

TABLE OF CONTENTS: 2018 AWPB BOOK OF STANDARDS

Introduction – Page 1

Introduction.....1

Use Category System Standards – Page 5

U1-18: User Specification for Treated Wood

1. Introduction to the Use Category System.....5
 2. Service Conditions for Use Category Designations.....6
 3. Guide to Treated Wood End Uses.....10
 4. Standardized Preservatives.....14
 5. Species and Species Groupings.....16
 Commodity Specifications22
 A. Sawn Products23
 B. Posts.....40
 C. Crossties and Switchties47
 D. Poles49
 E. Round Timber Piling.....55
 F. Pressure-Treated Wood Composites57
 G. Marine Applications63
 H. Fire Retardant Treated Products.....69
 I. Nonpressure Applications71
 J. Non-Pressure Treated Wood Composites72

T1-18: Processing and Treatment Standard

Introduction.....75
 1. General Requirements76
 2. Treatment77
 3. Results of Treatment78
 4. Preservatives83
 5. Quality Control and Inspection83
 6. Retreatment83
 7. Drying After Treatment.....83
 Special Requirements by Commodity84
 Section A: Sawn Products84
 Section B: Posts.....89
 Section C: Crossties and Switchties92
 Section D: Poles94
 Section E: Round Timber Piles101
 Section F: Pressure-Treated Wood Composites103
 Section G: Marine Applications107
 Section H: Fire Retardant Treated Products.....111
 Section I: Millwork and Manufactured Goods112
 Section J: Non-Pressure Treated Wood Composites 113

Preservative/Protectant Standards – Page 117

P1/P13-16: Standard for Creosote Preservative117
 P2-16: Standard for Creosote Solution.....118
 P3-14: Standard for Creosote-Petroleum Solution119
 P18-14: Nonpressure Preservatives (*withdrawn*)120

P20-18: All Barrier Protection Systems121
 P22-14: Standard for Ammoniacal Copper Zinc Arsenate (ACZA).....123
 P23-14: Standard for Chromated Copper Arsenate Type C (CCA-C).....124
 P24-13: Standard for Alkyl Ammonium Compound, Waterborne (AAC-W).....125
 P25-16: Standard for Inorganic Boron (SBX)126
 P26-14: Standard for Alkaline Copper Quat Type A (ACQ-A)127
 P27-14: Standard for Alkaline Copper Quat Type B (ACQ-B)128
 P28-14: Standard for Alkaline Copper Quat Type C (ACQ-C)128
 P29-14: Standard for Alkaline Copper Quat Type D (ACQ-D)130
 P32-15: Standard for Copper Azole Type B (CA-B).....131
 P33-18: Standard for Copper HDO Type A (CX-A)132
 P34-14: Standard for Copper Naphthenate, Waterborne (CuN-W)133
 P35-16: Standard for Pentachlorophenol (PCP)134
 P36-16: Standard for Copper Naphthenate (CuN)135
 P37-17: Standard for Oxine Copper (Copper 8 Quinolinolate) (Cu8).....136
 P38-13: Standard for Alkyl Ammonium Compound, