	#	1.12	1.12	#	#	#	#	#						
EL2[(b)] (+MCS at 3.2 kg/m^3)	0.30	0.30	#	#	#	#	0.30	0.30	#	#	#	#	#						
KDS[(b)]	3.0	3.0	3.0	#	#	#	3.0	3.0	#	#	#	#	#						
MCA[(b)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#						
MCA-C[(b)]	0.8	#	#	#	#	#	#	0.8	#	#	#	#	#						
MCAP[(b)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#						
PTI[(b)]	0.21	0.21	#	#	#	#	0.21	0.21	#	#	#	#	#						
SBX Non-Formosan	2.7	2.7	#	2.7	2.7	2.7	2.7	2.7	#	#	#	#	#						
SBX Formosan[(b)]	4.5	4.5	#	4.5	4.5	4.5	4.5	4.5	#	#	#	#	#						
Preservatives Not Recommended for Interior-Residential Uses											<5"	≥5"							
CR (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	160	96					
CR-S (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96					
CR-PS (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96					
CuN (as Cu metal)[(b)]	0.64	0.64	#	#	0.64	#	0.64	0.64	0.64	R	0.75	0.64	0.80	0.80					
PCP-A	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8					
PCP-C	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8					

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1635 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]5 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC2 (1.0 kg/m3))

kg/m^3 (SI units)	**Pines**				**Spruce**								
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West Spruce Pine Fir	Coastal Douglas-fir	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Western Redcedar Alaska Yellow Cedar Incense Cedar Redwood	White Oak	Red Oak[(a)]	Maple	Black & Red Gum
ACQ-A[(b)]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#	#	#
ACQ-B[(b)]	4.0	4.0	#	#	4.0	#	4.0	4.0	4.0	#	#	#	#
ACQ-C[(b)]	4.0	4.0	#	4.0	#	4.0	4.0	4.0	#	#	#	#	#
ACQ-D[(b)]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#	#	#
ACZA[(b)]	4.0	4.0	#	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	#	4.0
CA-B[(b)]	1.7	1.7	1.7	#	#	#	1.7	1.7	#	#	#	#	#
CA-C[(b)]	1.0	1.0	1.0	#	#	#	1.0	1.0	#	#	#	#	#
Cu8	0.32	0.32	#	#	#	#	#	0.32	0.32	#	#	#	#
CuN-W[(b)]	1.12	1.12	1.12	1.12	#	#	1.12	1.12	#	#	#	#	#

EL2[(b)] (+MCS at 3.2 kg/m^3)	0.30	0.30	#	#	#	#	0.30	0.30	#	#	#	#	#						
KDS[(b)]	3.0	3.0	3.0	#	#	#	3.0	3.0	#	#	#	#	#						
MCA[(b)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#						
MCA-C[(b)]	0.8	#	#	#	#	#	#	0.8	#	#	#	#	#						
MCAP[(b)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#						
PTI[(b)]	0.21	0.21	#	#	#	#	0.21	0.21	#	#	#	#	#						
SBX Non-Formosan	2.7	2.7	#	2.7	2.7	2.7	2.7	2.7	#	#	#	#	#						
SBX Formosan[(b)]	4.5	4.5	#	4.5	4.5	4.5	4.5	4.5	#	#	#	#	#						
Preservatives Not Recommended for Interior-Residential Uses											<5"	≥5"							
CR (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	160	96					
CR-S (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96					
CR-PS (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96					
CuN (as Cu metal)[(b)]	0.64	0.64	#	#	0.64	#	0.64	0.64	0.64	R	0.75	0.64	0.80	0.80					
PCP-A	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8					
PCP-C	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8					

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1663 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]9 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC3A (1.0 kg/m3)

kg/m^3 (SI units)	**Pines**				**Spruce**						Red Oak[(a)]				
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Western Redcedar Alaska Yellow Cedar Incense Cedar Redwood	White Oak	<5"	≥5"	Maple	Black & Red Gum	
CR (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	160	96	
CR-S (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96	
CR-PS (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96	
Cu8	0.32	0.32	#	#	#	#	#	0.32	0.32	#	#	#	#	#	
CuN (as Cu metal)[(b)]	0.64	0.64	#	#	0.64	#	0.64	0.64	0.64	R	0.75	0.64	0.80	0.80	
DCOI-C	2.1	#	#	#	#	#	#	#	#	#	#	#	#	#	
PCP-A	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8	
PCP-C	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8	
ACQ-A[(b)]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#		#	#	
ACQ-B[(b)]	4.0	4.0	#	#	4.0	#	4.0	4.0	4.0	#	#		#	#	
ACQ-C[(b)]	4.0	4.0	#	4.0	#	4.0	4.0	4.0	#	#	#		#	#	
ACQ-D[(b)]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#		#	#	

ACZA[(b)]	4.0	4.0	#	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	#	4.0
CA-B[(b)]	1.7	1.7	1.7	#	#	#	1.7	1.7	#	#	#	#	#
CA-C[(b)]	1.0	1.0	1.0	#	#	#	1.0	1.0	#	#	#	#	#
CuN-W[(b)]	1.12	1.12	1.12	1.12	#	#	1.12	1.12	#	#	#	#	#
EL2[(b)] (+MCS at 3.2 kg/m^3)	0.30	0.30	#	#	#	#	0.30	0.30	#	#	#	#	#
KDS[(b)]	3.0	3.0	3.0	#	#	#	3.0	3.0	#	#	#	#	#
MCA[(b)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#
MCA-C[(b)]	0.8	#	#	#	#	#	#	0.8	#	#	#	#	#
MCAP[(b)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#
PTI[(b)]	0.21	0.21	#	#	#	#	0.21	0.21	#	#	#	#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1664 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]13 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC3B (1.3 kg/m3)

kg/m^3 (SI units)	**Pines**				**Spruce**						Red Oak[(b)]			
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Western Redcedar Alaska Yellow Cedar Incense Cedar Redwood	White Oak	<5"	≥5"	Maple	Black & Red Gum
CR (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	160	96
CR-S (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96
CR-PS (as solution)	128	128	#	128	128	#	128	128	128	R	96	80	#	96
Cu8	0.32	0.32	#	#	#	#	#	0.32	0.32	#	#	#	#	#
CuN (as Cu metal)[(c)]	0.64	0.64	#	#	0.64	#	0.64	0.64	0.64	R	0.75	0.64	0.80	0.80
DCOI-A	2.1	#	#	#	#	#	2.1	#	#	#	#	#	#	#
DCOI-C	2.1	#	#	#	#	#	#	#	#	#	#	#	#	#
PCP-A	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8
PCP-C	6.4	6.4	#	6.4	6.4	#	6.4	6.4	6.4	R	4.8	4.0	#	4.8
ACQ-A[(c)]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#		#	#
ACQ-B[(c)]	4.0	4.0	#	#	4.0	#	4.0	4.0	4.0	#	#		#	#
ACQ-C[(c)]	4.0	4.0	#	4.0	#	4.0	4.0	4.0	#	#	#		#	#
ACQ-D[(c)]	2.4	2.4	2.4	2.4	#	#	2.4	2.4	#	#	#		#	#
ACZA[(c)]	4.0	4.0	#	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		#	4.0
CA-B[(c)]	1.7	1.7	1.7	#	#	#	1.7	1.7	#	#	#		#	#
CA-C[(c)]	1.0	1.0	1.0	#	#	#	1.0	1.0	#	#	#		#	#
CCA[(c)]	4.0	4.0	#	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		#	4.0
CuN-W[(c)]	1.12	1.12	1.12	1.12	#	#	1.12	1.12	#	#	#		#	#

EL2[(c)] (+MCS at 3.2 kg/m^3)	0.30	0.30	#	#	#	#	0.30	0.30	#	#	#	#	#
KDS[(c)]	3.0	3.0	3.0	#	#	#	3.0	3.0	#	#	#	#	#
MCA[(c)]	1.0	1.0	1.0	#	#	#	#	1.0	#	#	#	#	#
MCA-C[(c)]	1.0	#	#	#	#	#	#	1.0	#	#	#	#	#
MCAP[(c)]	1.3	1.3	1.3	#	#	#	#	1.3	#	#	#	#	#
PTI[(c)]	0.29	0.29	#	#	#	#	0.29	0.29	#	#	#	#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1665 | AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]17 | Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC4A (2.4 kg/m3)

	Pines				**Spruce**						Red Oak[(b)]			
kg/m^3 (SI units)	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood	White Oak	<5"	≥5"	Maple	Black & Red Gum
Preservative														
CR (as solution)	160	160	#	160	160	#	160	160	160	R	112	96	160	128
CR-S (as solution)	160	160	#	160	160	#	160	160	160	R	112	96	#	128
CR-PS (as solution)	160	160	#	160	160	#	160	160	160	R	112	96	#	128
CuN (as Cu metal)[(c)]	0.96	0.96	#	#	0.96	#	0.96	0.96	0.96	R	0.96	0.96	0.96	0.96
DCOI-A	2.4	#	#	#	#	#	2.1	#	#	#	#	#	#	#
DCOI-C	2.4	#	#	#	#	#	#	#	#	#	#	#	#	#
PCP-A	8.0	8.0	#	6.4	6.4	#	6.4	6.4	8.0	R	5.6	4.8	#	6.4
PCP-C	8.0	8.0	#	6.4	6.4	#	6.4	6.4	8.0	R	5.6	4.8	#	6.4
ACQ-A[(c)]	6.4	6.4	6.4	6.4	6.4	#	6.4	6.4	#	#	#		#	#
ACQ-B[(c)]	6.4	6.4	#	#	6.4	#	6.4	6.4	#	#	#		#	#
ACQ-C[(c)]	6.4	6.4	#	6.4	#	6.4	6.4	6.4	#	#	#		#	#
ACQ-D[(c)]	6.4	6.4	6.4	6.4	6.4	#	6.4	6.4	#	#	#		#	#
ACZA[(c)]	6.4	6.4	#	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4		#	6.4
CA-B[(c)]	3.3	3.3	3.3	#	#	#	3.3	3.3	#	#	#		#	#
CA-C[(c)]	2.4	2.4	2.4	#	#	#	2.4	2.4	#	#	#		#	#
CCA[(c)]	6.4	6.4	#	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4		#	6.4
CuN-W[(c)]	1.76	1.76	1.76	1.76	#	#	1.76	1.76	#	#	#		#	#
KDS[(c)]	7.5	#	#	#	#	#	7.5	7.5	#	#	#		#	#
MCA[(c)]	2.4	2.4	2.4	#	#	#	#	2.4	#	#	#		#	#
MCA-C[(c)]	2.4	#	#	#	#	#	#	2.4	#	#	#		#	#
MCAP[(c)]	2.4	2.4	2.4	#	#	#	#	2.4	#	#	#		#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1666	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]21	Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC4B (3.7 kg/m3)													

kg/m³ (SI units)	**Pines**				**Spruce**				
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[a]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood
CR (as solution)	160	160	#	160	160	#	160	160	160
CR-S (as solution)	160	160	#	160	160	#	160	160	160
CR-PS (as solution)	160	160	#	160	160	#	160	160	160
CuN (as Cu metal)[b]	1.2	1.2	#	#	1.2	#	1.2	1.2	#
DCOI-A	2.7	#	#	#	#	#	2.7	#	#
DCOI-C	2.7	#	#	#	#	#	#	#	#
PCP-A	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0
PCP-C	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0
ACQ-B[b]	9.6	9.6	#	#	9.6	#	9.6	9.6	#
ACQ-C[b]	9.6	9.6	9.6	9.6	9.6	9.6	#	9.6	#
ACQ-D[b]	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	#
ACZA[b]	9.6	9.6	#	9.6	9.6	9.6	9.6	9.6	9.6
CA-B[b]	5.0	5.0	5.0	5.0	#	#	5.0	5.0	#
CA-C[b]	5.0	5.0	5.0	#	#	#	5.0	5.0	#
CCA[b]	9.6	9.6	#	9.6	9.6	9.6	9.6	9.6	9.6
MCA[b]	5.0	5.0	5.0	#	#	#	#	5.0	#
MCA-C[b]	5.0	#	#	#	#	#	#	5.0	#
MCAP[b]	3.7	3.7	3.7	#	#	#	#	3.7	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1667	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]25	Species and retention listing for MCAP for treatment of Southern pine, Red and Ponderosa pine, Scots pine, Hem-fir in UC4C (5.0 kg/m3)													

kg/m³ (SI units)	**Pines**				**Spruce**				
Preservative	Southern Mixed Southern Radiata Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[a]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood
CR (as solution)	192	192	#	192	192	#	192	192	192
CR-S (as solution)	192	192	#	192	192	#	192	192	192
CR-PS (as solution)	192	192	#	192	192	#	192	192	192
CuN (as Cu metal)[b]	1.2	1.2	#	#	1.2	#	1.2	1.2	#
DCOI-A	2.7	#	#	#	#	#	2.7	#	#
DCOI-C	2.7	#	#	#	#	#	#	#	#

PCP-A	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0
PCP-C	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0
ACQ-B[(b)]	9.6	#	#	#	9.6	#	9.6	9.6	#
ACQ-C[(b)]	#	9.6	#	9.6	#	9.6	#	9.6	#
ACQ-D[(b)]	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	#
ACZA[(b)]	9.6	9.6	#	9.6	9.6	9.6	9.6	9.6	9.6
CA-B[(b)]	5.0	5.0	5.0	#	#	#	5.0	5.0	#
CA-C[(b)]	5.0	5.0	5.0	#	#	#	5.0	5.0	#
CCA[(b)]	9.6	9.6	#	9.6	9.6	9.6	9.6	9.6	9.6
MCA[(b)]	5.0	5.0	5.0	#	#	#	#	5.0	#
MCA-C[(b)]	5.0	#	#	#	#	#	#	5.0	#
MCAP[(b)]	5.0	5.0	5.0	#	#	#	#	5.0	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1668 AWPA U1 COMM SPEC A PD25 SECTION 4.5.1 [Table Data]

Listing of MCAP in Table 4.5.1, Allowable Species and Preservatives. Crossarms, UC3B, UC4A (for critical uses) Retentions.

Species	**Preservatives**
Southern Pine	ACQ-A, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, CuN, DCOI-A, MCA, MCA-C, MCAP, PCP-A, PCP-C,
Coastal Douglas-fir	ACQ-A, ACQ-C, ACQ-D, ACZA, CA-B, CA-C, CCA, CR, CuN, DCOI-A, PCP-A, PCP-C
Western Larch	ACZA, CCA, CR, PCP-A, PCP-C
Western Hemlock	ACQ-A, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, MCA, MCA-C, MCAP, PCP-A, PCP-C
Hem-fir, Hem-Fir North	ACQ-A, ACQ-C, ACZA, CA-B, CA-C, CCA, CR, MCA, MCA-C, MCA-P, PCP-A, PCP-C

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1688 AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]21

Proposal to revise retention listing for MCA for treatment of Southern pine, Red and Ponderosa pine, Scots pine, and Hem-fir in UC4B

kg/m³ (SI units)	**Pines**				**Spruce**				
Preservative	Southern Mixed Southern	Ponderosa Red	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock	Redwood

		from 5.0 kg/m3 to 3.7 kg/m3 in U1, Section 3.0 Sawn Products for UC4B from 5.0 kg/m3 to 3.7 kg/m3. A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.												

	Radiata, Patula Caribbean	Eastern White			Sitka Spruce			Subalpine Fir	
CR (as solution)	160	160	#	160	160	#	160	160	160
CR-S (as solution)	160	160	#	160	160	#	160	160	160
CR-PS (as solution)	160	160	#	160	160	#	160	160	160
CuN (as Cu metal)[(b)]	1.2	1.2	#	#	1.2	#	1.2	1.2	#
DCOI-A	2.7	#	#	#	#	#	2.7	#	#
DCOI-C	2.7	#	#	#	#	#	#	#	#
PCP-A	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0
PCP-C	8.0	8.0	#	8.0	8.0	#	8.0	8.0	8.0
ACQ-B[(b)]	9.6	9.6	#	#	9.6	#	9.6	9.6	#
ACQ-C[(b)]	9.6	9.6	9.6	9.6	9.6	9.6	#	9.6	#
ACQ-D[(b)]	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	#
ACZA[(b)]	9.6	9.6	#	9.6	9.6	9.6	9.6	9.6	9.6
CA-B[(b)]	5.0	5.0	5.0	5.0	#	#	5.0	5.0	#
CA-C[(b)]	5.0	5.0	5.0	#	#	#	5.0	5.0	#
CCA[(b)]	9.6	9.6	#	9.6	9.6	9.6	9.6	9.6	9.6
MCA[(b)]	~~5.0~~3.7	~~5.0~~3.7	~~5.0~~3.7	#	#	#	#	~~5.0~~3.7	#
MCA-C[(b)]	5.0	#	#	#	#	#	#	5.0	#

Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*

1689	AWPA U1 COMM SPEC A PD25 SECTION 3.0 [Table Data]23	Proposal to revise retention listing for MCA for treatment of Southern pine, Red and Ponderosa pine, Scots pine, and Hem-fir in U1, Section 3.0 Sawn Products for UC4B from 0.31 pcf to 0.23 pcf. A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.												

pcf (US Customary units)	**Pines**				**Spruce**				
Preservative	Southern Mixed Southern Radiata, Patula Caribbean	Ponderosa Red Eastern White	Scots Pine-Ger Scots Pine-Swe	Jack Lodgepole	Western White Engelmann Sitka Spruce	Spruce-Pine-Fir West	Coastal Douglas-fir[(a)]	Hem-fir Hem-fir North Eastern Hemlock Subalpine Fir	Redwood
CR (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0
CR-S (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0
CR-PS (as solution)	10.0	10.0	#	10.0	10.0	#	10.0	10.0	10.0
CuN (as Cu metal)[(b)]	0.075	0.075	#	#	0.075	#	0.075	0.075	#
DCOI-A	0.17	#	#	#	#	#	0.17	#	#
DCOI-C	0.17	#	#	#	#	#	#	#	#
PCP-A	0.50	0.50	#	0.50	0.50	#	0.50	0.50	0.50
PCP-C	0.50	0.50	#	0.50	0.50	#	0.50	0.50	0.50
ACQ-B[(b)]	0.60	0.60	#	#	0.60	#	0.60	0.60	#
ACQ-C[(b)]	0.60	0.60	0.60	0.60	0.60	0.60	#	0.60	#

ACQ-D[(b)]	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	#
ACZA[(b)]	0.60	0.60	#	0.60	0.60	0.60	0.60	0.60	0.60
CA-B[(b)]	0.31	0.31	0.31	0.31	#	#	0.31	0.31	#
CA-C[(b)]	0.31	0.31	0.31	#	#	#	0.31	0.31	#
CCA[(b)]	0.60	0.60	#	0.60	0.60	0.60	0.60	0.60	0.60
MCA[(b)]	~~0.31~~0.23	~~0.31~~0.23	~~0.31~~0.23	#	#	#	#	~~0.31~~0.23	#
MCA-C[(b)]	0.31	#	#	#	#	#	#	0.31	#

Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*

American Wood Protection Association
Protecting Wood Since 1904

24F-T4-U1(B)

AWPA Technical Committee T-4
Fall 2024 Standardization Cycle

AWPA Standard U1-24, Commodity Specification B

24F-T4-U1B: Proposal to revise U1(B) with changes to remove retention as a required element of treated wood end tags on sawn products.

Proponent(s): Doug Herdman

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

ID	▲Item	Proposal	Proposed Change	Committee Disposition

Preservative	Pines						Douglas-Fir	Western Hemlock	Western Larch
	Southern	Ponderosa	Jack	Lodgepole	Red	Radiata			
	Use Category 4A –kg/m^3								
CR (a)	128	128	128	96	128	#	128	128	128
CR-S (a)	128	128	128	96	128	#	#	#	#
CR-PS (a)	128	128	128	112	128	#	128	128	128
CuN	0.88	0.88	#	0.88	0.88	#	0.88	#	#
DCOI-A (c)	2.1	2.1	#	2.1	2.1	#	2.1	#	#

1676 | AWPA U1 COMM SPEC B PD24 SECTION 3.1.1 [Table Data] | Listing of MCAP in Section 3.0 Posts - Retention Specifications - Table 3.1.1 (kg/m3) UC4A and UC4B Use Categories.

PCP-A & PCP-C (b)	6.4	6.4	6.4	6.4	6.4	#	6.4	6.4	6.4		
ACQ-B	6.4	6.4	#	#	#	#	6.4	6.4	6.4		
ACQ-C	6.4	#	#	6.4	6.4	6.4	#	#	#		
ACQ-D	6.4	#	#	#	#	#	#	#	#		
ACZA	6.4	6.4	6.4	6.4	6.4	#	6.4	6.4	6.4		
CA-B	3.3	#	#	3.3	3.3	#	#	#	#		
CA-C	2.4	#	#	2.4	2.4	#	#	#	#		
CCA	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4		
CuN-W	1.76	#	#	#	#	#	#	#	#		
KDS	#	7.5	7.5	7.5	7.5	#	#	#	#		
KDS-B	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	#		
MCA	2.4	#	#	#	#	#	#	#	#		
MCA-C	2.4	#	#	#	#	2.4	#	#	#		
MCAP	2.4										
Use Category 4B – kg/m^3											
CR (a)	160	160	160	160	160	#	160	160	160		
CR-S (a)	160	160	160	160	160	#	160	160	160		
CR-PS (a)	160	160	160	160	160	#	160	160	160		
CuN	1.1	1.1	#	1.1	1.1	#	1.1	#	#		
DCOI-A (c)	2.7	2.7	#	2.7	2.7	#	2.7	#	#		
PCP-A & PCP-C (b)	8.0	8.0	8.0	8.0	8.0	#	8.0	8.0	8.0		
ACQ-B	8.0	8.0	#	#	#	#	8.0	8.0	8.0		
ACQ-C	8.0	#	#	8.0	8.0	8.0	#	#	#		
ACQ-D	8.0	#	#	#	#	#	#	#	#		
ACZA	8.0	8.0	8.0	8.0	8.0	#	8.0	8.0	8.0		
CA-B	4.0	#	#	4.0	4.0	#	#	#	#		
CA-C	4.0	#	#	4.0	4.0	#	#	#	#		
CCA	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		
MCA	4.0	#	#	#	#	#	#	#	#		
MCAP	3.7										

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1690	AWPA U1 COMM SPEC B PD24	Proposal to revise Standard P61 in Commodity	

Preservative	**Pines**						**Douglas-Fir**	**Western Hemlock**	**Western Larch**
	Southern	**Ponderosa**	**Jack**	**Lodgepole**	**Red**	**Radiata**			

	SECTION 3.1.1 [Table Data]	Specification B-Posts, Section 3.0, Table 3.1.1 to change retention level for P61 (MCA preservative system) for UC4B from 4.0 kg/m3 to 3.7 kg/m3. A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.	**Use Category 4A –kg/m^3**									
			CR (a)	128	128	128	96	128	#	128	128	128
			CR-S (a)	128	128	128	96	128	#	#	#	#
			CR-PS (a)	128	128	128	112	128	#	128	128	128
			CuN	0.88	0.88	#	0.88	0.88	#	0.88	#	#
			DCOI-A (c)	2.1	2.1	#	2.1	2.1	#	2.1	#	#
			PCP-A & PCP-C (b)	6.4	6.4	6.4	6.4	6.4	#	6.4	6.4	6.4
			ACQ-B	6.4	6.4	#	#	#	#	6.4	6.4	6.4
			ACQ-C	6.4	#	#	6.4	6.4	6.4	#	#	#
			ACQ-D	6.4	#	#	#	#	#	#	#	#
			ACZA	6.4	6.4	6.4	6.4	6.4	#	6.4	6.4	6.4
			CA-B	3.3	#	#	3.3	3.3	#	#	#	#
			CA-C	2.4	#	#	2.4	2.4	#	#	#	#
			CCA	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
			CuN-W	1.76	#	#	#	#	#	#	#	#
			KDS	#	7.5	7.5	7.5	7.5	#	#	#	#
			KDS-B	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	#
			MCA	2.4	#	#	#	#	#	#	#	#
			MCA-C	2.4	#	#	#	#	2.4	#	#	#
			Use Category 4B – kg/m^3									
			CR (a)	160	160	160	160	160	#	160	160	160
			CR-S (a)	160	160	160	160	160	#	160	160	160
			CR-PS (a)	160	160	160	160	160	#	160	160	160
			CuN	1.1	1.1	#	1.1	1.1	#	1.1	#	#
			DCOI-A (c)	2.7	2.7	#	2.7	2.7	#	2.7	#	#
			PCP-A & PCP-C (b)	8.0	8.0	8.0	8.0	8.0	#	8.0	8.0	8.0
			ACQ-B	8.0	8.0	#	#	#	#	8.0	8.0	8.0
			ACQ-C	8.0	#	#	8.0	8.0	8.0	#	#	#
			ACQ-D	8.0	#	#	#	#	#	#	#	#
			ACZA	8.0	8.0	8.0	8.0	8.0	#	8.0	8.0	8.0
			CA-B	4.0	#	#	4.0	4.0	#	#	#	#
			CA-C	4.0	#	#	4.0	4.0	#	#	#	#
			CCA	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

			MCA 4.03.7 # # # # # # # #
			Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*
1677	AWPA U1 COMM SPEC B PD24 SECTION 3.1.2 [Table Data]	Listing of MCAP in Section 3.0 Posts - Retention Specifications - Table 3.1.2 (pcf) UC4A and UC4B Use Categories.	

Preservative	Pines						Douglas-Fir	Western Hemlock	Western Larch
	Southern	Ponderosa	Jack	Lodgepole	Red	Radiata			
Use Category 4A – pcf									
CR (a)	8.0	8.0	8.0	6.0	8.0	#	8.0	8.0	8.0
CR-S (a)	8.0	8.0	8.0	6.0	8.0	#	#	#	#
CR-PS (a)	8.0	8.0	8.0	7.0	8.0	#	8.0	8.0	8.0
CuN	0.055	0.055	#	0.055	0.055	#	0.055	#	#
DCOI-A (c)	0.13	0.13	#	0.13	0.13	#	0.13	#	#
PCP-A & PCP-C (b)	0.40	0.40	0.40	0.40	0.40	#	0.40	0.40	0.40
ACQ-B	0.40	0.40	#	#	#	#	0.40	0.40	0.40
ACQ-C	0.40	#	#	0.40	0.40	0.40	#	#	#
ACQ-D	0.40	#	#	#	#	#	#	#	#
ACZA	0.40	0.40	0.40	0.40	0.40	#	0.40	0.40	0.40
CA-B	0.21	#	#	0.21	0.21	#	#	#	#
CA-C	0.15	#	#	0.15	0.15	#	#	#	#
CCA	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
CuN-W	0.11	#	#	#	#	#	#	#	#
KDS	0.47	#	#	#	#	0.47	0.47	0.47	#
KDS-B	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	#
MCA	0.15	#	#	#	#	#	#	#	#
MCA-C	0.15	#	#	#	#	0.15	#	#	#
MCAP	0.15								
Use Category 4B -- pcf									
CR (a)	10.0	10.0	10.0	10.0	100.	#	10.0	10.0	10.0
CR-S (a)	10.0	10.0	10.0	10.0	10.0	#	10.0	10.0	10.0
CR-PS (a)	10.0	10.0	10.0	10.0	10.0	#	10.0	10.0	10.0
CuN	0.069	0.069	#	0.069	0.069	#	0.069	#	#
DCOI-A (c)	0.17	0.17	#	0.17	0.17	#	0.17	#	#
PCP-A & PCP-C (b)	0.50	0.50	0.50	0.50	0.50	#	0.50	0.50	0.50
ACQ-B	0.50	0.50	#	#	#	#	0.50	0.50	0.50
ACQ-C	0.50	#	#	0.50	0.50	0.50	#	#	#

ACQ-D	0.50	#	#	#	#	#	#	#	#	
ACZA	0.50	0.50	0.50	0.50	0.50	#	0.50	0.50	0.50	
CA-B	0.25	#	#	0.25	0.25	#	#	#	#	
CA-C	0.25	#	#	0.25	0.25	#	#	#	#	
CCA	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
MCA	0.25	#	#	#	#	#	#	#	#	
MCAP	0.23									

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1691 | AWPA U1 COMM SPEC B PD24 SECTION 3.1.2 [Table Data] | Proposal to revise Standard P61 in Commodity Specification B-Posts, Section 3.0, Table 3.1.2 to change retention level for P61 (MCA preservative system) for UC4B from 0.25 pcf to 0.23 pcf. A review of retention calculation rationale, long-term field test performance data, and 10 plus years of industry practice provide a technical justification for this adjustment. A detailed rationale for this revision and Supporting Data can be found in the attached document.

Preservative	**Pines**						**Douglas-Fir**	**Western Hemlock**	**Western Larch**
	Southern	**Ponderosa**	**Jack**	**Lodgepole**	**Red**	**Radiata**			
Use Category 4A – pcf									
CR (a)	8.0	8.0	8.0	6.0	8.0	#	8.0	8.0	8.0
CR-S (a)	8.0	8.0	8.0	6.0	8.0	#	#	#	#
CR-PS (a)	8.0	8.0	8.0	7.0	8.0	#	8.0	8.0	8.0
CuN	0.055	0.055	#	0.055	0.055	#	0.055	#	#
DCOI-A (c)	0.13	0.13	#	0.13	0.13	#	0.13	#	#
PCP-A & PCP-C (b)	0.40	0.40	0.40	0.40	0.40	#	0.40	0.40	0.40
ACQ-B	0.40	0.40	#	#	#	#	0.40	0.40	0.40
ACQ-C	0.40	#	#	0.40	0.40	0.40	#	#	#
ACQ-D	0.40	#	#	#	#	#	#	#	#
ACZA	0.40	0.40	0.40	0.40	0.40	#	0.40	0.40	0.40
CA-B	0.21	#	#	0.21	0.21	#	#	#	#
CA-C	0.15	#	#	0.15	0.15	#	#	#	#
CCA	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
CuN-W	0.11	#	#	#	#	#	#	#	#
KDS	0.47	#	#	#	#	0.47	0.47	0.47	#
KDS-B	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	#
MCA	0.15	#	#	#	#	#	#	#	#
MCA-C	0.15	#	#	#	#	0.15	#	#	#
Use Category 4B -- pcf									
CR (a)	10.0	10.0	10.0	10.0	100.	#	10.0	10.0	10.0
CR-S (a)	10.0	10.0	10.0	10.0	10.0	#	10.0	10.0	10.0
CR-PS (a)	10.0	10.0	10.0	10.0	10.0	#	10.0	10.0	10.0

			CuN	0.069	0.069	#	0.069	0.069	#	0.069	#	#
			DCOI-A (c)	0.17	0.17	#	0.17	0.17	#	0.17	#	#
			PCP-A & PCP-C (b)	0.50	0.50	0.50	0.50	0.50	#	0.50	0.50	0.50
			ACQ-B	0.50	0.50	#	#	#	#	0.50	0.50	0.50
			ACQ-C	0.50	#	#	0.50	0.50	0.50	#	#	#
			ACQ-D	0.50	#	#	#	#	#	#	#	#
			ACZA	0.50	0.50	0.50	0.50	0.50	#	0.50	0.50	0.50
			CA-B	0.25	#	#	0.25	0.25	#	#	#	#
			CA-C	0.25	#	#	0.25	0.25	#	#	#	#
			CCA	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
			MCA	~~0.25~~0.23	#	#	#	#	#	#	#	#
			Attachment(s): *P61 MCA P4 Supporting Data - vAWPA.pdf*									

AWPA Technical Committee T-4
Fall 2024 Standardization Cycle

AWPA Standard U1-24, Commodity Specification D

24F-T4-U1D: Proposal to Revise U1(D) with Minor Changes

Proponent(s): Andy Zahora, Forrest Schultz

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▲ID	Item	Proposed Change	Committee Disposition
1490	AWPA U1 COMM SPEC D PD25 SECTION 4.4A RESULTS OF TREATMENT (RETENTION) FOR POLES TREATED USING THE PRESSURE PROCESS [Table Data]		

Species	Oil-Type Preservative Retentions (pcf)				Waterborne Preservative Retentions (pcf a.i.)					
	CR, CR-S, CR-PS solution	PCP-A, PCP-C ai	DCOI-A ai	CuN Cu as metal	ACZA	CCA(b)	ACQ-B	CA-B	CA-C	MCA
Use Category 4A – pcf										
Southern Pine	6.0	0.30	0.10	0.060	0.60	0.60	0.60	0.31	0.31	0.31
Coastal Douglas fir – Outer zone	9.0	0.45	0.15	0.075	0.60	0.60	0.60	#	#	#
Coastal Douglas fir – Inner zone (a)	4.5	0.23	#0.075	0.038	0.30	0.30	0.30			
Jack Pine	12.0	0.60	#	0.095	0.60	0.60	0.60	#	#	#
Red Pine	10.0	0.50	0.17	0.075	0.60	0.60	0.60	#	#	#
Lodgepole Pine	12.0	0.60	0.20	0.095	0.60	0.60	0.60	#	#	#
Radiata Pine (Chilean)	#	#	#	#	#	0.60	#	#	#	#
Western Red Cedar	20.0	1.0	0.33	0.12	0.60	0.60	0.60	0.31	0.31	#
Alaska Yellow Cedar	20.0	1.0	0.33	0.12	0.60	0.60	0.60	#	#	#
Western Larch	16.0	0.80	0.27	0.120	0.60	0.60	0.60	#	#	#
Ponderosa Pine	6.0	0.30	0.10	0.060	0.60	0.60	0.60	#	#	#
Use Category 4B –pcf										
Southern Pine	7.5	0.38	0.13	0.080	0.60	0.60	0.60	0.31	0.31	0.31

Coastal Douglas fir – Outer zone	9.0	0.45	0.15	0.095	0.60	0.60	0.60	#	#	#			
Inner zone (a)	4.5	0.23	#0.075	0.048	0.30	0.30	0.30						
Jack Pine	12.0	0.60	#	0.095	0.60	0.60	0.60	#	#	#			
Red Pine	10.0	0.50	0.17	0.095	0.60	0.60	0.60	#	#	#			
Lodgepole Pine	12.0	0.60	0.20	0.095	0.60	0.60	0.60	#	#	#			
Radiata Pine (Chilean)	#	#	#	#	#	0.60	#	#	#	#			
Western Red Cedar	20.0	1.0	0.33	0.12	0.60	0.60	0.60	0.31	0.31	#			
Alaska Yellow Cedar	20.0	1.0	0.33	0.12	0.60	0.60	0.60	#	#	#			
Western Larch	16.0	0.80	0.27	0.120	0.60	0.60	0.60	#	#	#			
Ponderosa Pine	7.5	0.38	0.13	0.080	0.60	0.60	0.60	#	#	#			
Use Category 4C –pcf													
Southern Pine	9.0	0.45	0.15	0.13	0.60	0.60	0.60	0.31	0.31	0.31			
Coastal Douglas fir – Outer zone	12.0	0.60	0.20	0.15	0.60	0.60	0.60	#	#	#			
Inner zone (a)	6.0	0.30	#0.10	0.075	0.30	0.30	0.30						
Jack Pine	16.0	0.80	#	0.12	0.60	0.60	0.60	#	#	#			
Red Pine	12.0	0.60	0.20	0.15	0.60	0.60	0.60	#	#	#			
Lodgepole Pine	16.0	0.80	0.27	0.12	0.60	0.60	0.60	#	#	#			
Radiata Pine (Chilean)	#	#	#	#	#	0.60	#	#	#	#			
Western Red Cedar	20.0	1.0	0.33	0.12	0.60	0.60	0.60	0.31	0.31	#			
Alaska Yellow Cedar	20.0	1.0	0.33	0.12	0.60	0.60	0.60	#	#	#			
Western Larch	16.0	0.80	0.27	0.150	0.60	0.60	0.60	#	#	#			
Ponderosa Pine	9.0	0.45	0.15	0.13	0.60	0.60	0.60	#	#	#			

1491 AWPA U1 COMM SPEC D PD25 SECTION 4.4B RESULTS OF TREATMENT (RETENTION) FOR POLES TREATED USING THE PRESSURE PROCESS [Table Data]

Species	**Oil-Type Preservative Retentions (kg/m^3)**				**Waterborne Preservative Retentions (kg/m^3)**					
	CR, CR-S solution	**PCP-A, PCP-C** ai	**DCOI-A ai**	**CuN** Cu as metal	**ACZA**	**CCA**(b)	**ACQ-B**	**CA-B**	**CA-C**	**MCA**
Use Category 4A – kg/m^3										
Southern Pine	96	4.8	1.6	0.96	9.6	9.6	9.6	5.0	5.0	5.0
Coastal Douglas fir – Outer zone	144	7.2	2.4	1.2	9.6	9.6	9.6	#	#	#
Inner zone (a)	72	3.7	#1.2	0.61	4.8	4.8	4.8			
Jack Pine	192	9.6	#	1.5	9.6	9.6	9.6	#	#	#

Red Pine	160	8.0	2.7	1.2	9.6	9.6	9.6	#	#	#
Lodgepole Pine	192	9.6	3.2	1.5	9.6	9.6	9.6	#	#	#
Radiata Pine (Chilean)	#	#	#	#	#	9.6	#	#	#	#
Western Red Cedar	320	16	5.3	1.9	9.6	9.6	9.6	5.0	5.0	#
Alaska Yellow Cedar	320	16	5.3	1.9	9.6	9.6	9.6	#	#	#
Western Larch	256	13	4.3	1.92	9.6	9.6	9.6	#	#	#
Ponderosa Pine	96	4.8	1.6	0.96	9.6	9.6	9.6	#	#	#
Use Category 4B – kg/m^3										
Southern Pine	120	6.1	2.1	1.3	9.6	9.6	9.6	5.0	5.0	5.0
Coastal Douglas fir –										
Outer zone	144	7.2	2.4	1.5	9.6	9.6	9.6	#	#	#
Inner zone (a)	72	3.7	#1.2	0.77	4.8	4.8	4.8			
Jack Pine	192	9.6	#	1.5	9.6	9.6	9.6	#	#	#
Red Pine	160	8.0	2.7	1.5	9.6	9.6	9.6	#	#	#
Lodgepole Pine	192	9.6	3.2	1.5	9.6	9.6	9.6	#	#	#
Radiata Pine (Chilean)	#	#	#	#	#	9.6	#	#	#	#
Western Red Cedar	320	16	5.3	1.9	9.6	9.6	9.6	5.0	5.0	#
Alaska Yellow Cedar	320	16	5.3	1.9	9.6	9.6	9.6	#	#	#
Western Larch	256	13	4.3	1.92	9.6	9.6	9.6	#	#	#
Ponderosa Pine	120	6.1	2.0	1.3	9.6	9.6	9.6	#	#	#
Use Category 4C – kg/m^3										
Southern Pine	144	7.2	2.4	2.1	9.6	9.6	9.6	5.0	5.0	5.0
Coastal Douglas fir –										
Outer zone	192	9.6	3.2	2.4	9.6	9.6	9.6	#	#	#
Inner zone (a)	96	4.8	#1.6	1.2	4.8	4.8	4.8			
Jack Pine	256	13	#	1.9	9.6	9.6	9.6	#	#	#
Red Pine	192	9.6	3.2	2.4	9.6	9.6	9.6	#	#	#
Lodgepole Pine	256	13	4.3	1.9	9.6	9.6	9.6	#	#	#
Radiata Pine (Chilean)	#	#	#	#	#	9.6	#	#	#	#
Western Red Cedar	320	16	5.3	1.9	9.6	9.6	9.6	5.0	5.0	#
Alaska Yellow Cedar	320	16	5.3	1.9	9.6	9.6	9.6	#	#	#
Western Larch	256	13	4.3	2.4	9.6	9.6	9.6	#	#	#

		<table><tr><td>Ponderosa Pine</td><td>144</td><td>7.2</td><td>2.4</td><td>2.1</td><td>9.6</td><td>9.6</td><td>9.6</td><td>#</td><td>#</td><td>#</td></tr></table>	
1637	AWPA U1 COMM SPEC D PD25 SECTION 6.2.5	6.3 **Treatment of Laminated Wood Members with CCA Prior to Gluing**. Prior to gluing, laminated wood members shall be treated in accordance with AWPA Standard T1, provided such members shall be glued with wet adhesives as specified in the most recent edition of ANSI A190. **6.3.1 —Seasoning or Conditioning**. After treatment, CCA treated members shall be dried to moisture content requirements as specified in the most recent edition of ANSI A190. **6.3.2 Penetration.** Penetration requirements and assay zones are tabulated in the Processing and Treatment Standard (T1).	
1638	AWPA U1 COMM SPEC D PD25 SECTION 6.3	**6.43 Retreatment. Laminated members prior to gluing or glued laminated** Poles may be retreated once provided none of the limitations in Standard T1, Section 6 (entitled "Retreatment") are exceeded.	
1639	AWPA U1 COMM SPEC D PD25 SECTION 6.4	**6.54 Results of treatment.** Minimum retention requirements for–glued laminated poles are listed in Table 6.5. Minimum retention requirements for laminated wood members are listed in Tables 4.4A and 4.4B.	

AWPA Technical Committee T-7
Fall 2024 Standardization Cycle

AWPA Standard M2

24F-T7-M2: Proposal to revise M2 with extensive changes

Proponent(s): Butch Bernhardt

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

ID	▲Item	Proposed Change	Committee Disposition
1527	AWPA M2 PD25 SECTION 2.3.6	**2.3.6** The moisture meter shall be of the electrical resistance type, with insulated needles of proper length for the material being tested. The readings shall be corrected for wood species and temperature and the manufacturer's instructions shall be followed. Moisture meter readings over ~~25~~ 30 percent are not accurate and the moisture content can be much higher than shown.	
1528	AWPA M2 PD25 SECTION 3.1.2.1	~~**3.1.2.1** For creosote solutions: Complete analysis for conformance with AWPA Standard P1/P13 or P2, whichever is applicable.~~	
1529	AWPA M2 PD25 SECTION 3.1.2.2	~~**3.1.2.2** For creosote/petroleum oil solutions under AWPA Standard P3: complete analysis of the coal tar creosote and the petroleum oil, used to form the solution, for conformance with AWPA Standards P1/P13 and HSH respectively. Alternatively, the inspector can determine conformance by review of plant records concerning specifications of materials received.~~	
1530	AWPA M2 PD25 SECTION 3.1.2.3	**3.1.2.3~~1~~ 1 Waterborne Preservative Solution** Chemical analysis of water-borne preservatives to determine conformance to AWPA preservative standards shall be made in accordance with the applicable AWPA analytical standards referenced therein.	
1531	AWPA M2 PD25 SECTION 3.1.2.4	~~**3.1.2.4** Analysis for organic compounds used as preservatives in petroleum solution to determine conformance to AWPA preservative standards shall be in accordance with the AWPA analytical standards referenced therein.~~	
1532	AWPA M2 PD25 SECTION 3.1.2.5	~~**3.1.2.5** Pentachlorophenol-petroleum solution. Samples from a solution of pentachlorophenol-petroleum which have already been mixed shall be tested for pentachlorophenol content, solubility, specific gravity, water and sediment in accordance with AWPA Standard P35 using the AWPA analytical standards referenced therein. The specific gravity determined on the solution shall be lowered by 0.03 to compensate for the presence of 5 percent additive. The flash point and viscosity shall also be tested if these values are not available from the certification of the original analysis report on the solvent furnished by the supplier of the solution. All tests shall be made for conformance to the appropriate "HS" standard.~~	
1533	AWPA M2 PD25 SECTION 3.1.2.6	**3.1.2.~~6~~ 2 Oilborne Preservative Solution**~~olution~~. ~~The copper concentration of the treating solution shall be analyzed for conformance to AWPA preservative standards using the AWPA analytical standards referenced therein. Other~~ Chemical analysis of oilborne preservatives to determine conformance to AWPA preservative standards shall be made in accordance with the applicable AWPA analytical standards referenced therein. Additional physical property tests may be conducted to help characterize the solvent as defined in the applicable Hydrocarbon Solvent (HS) standard(s). ~~These tests are referred to in AWPA Standards HSA and HSC.~~	

1534	AWPA M2 PD25 SECTION 3.2.2	**3.2.2** When net retention of preservative by gauge is specified, the inspector shall assure ~~that the~~ the certified calibration tank tables and/or tank gauges ~~are in proper working condition,~~ have been tested and certified according to Standard M3, Section 3.5, check the volume and composition of the charge (species, class, dimensions, etc.), and obtain tank gauge and temperature readings.	
1535	AWPA M2 PD25 SECTION 4.1	~~**4.1 Physical inspection.** Following treatment, the inspector shall first examine the charge for cleanliness, mechanical damage to individual pieces, treatment damage such as severe checking, splitting or honeycombing, and for untreated areas resulting from air pockets, floating material, or insufficient height of preservative.~~ **4,1 General.** For a charge to be conforming to these standards it must comply with the methods in and requirements of Sections 4.2 through 4.5.	
1536	AWPA M2 PD25 SECTION 4.2	~~**4.2 Boring Instructions.**~~ **4.2 Physical observation and inspection.** Treated products shall be checked for cleanliness, mechanical damage, treatment damage such as collapse or delamination, and for untreated "white" pieces resulting from ice, air pockets, floating material or insufficient height of preservative. When noticeable surface residue is found the units impacted shall be cleaned. Pieces with mechanical damage shall be rejected. When treatment damage is indicated the entire charge shall be rejected. Units with untreated pieces shall be rejected and held for retreatment.	
1537	AWPA M2 PD25 SECTION 4.2.1	~~**4.2.1** Boring shall be done with a sharp increment borer which extracts a core approximately 0.20 inch in diameter. A bit of smaller diameter may be used to avoid damage to small dimension material. When smaller bits are used, additional cores may be taken to make up the required sample volume. The bit shall be kept free of rust, pitch or preservative. When the diameter of the core is critical for assay purposes, the bit or core diameter shall be accurately determined as shown in Section 4.2.2 to the nearest 0.001 inch. Borings for penetration and/or assay shall be taken by the inspector or in his presence. The minimum number of borings shall be as specified in the AWPA Use Category System Standards for the commodity, species and type of treatment, or as required by the customer's specification. Borings shall be taken at the following locations on each piece of bored wood unless otherwise specified by the purchaser or the applicable AWPA standard.~~	
1538	AWPA M2 PD25 SECTION 4.2.1.1	~~**4.2.1.1** Pressure treated material, approximately midway between ends, except Red Oak over 9 feet in length.~~	
1540	AWPA M2 PD25 SECTION 4.2.1.2	~~**4.2.1.2** Red Oak over 9 feet in length -- 4 feet from either end.~~	
1541	AWPA M2 PD25 SECTION 4.2.1.2	~~**4.2.1.2** Red Oak over 9 feet in length -- 4 feet from either end.~~	
1542	AWPA M2 PD25 SECTION 4.2.1.3	~~**4.2.1.3** Butt and Thermal treated poles -- in accordance with the applicable standard.~~	
1543	AWPA M2 PD25 PARA 2	~~Borings shall be taken from pieces which represent, as nearly as practical, an equal proportion of the different sizes, seasoning and location of pieces in the charge. In sawn material when large variations in size, especially in thickness, exist within a charge, the charge should be divided as nearly as possible into lots of related sizes and sampled as separate lots. Differences of grain configuration and density are often found in lots of sawn material. Sampling should be on a random basis so that all pieces available for sampling within a lot have an equal chance of being included in the sample. Knots, grain deviation around knots, pitch pockets, shakes, splits, irregular slope of grain and reaction wood (compression or tension) shall be avoided in selecting the exact location for the boring. For incised material, borings shall be taken at a point midway on a line diagonally between adjacent incisions. When it is apparent from visual inspection that the depth and density of incisions is not uniform on all faces of sawn material, borings shall be taken from the face that has less dense or shallower incising. The core shall be discarded if a borer passes through an internal defect, or if the core is crushed, broken or smeared with treating solution so the penetration cannot be determined. For sawn materials which require both minimum heartwood penetration and percent of sapwood, borings shall be taken from heartwood faces and sapwood faces in the approximate proportion of heartwood and sapwood faces in a charge. Penetration into heartwood is not required for charges of material which require a minimum sapwood penetration in inches of wood or percent of the sapwood. In round material (poles, piling, and posts), boring shall be toward the center of the piece. In sawn material, borings shall be taken perpendicular to the face being sampled.~~	
1544	AWPA M2 PD25 SECTION 4.2.2	~~**4.2.2 Core handling.** The following procedure shall be used in processing increment borer cores. Steps required for assay by extraction (identified in the list) may be ignored when the procedure is not used.~~	

1545	AWPA M2 PD25 SECTION 4.2.2 PARA 1	**a)** Tare the weighing bottle and screen thimble (extraction assay).	
1546	AWPA M2 PD25 SECTION 4.2.2 PARA 2	**b)** As the increment borer penetrates the material, ensure that it is perpendicular to the surface being bored or is directed toward the center as required by the type of material.	
1547	AWPA M2 PD25 SECTION 4.2.2 PARA 3	**c)** Remove the core from the increment borer carefully to avoid breaking or damaging the core.	
1548	AWPA M2 PD25 SECTION 4.2.2 PARA 4	**d)** When applicable, apply heartwood indicator (Sections 4.3.1.1 and 4.3.1.2) and measure the depth of sapwood or cut away the heartwood portion.	
1549	AWPA M2 PD25 SECTION 4.2.2 PARA 5	**e)** Measure the depth of preservative penetration. For light colored, clear or waterborne treatments apply an appropriate preservative penetration indicator (AWPA analytical standards).	
1550	AWPA M2 PD25 SECTION 4.2.2 PARA 6	**f)** Record the data.	
1551	AWPA M2 PD25 SECTION 4.2.2 PARA 7	**g)** After sectioning the core in a jig, remove the separated section and:	
1552	AWPA M2 PD25 SECTION 4.2.2 PARA 7 PARA 1	**1)** place in a weighing bottle with other sections and immediately replace stopper (extraction assay) or	
1553	AWPA M2 PD25 SECTION 4.2.2 PARA 7 PARA 2	**2)** combine with other core sections for later analysis.	
1554	AWPA M2 PD25 SECTION 4.2.2 PARA 8	**h)** After sampling, reweigh the bottle, thimble and core sections (extraction assay).	
1555	AWPA M2 PD25 SECTION 4.2.2 PARA 9	**i)** Analyze using appropriate AWPA analytical standards referenced in the applicable preservative standards.	
1556	AWPA M2 PD25 PARA 32	For sectioning cores, a jig shall be used consisting of a grooved block with slits to accommodate a razor blade. The length of the core section shall be within a tolerance of plus or minus 0.05 inch. The jig shall not be allowed to lie unprotected in the sun. When sampling for assays which require a known volume of wood the borer shall be calibrated at least once a month, and after each sharpening. Either of the two following methods shall be used:	
1557	AWPA M2 PD25 PARA 4	**Method 1: Calibrating the increment borer bit.** This method shall be used on new or unworn bits. A Starrett Taper Gage (Cat. No. 269A), or equivalent, shall be used, reading to the nearest 0.001 inch. The bit diameter shall be considered as the average of two readings made at the maximum and minimum diameter.	
1558	AWPA M2 PD25 PARA 5	**Method 2: Calibrating by increment borer cores.** At least 20 borings shall be measured. Preferably this shall be done immediately after extracting each core from wood at normal temperatures. If measurements cannot be made immediately, the cores shall be placed in a small, clean, tightly stoppered bottle, and they shall be measured immediately on return to the laboratory. Only well-cut cores shall be used and care should be taken to measure at a point within the assay sampling zone, free from knots and resin accumulations. The diameter of each core shall be measured once across the grain and once along the grain using either a machinist's micrometer or a Starrett dial test indicator or equivalent, reading to the nearest 0.001 inch. The two diameters shall be averaged, and the calibrated diameter of the borer shall be considered as the total of these average diameters divided by the number of cores.	
1559	AWPA M2 PD25 SECTION 4.2.3	**4.2.3 Plugging test holes**. All increment borer holes should be promptly plugged with treated, tight fitting wooden plugs or other material not susceptible to insect attack and decay. Wooden plugs shall be treated with a preservative similar in performance to that of the product treatment. It may not be practical to use wooden plugs for sawn material of a thickness less than two inches nominal or in plywood due to the risk of damage. Care should be used in selecting the proper diameter plugs, and in driving to avoid breaking the plug or splitting the piece.	
1560	AWPA M2 PD25 SECTION 4.3	**4.3 Measurement of penetration**. Except as modified below, the depth of penetration shall be the distance from the outer end of the core to the first untreated annual ring and shall include only the portion of the innermost ring plainly showing preservative. An annual ring shall be considered penetrated if any portion of that ring is penetrated. In sawn material, where a core is at an angle of less than 45 degrees to the annual ring(s), the first definite break in penetration shall be the measured depth of penetration. Unless specified otherwise in a Use Category System standard for an individual species, measurement of penetration shall be to the nearest one-tenth inch. If penetration is clearly obvious from examination of an individual unsmudged core, then the penetration may be measured on the round core; otherwise, cores shall be split lengthwise through the center and penetration measured on the cut face. Ray cells passing through an annual ring are not considered part of an annual ring and shall not be considered in evaluating penetration except as skips, as defined in 4.3.5.	

		~~Penetration measurement shall be made at the time of sampling. In all cases, time shall be allowed for penetration indicators to adequately react with the treated wood. The depth of penetration in material treated with colorless and waterborne solutions shall be determined in accordance with the applicable AWPA A standard.~~ **4.3 Charge sampling.** Each charge or lot of treated material that is intended to meet an AWPA Standard and/or a user's written specification shall be sampled to determine penetration and retention. The minimum number of borings or sample surrogate sections shall be as specified in the Commodity Section of Standard T1 for the commodity, species and type of treatment, or as required by the user's specification. When lumber is checked for penetration with a set of 20 or more cores, additional sets of 20 or more cores may be taken to confirm penetration results provided that all cores are considered.	
1561	AWPA M2 PD25 SECTION 4.3.1	~~**4.3.1 Percent sapwood penetration.** The depth of the sapwood shall be measured on all cores when there is a percent of sapwood penetration requirement. Sapwood measurement shall be to the nearest one-tenth inch. Where heartwood is clearly obvious, it may be identified visually. With species or individual pieces not showing a clear demarcation in color between heartwood and sapwood, the sapwood thickness shall be checked with indicators described in the following paragraphs.~~ **4.3.1 Core sampling - General requirements.** Borings shall be taken from pieces which represent, as nearly as practical, an equal proportion of the different sizes, seasoning and location of pieces in the charge according to the applicable Commodity Specification of Standard T1. When large variations in size (width and thickness) exist within a charge, the charge should be divided into lots of similar sizes and sampled separately. Sampling shall be on a random basis so that all pieces available for sampling within a lot have an equal chance of being included in the sample. Borings for penetration and/or assay shall be taken by the inspector or in his presence. Boring shall be done with a sharp increment borer which extracts a core approximately 0.20 inch in diameter. The bit shall be kept free of rust, pitch or preservative. When the diameter of the core is critical for assay purposes, the bit or core diameter shall be accurately determined as shown in Section 4.2.2 to the nearest 0.001 inch. When material is retreated on a charge that also has untreated material, borings from the retreated material shall be sampled as a separate lot. For sectioning cores, a jig should be used consisting of a grooved block with slits to accommodate a razor blade. The length of the core section shall be within a tolerance of plus or minus 0.05 inch. The jig shall not be allowed to lie unprotected in the sun. When sampling for assays which require a known volume of wood, the borer shall be calibrated at least once a month and after each sharpening. Knots, grain deviation around knots, pitch pockets, shakes, splits, irregular slope of grain and reaction wood shall be avoided in selecting the exact location for the boring. If a core passes through an internal defect or if the core is crushed, broken or smeared with treating solution so that penetration cannot be determined, the core shall be discarded, and another taken from the same piece. Borings on incised material shall be taken in a manner to have the least influence on penetration from adjacent incisions. Depending on the incising pattern, this may be at a point midway on a line diagonally between adjacent incisions or midway on a line perpendicular between two parallel incisions. When it is apparent from visual inspection that the depth and density of incisions is not uniform, borings shall be taken from the face that has the incising that is less dense or not as deep. All increment borer holes shall be plugged after sampling with treated, tight fitting wooden plugs or other material not susceptible to insect attack and decay. Wooden plugs shall be treated with a preservative similar in performance to that of the product treatment. It may not be practical to use wooden plugs for sawn material of a thickness less than two inches nominal or in plywood due to the risk of damage. Care should be used in selecting the proper diameter plugs, and in driving to avoid breaking the plug or splitting the piece. For sapwood species (see 4.4.1.1), cores with heartwood present in the assay zone shall be replaced with additional core(s) for retention determination. However, all original cores including those with heartwood in the assay zone must be evaluated for penetration and if non-conforming shall be counted as a penetration failure even though they will not be used for retention determination (see 4.5).	

		These additional cores may be taken when sampling the charge if heartwood is evident in the assay zone or may be taken later after completion of the penetration evaluation. The cores shall be obtained with consideration to ensure an unbiased sample. Penetration or the lack thereof in these additional cores shall have no bearing on penetration conformance of the charge and shall be included in the assay sample provided no heartwood is present in the assay zone.	
1562	AWPA M2 PD25 SECTION 4.3.1.1	~~**4.3.1.1 Pines.** The sapwood heartwood indicator for the pines shall be made by mixing together equal volumes of the following two solutions:~~ **4.3.1.1 Calibrating the Increment Borer Bit.** **4.3.1.1.1 Method 1.** This method shall be used on new or unworn bits. A Starrett Taper Gauge (Cat. No. 269A), or equivalent, shall be used, reading to the nearest 0.001 inch. The bit diameter shall be considered as the average of two readings made at the maximum and minimum diameter. **4.3.1.1.2 Method 2.** At least 20 borings shall be measured. Preferably this shall be done immediately after extracting each core from wood at normal temperatures. If measurements cannot be made immediately, the cores shall be placed in a small, clean, tightly stoppered bottle, and they shall be measured immediately on return to the laboratory. Only well-cut cores shall be used and care should be taken to measure at a point within the assay sampling zone, free from knots and resin accumulations. The diameter of each core shall be measured once across the grain and once along the grain using either a machinist's micrometer or a Starrett dial test indicator or equivalent, reading to the nearest 0.001 inch. The two diameters shall be averaged, and the calibrated diameter of the borer shall be considered as the total of these average diameters divided by the number of cores.	
1563	AWPA M2 PD25 PARA 43	~~**Solution A --** O-anisidine Hydrochloride~~	
1564	AWPA M2 PD25 PARA 4 PARA 1	~~**1.** Weigh out 8.5 g concentrated hydrochloric acid (37%)~~	
1565	AWPA M2 PD25 PARA 4 PARA 2	~~**2.** Dilute with water to make 495 g of solution~~	
1566	AWPA M2 PD25 PARA 4 PARA 3	~~**3.** Add 5 g O-anisidine and stir until completely dissolved.~~	
1567	AWPA M2 PD25 PARA 6	~~**Solution B --** 10 percent Sodium Nitrite.~~	
1568	AWPA M2 PD25 PARA 6 PARA 1	~~Dissolve 50 g sodium nitrite in 450 g water~~	
1569	AWPA M2 PD25 PARA 7	~~For maximum shelf life, both Solutions A and B should be stored in a refrigerator or other cool, dark location. Under such conditions the storage life exceeds one month. The mix of the two solutions can be used over a period of several days, but filtering before use is necessary. The mix of the indicator may be applied by spraying, dropper or brushing. Generally, after several minutes, heartwood will usually develop a red or reddish orange color or a yellow red color. In some instances, the color development may take longer than several minutes. The color is often bright but the intensity and brightness and the color itself may vary over the length of the heartwood in a core. When the indicator is applied to sapwood the sapwood usually remains a uniform pale yellow orange color and the indicator will be absorbed by the wood. Smooth surfaces give better results than rough surfaces. (Wettability of the indicator can be improved by adding a wetting agent such as a few drops of Kodak Photo-Flo to each 100 ml. of indicator mix). Several applications of the indicator may assist in color development. Heat may also be used to accelerate the reaction of the indicator with the wood. Excessive heat, however, may cause deterioration of the indicator and must be avoided. A sign of deterioration of the indicator is the formation of a uniform dull reddish-brown color. The reading of color shall be made in good light. In some instances, wood that appears to be heartwood in pines reacts poorly with the indicator. In addition to the obvious appearance of the heartwood, other physical characteristics may be used to aid in judging whether wood in a core is heartwood or wood that acts similar to heartwood relative to treatment, e.g., the failure of the wood in question to absorb the indicator or water when placed on its surface, the non-compressibility of the wood longitudinally when compared to obvious sapwood in the same core and the location of the wood in the core is typically where~~	

		~~heartwood is located. Using physical characteristics as an aid must be done cautiously and be supported by treating cycle data showing treatment to be, what is by experience, generally considered adequate for acceptable treatment of the species and commodity treated. The absorption may be checked as follows: If wood readily absorbs a solution when placed on its surface, it is probably treatable. A simple test for absorption can be performed by immersing the core(s) in water for 30 minutes or by wrapping the core(s) in a wet paper towel for the same length of time. Dry the surface of the core(s) with a paper towel and compress the core(s) longitudinally. Observe if any solution appears on the surface of the core(s). If so, the wood has absorbed solution and is not heartwood. The application of Chrome Azurol S penetration indicator solution prior to the application of the heartwood/sapwood indicator to the same surface will interfere with the color development and may give a false indication of heartwood. The Chrome Azurol S indicator is accurate if it is used after the heartwood/sapwood indicator.~~	
1570	AWPA M2 PD25 SECTION 4.3.1.2	~~**4.3.1.2 Test for Douglas-fir**. The heartwood and sapwood of Douglas-fir can usually be differentiated with a 0.1 percent solution of methyl orange in water or a 0.7 percent solution of alizarine-sulfonate in water. The alizarine-sulfonate stains the heartwood and one or two adjacent annual rings in the sapwood yellow and the sapwood pink, or some other shade of red. The methyl orange stains the heartwood a reddish color and the sapwood yellowish. The indicator works on both dry and green wood, and the colors are comparatively permanent. The test works best on a freshly exposed surface. A little alcohol added to the solution will make wet wood dry more rapidly. The ammonia present in material freshly treated with an ammoniacal preservative may interfere with the color reaction of the methyl orange indicator.~~	
1571	AWPA M2 PD25 SECTION 4.3.2	~~**4.3.2** In red oak lumber and ties, the number of annual growth rings in a 3-inch core and the number of rings containing preservative shall be counted. The latter divided by the former multiplied by 100 will give the percentage of rings penetrated, and preservative in any pore or vessel of an annual ring shall class that ring as penetrated. In case of doubt, the core shall be split or cut cross-wise through the springwood. The percentage of rings penetrated in any charge of red oak shall be determined by totaling the individual percentages and dividing their sum by the number of measurements.~~ **4.3.2 Sawn lumber - General requirements.** Except as noted, borings shall be taken on a narrow face (edge – where applicable) and perpendicular to the face being sampled, approximately midway between ends and at the approximate midpoint of the face being sampled. Square lumber (4x4, 6x6, etc.) may be sampled from any face. Thick lumber (more than nominal 2") shall be sampled in accordance with AWPA M25 section 6.3.1.2. Thin lumber (less than nominal 5/4) may be sampled in accordance with AWPA M25 section 6.3.1.3. Sawn crossarms shall be sampled in accordance with Standard T1 Commodity Section A: Sawn Products section 9.3. Borings are to be taken from sapwood of Southern pine, Ponderosa pine, Radiata pine, Caribbean pine, Red pine, Western red cedar, Alaskan yellow cedar, incense Cedar, and unincised Redwood. Borings from other softwood species shall be taken from heartwood faces and sapwood faces in the approximate proportion of heartwood and sapwood faces in a charge. The treated wood surface should be lightly cleaned prior to taking a sample to remove surface deposits of preservative. A boring shall be included in the assay sample regardless of penetration. For sawn materials which require both minimum heartwood penetration and percent of sapwood, borings shall be taken from heartwood faces and sapwood faces in the approximate proportion of heartwood and sapwood faces in a charge. Penetration into heartwood is not required for charges of material which require a minimum sapwood penetration in inches of wood or percent of the sapwood. **4.3.3 Posts.** Round, half round, and quarter round posts less than 16-feet in length shall be sampled in accordance with Standard T1 Commodity Section B: Posts section 3.0. **4.3.4 Building poles and posts.** Building poles and posts shall be sampled in accordance with Standard T1 Commodity Section B: Posts section 8.0. **4.3.5 Crossties and Switchties.** Crossties and Switchties shall be sampled in accordance with Standard T1 Commodity Section C: Crossties and Switchties section 6.0. **4.3.6 Utility Poles.** Solid and laminated wood utility poles shall be sampled in accordance with Standard T1 Commodity Section D: Poles sections 8.0 and 10.0, respectively.	

		4.3.7 Non-marine Round Timber Piles. Non-marine piles shall be sampled in accordance with Standard T1 Commodity Section E: Round Timber Piles section 9.0. **4.3.8 Plywood.** Plywood shall be sampled in accordance with Standard T1 Commodity Section F: Pressure-Treated Wood Composites section 4.1.1. For sapwood species, heartwood plies are not required to be penetrated. **4.3.9 Marine Applications**. Sawn products, round timber piles, and plywood to be used in marine applications shall be sampled in accordance with Standard T1 Commodity Section G: Marine (Salt Water) Applications section 9.0.	
1572	AWPA M2 PD25 SECTION 4.3.2	**4.3.2** In red oak lumber and ties, the number of annual growth rings in a 3-inch core and the number of rings containing preservative shall be counted. The latter divided by the former multiplied by 100 will give the percentage of rings penetrated, and preservative in any pore or vessel of an annual ring shall class that ring as penetrated. In case of doubt, the core shall be split or cut cross-wise through the springwood. The percentage of rings penetrated in any charge of red oak shall be determined by totaling the individual percentages and dividing their sum by the number of measurements.	
1573	AWPA M2 PD25 SECTION 4.3.3	**4.3.3** In gum lumber and ties, the depth of penetration shall be the sum of all treated sections appearing on the core.	
1574	AWPA M2 PD25 SECTION 4.3.4	**4.3.4** For determination of longitudinal heartwood penetration in crossarms, borings shall be taken in the center-line of the side or bottom of the crossarm and the specified distance from one of the holes at least six inches from the end but within the limits of AWPA Standards U1 and T1. For determining radial penetration in the sapwood of crossarms, bore the bottom or side with the most sapwood and as far as practical from any hole, thus avoiding longitudinal penetration.	
1575	AWPA M2 PD25 SECTION 4.3.5	**4.3.5 Penetration in sawn material.** The measurement of the depth of penetration may not always be exact. Certain grain configurations may make it difficult to determine the actual depth of penetration in a core. A core of this type may be disregarded and an additional core taken from another location on the piece or from another piece in the lot. When cores are taken from additional pieces, the same random sampling pattern used in obtaining the other cores shall be followed.	
1576	AWPA M2 PD25 PARA 54	A skip or series of skips not caused by obvious excess moisture content is permitted in a core not to exceed 15% of the required depth of penetration in sapwood. If a skip occurs in the assay zone, the penetration shall be recorded and an additional core may be taken to complete the assay sample.	
1577	AWPA M2 PD25 PARA 82	Pitch is generally not treatable and in a core shall be considered the same as heartwood.	
1579	AWPA M2 PD25 SECTION 4.4	**4.4 Retention.** The method of determining the net retention of preservative in kg/m³ (pcf) of wood shall be as specified by the purchaser. **4.4.1** Retention by gauge or scales. **4.4.1.1 Retention by tank gauge.** Determine the amount of preservative solution retained by the total wood volume in the charge according to readings of the working tank gauge before and after treatment, with corrections for temperature and conversion of gallons to pounds. The number of pounds of preservative used divided by the total volume of the charge gives the net retention in pounds per cubic foot of wood. **Correction factors.** In computing retentions by tank gauge, the temperature of creosote and creosote solutions shall be corrected, from the observed temperature at each tank reading, to 100°F by using the tables in AWPA Factors 1. Volumes of creosote-petroleum solutions shall be corrected to 100°F by using AWPA Factors 4. Volumes of penta-petroleum solution and copper naphthenate-petroleum solution shall be corrected to 60°F by using AWPA Factors 2. **(a)** Gallons of creosote and creosote solutions shall be converted to pounds per US gallon by using Table 2 of AWPA Factors 6 "Conversion of Specific Gravity to Pounds per Gallon". Gallons of penta-petroleum solution and copper naphthenate-petroleum solution shall be converted to pounds per US gallon by multiplying the specific gravity at 15.5°C (60/60°F) by 8.32828. **(b)** For penta-petroleum solutions or other oilborne solutions, the retention of active preservative in pcf may be obtained by multiplying the pounds of solution retained by the	

		strength of the solution expressed as a decimal, and dividing by the number of cubic feet in the charge. **(c)** Waterborne Preservatives -- The retention of waterborne preservatives shall be calculated as pounds of the preservative as defined in the applicable AWPA preservative standards, per cubic foot. Concentration of preservative in solution shall be determined by analysis in accordance with the appropriate "A" standard referenced by the "P" standard. **4.4.1.2 Retention by tank scale.** Determine retention of preservative solutions by actual weighing of the amount of preservative retained from a scale tank and dividing by total volume in the charge. **4.4.2** Retention by chemical or extraction assay -- samples for assay shall meet the following requirements: **Poles.** Borings shall be taken from poles having a sapwood depth at least equal to the maximum depth of the zone specified for assay. **Group A Poles.** A boring shall be included in the assay sample regardless of penetration, provided the charge is sampled for penetration in accordance with Standard T1. Otherwise, the requirement for Group B poles will apply. **Group B Poles**. A boring shall be composited in the assay sample only if the requirement for penetration is met. **Piles**. Marine and Land -- There is no requirement for minimum sapwood depth in borings taken for assay. A boring taken for assay shall meet the penetration requirement of AWPA Standard T1. **Posts**. Borings taken for assay shall contain a minimum sapwood depth of one inch. A boring shall be included in the assay sample regardless of penetration. **Sawn**. Borings are to be taken from sapwood of Southern pine, Ponderosa pine, Radiata pine, Caribbean pine, red pine, Western red cedar, Alaskan yellow cedar, incense cedar, and unincised redwood. Borings from other softwood species shall be taken from heartwood faces and sapwood faces in the approximate proportion of heartwood and sapwood faces in a charge. The treated wood surface should be lightly scraped prior to taking a sample in order to remove surface deposits of preservative. A boring shall be included in the assay sample regardless of penetration. **4.4.2.1 Retention by chemical assay.** Determine the quantity of preservative (disregarding the solvent) retained in a boring sample by assaying for quantity of the solid chemical retained, and computing the retention on the basis of pounds of solid chemical per cubic foot in the assay zone. When standard wood densities are needed, AWPA Standard A12 should be used. The retention of the waterborne preservatives shall not be less than indicated in Section 3 of AWPA Standard T1 for any individual component and shall not be less than the retention specified in the applicable AWPA commodity specification for the intended use. **4.4.2.2 Retention by extraction assay.** Determine the amount of creosote or other oil-type preservative solution retained in representative pieces by extracting the cores with boiling toluene and calculating the retention. **4.4.2.3** The basis of pounds of chemical per cubic foot of wood. (For laboratory procedure, refer to AWPA Standard A6). **4.4.2.4** When material is retreated in a charge with untreated material, borings from the retreated material shall not be included in the assay samples. The number of representative borings to comprise the sample and the section of the core (zone) to be used for the analysis shall meet the AWPA Standard for the applicable commodity, species and type of treatment. When there is an insufficient quantity of material in the charge to obtain, with one boring from each piece, the required size sample for the assay, an equal number of additional borings shall be taken from each of the pieces already bored.	

1583	AWPA M2 PD25 SECTION 4.4	~~**4.4 Retention.** The method of determining the net retention of preservative in kg/m³ (pcf) of wood shall be as specified by the purchaser.~~ **4.4 Penetration requirements.** The preservative penetration in each core is determined and compared to the minimum required penetration. The number of "passing" and "failing" cores or the total percentage of treated sapwood across all cores is then used to determine if the charge or lot conforms to the penetration requirement. Charges shall always be tested for and determined to be conforming in penetration prior to preparation of the cores for analysis. **4.4.1 General.** **4.4.1.1 Sapwood and heartwood species.** For determination of penetration, heartwood species shall be defined as species where AWPA Standard T1 requires minimum depth of penetration and a percent of sapwood penetration by area. For such species, penetration of heartwood may be required, and incising is generally required. Sapwood species shall be defined as species where AWPA Standard T1 requires a percent of sapwood penetration by area within the required depth of penetration. Penetration of heartwood is not required nor is incising required for sapwood species. **4.4.1.2 Heartwood Determination.** Where heartwood is clearly obvious, it may be identified visually. In addition to the obvious appearance of the heartwood, other physical characteristics may be used to aid in judging whether wood in a core is heartwood or wood that acts similar to heartwood relative to treatment, e.g. the failure of the wood in question to absorb the indicator or water when placed on its surface, the non-compressibility of the wood longitudinally when compared to obvious sapwood in the same core and the location of the wood in the core is typically where heartwood is located. Using physical characteristics as an aid must be done cautiously and be supported by treating cycle data showing treatment to be, what is by experience, generally considered adequate for acceptable treatment of the species and commodity treated. The absorption may be checked as follows: If wood readily absorbs a solution when placed on its surface, it is probably treatable. A simple test for absorption can be performed by immersing the core(s) in water for 30 minutes or by wrapping the core(s) in a wet paper towel for the same length of time. Dry the surface of the core(s) with a paper towel and compress the core(s) longitudinally. Observe if any solution appears on the surface of the core(s). If so, the wood has absorbed solution and is not heartwood. Pitch is generally not treatable and in a core shall be considered the same as heartwood. With species or individual pieces not showing a clear demarcation in color or obvious physical characteristics between heartwood and sapwood, the heartwood content shall be checked with indicators as described below. **a. Pines and Douglas-fir.** Apply indicators to the cores and provide adequate time and temperature to determine the presence of heartwood in accordance with AWPA Standard A49. Any parts of a core that react with heartwood indicator, including defects or pitch, shall be considered heartwood. Douglas-fir heartwood should be noted, and sapwood species heartwood noted or removed, prior to application of penetration indicator and assessment of penetration. **b. Species other than Pines and Douglas-fir.** Physical characteristics shall be used to determine any parts of the core to be considered heartwood.[JM1] **4.4.1.3 Core evaluation.** Rotate cores so that the longitudinal grain on the end of the cores is oriented vertically. If penetration is questionable or unclear in a given core, the total surface area of the core shall be evaluated by viewing 360 degrees for the entire required length. Individual cores are assessed, and portions of a core are determined to be either treated, heartwood or untreated. **4.4.2 Penetration determination.** Except as modified below, the depth of penetration shall be the distance from the outer end of the core to the first untreated annual ring and shall include only the portion of the innermost ring plainly showing preservative. An annual ring shall be considered penetrated if any portion of that ring is penetrated. In sawn material, where a core is at an angle of less than 45 degrees to the annual ring(s), the first definite break in penetration shall be the measured depth of penetration. Unless specified otherwise	

		in a Use Category System standard for an individual species, measurement of penetration shall be to the nearest one-tenth inch. If penetration is clearly obvious from examination of an individual unsmudged core, then the penetration may be measured on the round core; otherwise, cores shall be split lengthwise through the center and penetration measured on the cut face. Ray cells passing through an annual ring are not considered part of an annual ring and shall not be considered in evaluating penetration except as skips, as defined in 4.3.5. Penetration measurement shall be made at the time of sampling. In all cases, time shall be allowed for penetration indicators to adequately react with the treated wood. The depth of penetration in material treated with colorless and waterborne solutions shall be determined in accordance with the applicable AWPA A standard. The measurement of the depth of penetration may not always be exact. Certain grain configurations may make it difficult to determine the actual depth of penetration in a core. A core of this type may be disregarded and an additional core taken from another location on the piece or from another piece in the lot. When cores are taken from additional pieces, the same random sampling pattern used in obtaining the other cores shall be followed. A skip or series of skips not caused by obvious excess moisture content is permitted in a core not to exceed 15% of the minimum core length as described in Section 4.4.2.1.1 below. If a skip occurs in the assay zone, the penetration shall be recorded and an additional core may be taken to complete the assay sample. **4.4.2.1 Core Penetration Assessment.** Individual cores shall be determined passing or failing penetration as follows. **4.4.2.1.1 Minimum core length.** Minimum core length from sapwood species shall be the length specified in the Commodity Section of Standard T1 for the commodity, species, and type of treatment, or as required by the user's specification, parallel to the direction of the core. Cores from heartwood species shall be at least 1.50 inches or one-half the dimension parallel to the direction of the core. When boring through multiple pieces of sapwood species penetration shall be determined based on the entire core. When boring through multiple heartwood species, the penetration shall be determined from the top face of each piece. **4.4.2.1.2 Sapwood species – Visual Determination.** Areas of cores determined to be heartwood should be noted or removed prior to application of penetration indicator; they are not required to be penetrated and shall not be considered. All sapwood areas, regardless of location within the required depth of penetration, must be assessed for clear evidence of preservative penetration. The depth of sapwood shall be measured on all cores when there is a percent of sapwood penetration requirement. Sapwood measurement shall be to the nearest one-tenth inch. A core must meet or exceed the required percent of sapwood penetration based on the determined penetration depth divided by the depth of sapwood within the required depth of penetration to pass; otherwise it fails. **4.4.2.1.3 Heartwood species.** A minimum depth of penetration is required without regard to heartwood. Without clear evidence of preservative penetration to this depth, the core fails. In addition, the standard requires sapwood penetration beyond the minimum depth of penetration. All sapwood areas, regardless of location within the specified core length, must be assessed for clear evidence of preservative penetration. A core must meet or exceed both the required percent of treated sapwood by area requirement and the minimum depth of penetration to pass. **4.4.2.1.4 Plywood.** Determination of plywood penetration shall be in accordance with Standard T1, Commodity Section F: Pressure-Treated Wood Composites, section 4.1.2. For sapwood species, heartwood plies are not required to be penetrated. **4.4.2.2** In red oak lumber and ties, the number of annual growth rings in a 3-inch core and the number of rings containing preservative shall be counted. The latter divided by the former multiplied by 100 will give the percentage of rings penetrated, and preservative in any pore or vessel of an annual ring shall class that ring as penetrated. In case of doubt, the core shall be split or cut crosswise through the springwood. The percentage of rings penetrated in any charge of red oak shall be determined by totaling the individual percentages and dividing their sum by the number of measurements. **4.4.3 Penetration conformance – Visual Determination.** For a charge or lot to be conforming in penetration, the percentage of passing cores or cross sections or average core penetration from that charge or lot must be greater than or equal to that required in the	

<table>
<tr><td></td><td></td><td>applicable Commodity Section of Standard T1 for the commodity, species and type of treatment, or as required by the user's specification. If a lower percentage of the cores or cross sections pass or average penetration is below the minimum requirement, the charge is non-conforming for penetration. If multiple sets of cores are taken from a charge, all cores must be used to determine percentage of passing cores. Charges found non-conforming for penetration shall be identified and/or isolated to allow for retreatment or other appropriate corrective measures.</td><td></td></tr>
<tr><td>1580</td><td>AWPA M2 PD25
SECTION 4.5</td><td>4.5 Reduction of Chromium (VI). When required by the applicable AWPA commodity specification or by the purchaser, CCA treated material will be tested for completion of the chemical reduction of soluble Chromium (VI) using AWPA Standard A74. A borer core shall be taken at a point in a plane approximately 300 - 600 mm (1 – 2 ft) below the brand of 5 poles in each charge. The corer bit should be thoroughly rinsed in cool water between borings to minimize contamination and reduce the possible influence of elevated bit temperatures on the indicated presence of hexavalent chromium. The outer 13 mm (0.5 inch) of each core shall be evaluated for the presence of hexavalent chromium. Only cores that are fully penetrated in the outer 13 mm (0.5 inch) and meet the pole penetration requirements shall be evaluated. The jig used for sectioning and splitting the cores shall not be allowed to lie unprotected in the sun. If one (1) or fewer of the cores tests positive for the presence of hexavalent chromium, the charge shall be considered conforming. If three (3) or more cores test positive for the presence of hexavalent chromium, the charge shall be considered non-conforming. A minimum waiting period, dependent on the temperature of the air or water surrounding the poles, is required before a failed charge shall be re-evaluated (Table 1). If two (2) of the five (5) poles test positive for hexavalent chromium, the charge shall be deemed non-conforming, but the inspector may immediately remove cores from one additional set of (5) poles. The charge may be deemed conforming if none of the second set of poles test positive for hexavalent chromium; otherwise the charge shall be deemed non-conforming and shall not be sampled again until the minimum waiting period has elapsed. During each subsequent inspection of a failed charge, five (5) poles will again be sampled; these five poles shall include any poles that failed during prior evaluations.

Table 1. Minimum waiting period between inspections for the presence of hexavalent chromium.

<table>
<tr><th>Fixation Temperatures</th><th>Minimum Hours Between Tests</th></tr>
<tr><td>Below 20°C (68°F)</td><td>24</td></tr>
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<tr><td>Above 65°C (149°F)</td><td>1.5</td></tr>
</table>
</td><td></td></tr>
<tr><td>1582</td><td>AWPA M2 PD25
SECTION 5.0</td><td>

4.5 Assay Retention requirements. All charges or lots with conforming penetration shall be tested for retention in accordance with an applicable AWPA "A" standard except when gauge retention is required instead (see Section 4.6). The required assay zone shall be cut from each set (generally 20) of cores taken for penetration and combined for analysis. When multiple sets of cores are used for penetration, each set of cores shall be analyzed separately, and the results averaged to obtain the final retention. Cores shall be included in the sample for analysis even if penetration is non-conforming or incomplete in the assay zone except for Group B poles.

When material is retreated in a charge with untreated material, borings from the retreated material shall not be included in the assay samples. The number of representative borings to comprise the sample and the section of the core (zone) to be used for the analysis shall meet the AWPA Standard for the applicable commodity, species and type of treatment. When there is an insufficient quantity of material in the charge to obtain, with one boring from each piece,</td><td></td></tr>
</table>

		the required size sample for the assay, an equal number of additional borings shall be taken from each of the pieces already bored. **4.5.1 Lumber and timbers.** In the event the thickness is less than the assay zone required by Standard T1, Section A, Table 11, the entire thickness should be used for the assay. For sapwood species, cores with heartwood present in the assay zone shall be replaced as described in Section 6.3.1.4. **4.5.3 Sawn Crossarms.** Retention samples for sawn crossarms shall be taken in accordance with Standard T1 Commodity Section A, Section 11.0: Sawn Products – Assay Zones by Species and Commodity Thickness. **4.5.2 Posts.** Retention samples for round, half round, and quarter round posts less than 16-feet in length shall be taken in accordance with Standard T1 Commodity Section B: Posts section 4.0 and 5.0. **4.5.3 Building poles and posts.** Retention samples for building poles and posts shall be sampled in accordance with Standard T1 Commodity Section B: Posts section 5.0 and 8.0. **4.5.4 Crossties and Switchties.** Where applicable, retention samples for crossties and switchties shall be taken in accordance with Standard T1 Commodity Section C: Crossties and Switchties section 5.0. **4.5.5 Utility Poles.** Retention samples for solid and laminated wood utility poles shall be taken in accordance with Standard T1 Commodity Section D: Poles sections 8.0, and 9.0. **4.5.6 Non-marine Round Timber Piles.** Retention samples for non-marine piles shall be taken in accordance with Standard T1 Commodity Section E: Round Timber Piles section 9.0 and associated E9 table. **4.5.7 Plywood.** Retention samples for plywood shall be taken in accordance with Standard T1, Commodity Section F: Pressure-Treated Wood Composites, section 4.1.3. For sapwood species, heartwood plies shall not be included in the assay. **4.5.8 Marine Applications.** Retention samples for sawn products, round timber piles, and plywood to be used in marine applications shall be taken in accordance with Standard T1 Commodity Section G: Marine (Salt Water) Applications section 9.0 and associated G9 tables. **4.5.9 Analysis.** Analyze the treated wood retention sample(s) from each charge using the method in an applicable AWPA analytical "A" standard referenced in the applicable AWPA preservative "P" standard for the preservative being evaluated. The preservative active(s) defined in the applicable "P" standard and the total retention shall be reported as pounds per cubic foot of wood (or kilograms per cubic meter). Standard wood densities from AWPA Standard A12 shall be used for lumber, plywood and composite wood products. If an applicable density is not listed, the density may be measured and calculated for each charge or lot. When multiple sets of cores are used for penetration, each set of 20 shall be assayed separately and averaged for the final retention. **4.5.10 Retention conformance.** For a charge or lot to be conforming in retention it must (1) conform to the minimum total retention required for the Use Category for which it was treated as listed in Standard U1 and in Standard T1, Section 3, Table 3.2 and (2) conform to the minimum retentions of individual components listed in Standard T1, Section 3, Table 3.2. When multiple sets of cores are used for penetration, each set of cores shall be analyzed separately, and the results averaged to obtain the final retention. **4.6 Gauge Retention Requirements.** **4.6.1 Retention by tank gauge.** Determine the amount of preservative solution retained by the total wood volume in the charge according to readings of the working tank gauge before and after treatment, with corrections for temperature and conversion of gallons to pounds. The number of pounds of preservative used divided by the total volume of the charge gives the net retention in pounds per cubic foot of wood. **4.6.1.1 Correction factors.** In computing retentions by tank gauge, the temperature of creosote and creosote solutions shall be corrected, from the observed temperature at each	

tank reading, to 100°F by using the tables in AWPA Factors 1. Volumes of creosote-petroleum solutions shall be corrected to 100°F by using AWPA Factors 4. Volumes of penta-petroleum solution and copper naphthenate-petroleum solution shall be corrected to 60°F by using AWPA Factors 2.

(a) Gallons of creosote and creosote solutions shall be converted to pounds per US gallon by using Table 2 of AWPA Factors 6 "Conversion of Specific Gravity to Pounds per Gallon". Gallons of penta-petroleum solution and copper naphthenate-petroleum solution shall be converted to pounds per US gallon by multiplying the specific gravity at 15.5°C (60/60°F) by 8.32828.

(b) For oilborne solutions, the retention of active preservative in pcf may be obtained by multiplying the pounds of solution retained by the strength of the solution expressed as a decimal and dividing by the number of cubic feet in the charge.

(c) Waterborne Preservatives -- The retention of waterborne preservatives shall be calculated as pounds of the preservative as defined in the applicable AWPA preservative standards, per cubic foot. Concentration of preservative in solution shall be determined by analysis in accordance with the appropriate "A" standard referenced by the "P" standard.

4.6.2 Retention by tank scale. Determine retention of preservative solutions by actual weighing of the amount of preservative retained from a scale tank and dividing by total volume in the charge.

4.7 Reduction of Chromium (VI). When required by the applicable AWPA commodity specification or by the purchaser, CCA treated material will be tested for completion of the chemical reduction of soluble Chromium (VI) using AWPA Standard A74. A borer core shall be taken at a point in a plane approximately 300 - 600 mm (1 – 2 ft) below the brand of 5 poles in each charge. The corer bit should be thoroughly rinsed in cool water between borings to minimize contamination and reduce the possible influence of elevated bit temperatures on the indicated presence of hexavalent chromium. The outer 13 mm (0.5 inch) of each core shall be evaluated for the presence of hexavalent chromium. Only cores that are fully penetrated in the outer 13 mm (0.5 inch) and meet the pole penetration requirements shall be evaluated. The jig used for sectioning and splitting the cores shall not be allowed to lie unprotected in the sun. If one (1) or fewer of the cores tests positive for the presence of hexavalent chromium, the charge shall be considered conforming. If three (3) or more cores test positive for the presence of hexavalent chromium, the charge shall be considered non-conforming. A minimum waiting period, dependent on the temperature of the air or water surrounding the poles, is required before a failed charge shall be re-evaluated (Table 1). If two (2) of the five (5) poles test positive for hexavalent chromium, the charge shall be deemed non-conforming, but the inspector may immediately remove cores from one additional set of (5) poles. The charge may be deemed conforming if none of the second set of poles test positive for hexavalent chromium; otherwise, the charge shall be deemed non-conforming and shall not be sampled again until the minimum waiting period has elapsed. During each subsequent inspection of a failed charge, five (5) poles will again be sampled; these five poles shall include any poles that failed during prior evaluations.

Table 1. Minimum waiting period between inspections for the presence of hexavalent chromium.

Fixation Temperatures	Minimum Hours Between Tests
Below 20°C (68°F)	24

		20 – 35°C (68 – 95°F)	**12**	
		35 – 50°C (95 – 122°F)	**6**	
		50 – 65°C (122 – 149°F)	**3**	
		Above 65°C (149°F)	**1.5**	
		4.8 If drying after treatment is specified or required, the inspector shall check moisture content as stated in Section 2.3 for verification of the represented moisture content.		

AWPA Technical Committee T-8
Fall 2024 Standardization Cycle

AWPA Standard U1-24, Commodity Specification F

24F-T8-U1F: Proposal to Revise U1(F) with Changes to Retention Specifications

Proponent(s): Doug Herdman, Justin Duma

Committee Meeting Action:

Letter Ballot Results:

Executive Committee Final Action:

Note: The information presented below shows only the proposed revisions for this standard in legislative format and/or any other actions to be taken by the committee, such as creation of a new standard or reaffirmation or withdrawal of an existing standard. To view the rationale and supporting data (if any) for each proposed revision, as well as to submit comments or questions, you must visit the AWPA Standards Development Platform - https://awpacommenting.edaptivedocs.org (member login required).

▲ID	Item	Reason	Proposed Change	Committee Disposition
1670	AWPA U1 COMM SPEC F PD25 SECTION 3.1A PRESERVATIVE RETENTIONS (KG/M3) BY USE CATEGORY PLYWOOD [Table Data]	Listing of MCAP in Section 3.0, Retention Specifications - Composites. Table 3.1A, Preservative Retentions (kg/m3) by Use Category - Plywood. UC1, UC2, UC3A, UC3B, UC4A, and		

	USE CATEGORY						
PRESERVATIVE	**UC1**	**UC2**	UC3A	UC3B	~~**UC3A, UC3B**~~	**UC4A**	**UC4B**
CR (Creosote)[a] **CR-S (Creosote Solution)[a]** **CR-PS (Creosote Petroleum Solution)[a]**	128	128	128	128	~~128~~	160	192
Cu8[a]	0.32	0.32	0.32	0.32	~~0.32~~	#	#
CuN[a]	0.64	0.64	0.64	0.64	~~0.64~~	#	#
PCP-A and PCP-C[a]	6.4	6.4	6.4	6.4	~~6.4~~	8.0	9.6
ACQ-A	2.4	2.4	2.4	2.4	~~2.4~~	6.4	#
ACQ-B	4.0	4.0	4.0	4.0	~~4.0~~	6.4	9.6
ACQ-C	4.0	4.0	4.0	4.0	~~4.0~~	6.4	#

		UC4B retention levels (1.0, 1.0, 1.0, 1.3, 2.4, and 3.7 kg/m3, respectively. (Modified table (editorial-split columns) to show differing retention levels for MCAP in the UC3A and UC3B Use Categories.		

ACQ-D		2.4	2.4	2.4	2.4	~~2.4~~	6.4	9.6
ACZA		4.0	4.0	4.0	4.0	~~4.0~~	6.4	9.6
CCA-C		4.0	4.0	4.0	4.0	~~4.0~~	6.4	9.6
CA-B		1.7	1.7	1.7	1.7	~~1.7~~	3.3	5.0
CA-C		1.0	1.0	1.0	1.0	~~1.0~~	2.4	5.0
EL2 (+MCS[b] at 3.2 kg/m^3 by gauge)		0.30	0.30	0.30	0.30	~~0.30~~	#	#
KDS		3.0	3.0	3.0	3.0	~~3.0~~	#	#
KDS-B		2.2	2.2	2.2	2.2	~~2.2~~	4.7	8.5
MCA		1.0	1.0	1.0	1.0	~~1.0~~	2.4	5.0
MCA-C[c]		0.8	0.8	0.8	0.8	~~0.8~~	2.4	5.0
MCAP[c]		1.0	1.0	1.0	1.3		2.4	3.7
PTI		0.21	0.21	0.29	0.29	~~0.29~~	#	#
SBX	**Non-Formosan**	2.7	2.7	#	#	#	#	#
	Formosan[c]	4.5	4.5	#	#	#	#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1671	AWPA U1 COMM SPEC F PD25 SECTION 3.1B PRESERVATIVE RETENTIONS (PCF) BY USE CATEGORY PLYWOOD [Table Data]	Listing of MCAP in Section 3.0, Retention Specifications - Composites. Table 3.1B, Preservative Retentions (pcf) by Use Category - Plywood. UC1, UC2, UC3A, UC3B, UC4A, and UC4B retention levels (0.060, 0.060, 0.060, 0.080, 0.15, and 0.23 pcf, respectively. (Modified table (split columns) to show differing retention levels for							

	USE CATEGORY						
PRESERVATIVE	**UC1**	**UC2**	**UC3A**	**UC3B**	**~~UC3A, UC3B~~**	**UC4A**	**UC4B**
CR (Creosote) [a] **CR-S (Creosote Solution)** [a] **CR-PS (Creosote Petroleum Solution)**[a]	8.0	8.0	8.0	8.0	~~8.0~~	10.0	12.0
Cu8[a]	0.020	0.020	0.020	0.020	~~.0200~~	#	#
CuN[a]	0.040	0.040	0.040	0.040	~~0.040~~	#	#
PCP-A and PCP-C[a]	0.40	0.40	0.40	0.40	~~0.40~~	0.50	0.60
ACQ-A	0.15	0.15	0.15	0.15	~~0.15~~	0.40	#
ACQ-B	0.25	0.25	0.25	0.25	~~0.25~~	0.40	0.60
ACQ-C	0.25	0.25	0.25	0.25	~~0.25~~	0.40	#
ACQ-D	0.15	0.15	0.15	0.15	~~0.15~~	0.40	0.60
ACZA	0.25	0.25	0.25	0.25	~~0.25~~	0.40	0.60
CCA-C	0.25	0.25	0.25	0.25	~~0.25~~	0.40	0.60
CA-B	0.11	0.11	0.11	0.11	~~0.11~~	0.21	0.31
CA-C	0.060	0.060	0.060	0.060	~~0.060~~	0.15	0.31
EL2 (+MCS[b] at 0.20 pcf by gauge)	0.019	0.019	0.019	0.019	~~0.019~~	#	#
KDS	0.19	0.19	0.19	0.19	~~0.19~~	#	#
KDS-B	0.14	0.14	0.14	0.14	~~0.14~~	0.29	0.53
MCA	0.060	0.060	0.060	0.060	~~0.060~~	0.15	0.31

		MCAP in the UC3A and UC3B Use Categories.	

MCA-C[(c)]		0.050	0.050	0.050	0.050	~~0.050~~	0.15	0.31
MCAP[(c)]		0.060	0.060	0.060	0.080		0.15	0.23
PTI		0.013	0.013	0.018	0.018	~~0.018~~	#	#
SBX	**Non-Formosan**	0.17	0.17	#	#	#	#	#
	Formosan[(c)]	0.28	0.28	#	#	#	#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1672	AWPA U1 COMM SPEC F PD25 SECTION 3.3A PRESERVATIVE RETENTIONS (KG/M3) --- STRUCTURAL GLUED LAMINATED OR MECHANICALLY FASTENED TIMBER (LAMINATIONS TREATED PRIOR TO ASSEMBLY) [Table Data]	Listing of MCAP in Section 3.0, Retention Specifications - Composites, Table 3.3A, Preservative Retentions (kg/m3) by Use Category - Structural Glued Laminated or Mechanically Fastened Timber (laminated prior to assembly).	

	Preservative System																	
	Creosote[(a)]			**PCP-A[(a)]**														
USE CATEGORY Species	**CR**	**CR-S**	**CR-PS**	**PCP-C[(a)]**	**DCOI-C**	**Cu8[(a)]**	**CuN[(a)]**	**ACQ-A**	**ACQ-C**	**ACZA**	**CCA-C**	**CA-C**	**KDS**	**KDS-B**	**PTI**	MCA	**MCA-C**	MCAP
UC1, UC2																		
Southern Pine	128	128	#	4.8	1.6	0.32	0.64	4.0	4.0	4.0	4.0	1.0	3.0	2.2	0.21	1.0	0.80	1.0
Coastal Douglas-fir, Western Hemlock, Hem-fir	128	#	128	4.8	#	0.32	0.64	4.0	4.0	4.0	4.0	1.0	3.0	2.2	0.21	#	#	#
UC3A																		
Southern Pine	128	128	#	4.8	1.6	0.32	0.64	4.0	4.0	4.0	4.0	1.0	3.0	2.2	0.29	1.0	1.0	1.0
Coastal Douglas-fir, Western Hemlock, Hem-fir	128	#	128	4.8	#	0.32	0.64	4.0	4.0	4.0	4.0	1.0	3.0	2.2	0.29	#	#	#
UC3B																		
Southern Pine	128	128	#	4.8	1.6	0.32	0.64	6.4	6.4	4.0	4.0	2.4	7.5	#	#	2.4	2.4	1.3
Coastal Douglas-fir, Western Hemlock, Hem-fir	128	#	128	4.8	#	0.32	0.64	6.4	6.4	4.0	4.0	2.4	7.5	#	#	#	#	#
UC4A																		
Southern Pine	160	160	#	9.6	3.2	#	0.96	6.4	6.4	6.4	6.4	2.4	#	#	#	2.4	2.4	2.4
Coastal Douglas-fir, Western	160	#	160	9.6	#	#	0.96	6.4	6.4	6.4	6.4	2.4	#	#	#	#	#	#

USE CATEGORY Species	CR	CR-S	CR-PS	PCP-A[a] PCP-C[a]	DCOI-C	Cu8[a]	CuN[a]	ACQ-A	ACQ-C	ACZA	CCA-C	CA-C	KDS	KDS-B	PTI	MCA	MCA-C	MCAP
Hemlock, Hem-fir																		

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1673 | AWPA U1 COMM SPEC F PD25 SECTION 3.3B PRESERVATIVE RETENTIONS (PCF) --- STRUCTURAL GLUED LAMINATED OR MECHANICALLY FASTENED TIMBER (LAMINATIONS TREATED PRIOR TO ASSEMBLY) [Table Data] | Listing of MCAP in Section 3.0, Retention Specifications - Composites, Table 3.3B, Preservative Retentions (pcf) by Use Category - Structural Glued Laminated or Mechanically Fastened Timber (laminated prior to assembly).

	Preservative System																	
	Creosote[a]			**PCP-A[a]**														
USE CATEGORY Species	**CR**	**CR-S**	**CR-PS**	**PCP-C[a]**	**DCOI-C**	**Cu8[a]**	**CuN[a]**	**ACQ-A**	**ACQ-C**	**ACZA**	**CCA-C**	**CA-C**	**KDS**	**KDS-B**	**PTI**	MCA	**MCA-C**	MCAP
UC1, UC2																		
Southern Pine	8.0	8.0	#	0.30	0.10	0.020	0.040	0.15	0.25	0.25	0.25	0.060	0.19	0.14	0.013	0.060	0.050	0.060
Coastal Douglas-fir, Western Hemlock, Hem-fir	8.0	#	8.0	0.30	#	0.020	0.040	0.15	0.25	0.25	0.25	0.060	0.19	0.14	0.013	#	#	#
UC3A																		
Southern Pine	8.0	8.0	#	0.30	0.10	0.020	0.040	0.15	0.25	0.25	0.25	0.060	0.19	0.14	0.018	0.060	0.060	0.060
Coastal Douglas-fir, Western Hemlock, Hem-fir	8.0	#	8.0	0.30	#	0.020	0.040	0.15	0.25	0.25	0.25	0.060	0.19	0.14	0.018	#	#	#
UC3B																		
Southern Pine	8.0	8.0	#	0.30	0.10	0.020	0.040	0.40	0.40	0.25	0.25	0.15	0.47	#	#	0.15	0.15	0.080
Coastal Douglas-fir, Western Hemlock, Hem-fir	8.0	#	8.0	0.30	#	0.020	0.040	0.40	0.40	0.25	0.25	0.15	0.47	#	#	#	#	#
UC4A																		
Southern Pine	10	10	#	0.60	0.20	#	0.060	0.40	0.40	0.40	0.40	0.15	#	0.29	#	0.15	0.15	0.15
Coastal Douglas-fir, Western Hemlock, Hem-fir	10	#	10	0.60	#	#	0.060	0.40	0.40	0.40	0.40	0.15	#	0.29	#	#	#	#

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1674 AWPA U1 COMM SPEC F PD25 SECTION 3.4A PRESERVATIVE RETENTIONS (KG/M3) PARALLEL STRAND LUMBER [Table Data]

Listing of MCAP in Section 3.0, Retention Specifications - Composites, Table 3.4A, Preservative Retentions (kg/m3) by Use Category - Parallel Strand Lumber. Added new rows in Table (editorial) to show difference in MCAP retention levels for UC4B and UC4C Use Categories.

	Preservative System										
USE CATEGORY	**Creosote[a]**			**PCP-A[a] PCP-C[a]**	**CuN[a]**	**ACZA**	**CCA-C**	**CA-B**	**CA-C**	**MCA**	MCAP
Species	**CR**	**CR-S**	**CR-PS**								
UC1, UC2, UC3A											
Southern Pine, Coastal Douglas-fir	128	128	128	6.4	0.64	4.0	4.0	1.7	1.0	1.0	1.0
Yellow poplar	128	128	128	#	#	#	#	#	#	#	#
UC3B											
Southern Pine, Coastal Douglas-fir	128	128	128	6.4	0.64	4.0	4.0	3.3	2.4	2.4	1.3
Yellow poplar	128	128	128	#	#	#	#	#	#	#	#
UC4A											
Southern Pine, Coastal Douglas-fir	160	160	160	8.0	0.96	6.4	6.4	3.3	2.4	2.4	2.4
Yellow poplar	160	160	160	#	#	#	#	#	#	#	#
UC4B, ~~UC4C~~											
Southern Pine, Coastal Douglas-fir	192	192	#	9.6	1.2	9.6	9.6	5.0	5.0	5.0	3.7
UC4C											
Southern Pine, Coastal Douglas-fir	192	192	192	9.6	1.2	9.6	9.6	5.0	5.0	5.0	5.0

Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*

1675 AWPA U1 COMM SPEC F PD25 SECTION 3.4B PRESERVATIVE RETENTIONS (PCF) PARALLEL STRAND LUMBER [Table Data]

Listing of MCAP in Section 3.0, Retention Specifications - Composites, Table 3.4B, Preservative Retentions (pcf) by Use Category - Parallel Strand Lumber. Added new rows in Table (editorial) to show difference in MCAP retention levels for UC4B and

	Preservative System										
USE CATEGORY	**Creosote[a]**			**PCP-A[a] PCP-C[a]**	**CuN[a]**	**ACZA**	**CCA-C**	**CA-B**	**CA-C**	**MCA**	MCAP
Species	**CR**	**CR-S**	**CR-PS**								
UC1, UC2, UC3A											
Southern Pine, Coastal Douglas-fir	8.0	8.0	8.0	0.40	0.040	0.25	0.25	0.10	0.060	0.060	0.060
Yellow poplar	8.0	8.0	8.0	#	#	#	#	#	#	#	#
UC3B											
Southern Pine, Coastal Douglas-fir	8.0	8.0	8.0	0.40	0.040	0.25	0.25	0.21	0.15	0.15	0.080
Yellow poplar	8.0	8.0	8.0	#	#	#	#	#	#	#	#
UC4A											
Southern Pine, Coastal Douglas-fir	10.0	10.0	10.0	0.50	0.060	0.40	0.40	0.21	0.15	0.15	0.15
Yellow poplar	10.0	10.0	10.0	#	#	#	#	#	#	#	#
UC4B, ~~UC4C~~											
Southern Pine, Coastal Douglas-fir	12.0	12.0	#	0.60	0.075	0.60	0.60	0.31	0.31	0.31	0.23
UC4C											

		UC4C Use Categories.	Southern Pine, Coastal Douglas-fir 12.0 12.0 12.0 0.60 0.075 0.60 0.60 0.31 0.31 0.31 0.31 Attachment(s): *2024 MCAP AWPA Data Package-KPC vAWPA.pdf*
1680	AWPA U1 COMM SPEC F PD25 SECTION 3.2A PRESERVATIVE RETENTIONS (KG/M3) --- STRUCTURAL GLUED LAMINATED TIMBER (TREATED AFTER GLUING) [Table Data]	Addition of MCA to Structural Glued Laminated Timber (Treated after gluing), see additional supporting data.	Attachment(s): *U1 Commodity F GluLam MCA.docx*
1681	AWPA U1 COMM SPEC F PD25 SECTION 3.2B PRESERVATIVE RETENTIONS (PCF) --- STRUCTURAL GLUED LAMINATED TIMBER (TREATED AFTER GLUING) [Table Data]	Addition of MCA to Structural Glued Laminated Timber (treated after gluing), see attached supporting data.	

	Preservative Systems										
USE CATEGORY Species	**CR[a] (Creosote)**	**CR-S[a]**	**CR-PS[a]**	**DCOI-A**	**DCOI-C**	**PCP-A[a] PCP-C[a]**	**Cu8[a]**	**CuN[a]**	**IPBC/PER[c]**	**ACZA**	**MCA**
UC1, UC2, UC3A, UC3B											
Southern Pine	128	128	128	1.6	1.6	4.8	0.32	0.64	0.88	#	1.0
Coastal Douglas-fir	128	128	128	1.6	#	4.8	#	0.64	0.88	4.8	#
Western Hemlock, Hem-Fir	128	128	128	#	#	4.8	0.32	0.64	0.88	#	#
Red Oak	112	112	112	#	#	#	#	#	#	#	#
Red Maple, Yellow Poplar	128	128	128	#	#	#	#	#	#	#	#
UC4A											
Coastal Douglas-fir	160	160	160	3.2	#	9.6	#	0.96	#	9.6	#
Southern Pine	160	160	160	3.2	3.2	9.6	#	0.96	#	#	2.4
Western Hemlock, Hem-Fir	160	160	160	#	#	9.6	#	0.96	#	#	#
Red Oak	136	136	136	#	#	#	#	#	#	#	#
Red Maple, Yellow Poplar	160	160	160	#	#	#	#	#	#	#	#
UC4B, UC4C[b]											
Southern Pine	192	192	#	3.2	3.2	9.6	#	1.2	#	#	5.0
Coastal Douglas-fir	192	192	192	3.2	#	9.6	#	1.2	#	9.6	#

	Preservative Systems										
USE CATEGORY Species	**CR[a] (Creosote)**	**CR-S[a]**	**CR-PS[a]**	**DCOI-A**	**DCOI-C**	**PCP-A[a] PCP-C[a]**	**Cu8[a]**	**CuN[a]**	**IPBC/PER[c]**	**ACZA**	**MCA**
UC1, UC2, UC3A, UC3B											
Southern Pine	8.0	8.0	8.0	0.10	0.10	0.30	0.020	0.040	0.055	#	0.060
Coastal Douglas-fir	8.0	8.0	8.0	0.10	#	0.30	#	0.040	0.055	0.30	#
Western Hemlock, Hem-Fir	8.0	8.0	8.0	#	#	0.30	0.020	0.040	0.055	#	#
Red Oak	7.0	7.0	7.0	#	#	#	#	#	#	#	#
Red Maple, Yellow Poplar	8.0	8.0	8.0	#	#	#	#	#	#	#	#
UC4A											
Coastal Douglas-fir	10.0	10.0	10.0	0.20	#	0.60	#	0.060	#	0.60	#
Southern Pine	10.0	10.0	10.0	0.20	0.20	0.60	#	0.060	#	#	0.15

Western Hemlock, Hem-Fir	10.0	10.0	10.0	#	#	0.60	#	0.060	#	#	#
Red Oak	8.5	8.5	8.5	#	#	#	#	#	#	#	#
Red Maple, Yellow Poplar	10.0	10.0	10.0	#	#	#	#	#	#	#	#
UC4B, UC4C[(b)]											
Southern Pine	12.0	12.0	#	0.20	0.20	0.60	#	0.075	#	#	0.31
Coastal Douglas-fir	12.0	12.0	12.0	0.20	#	0.60	#	0.075	#	0.60	#

Attachment(s): *U1 Commodity F GluLam MCA.docx*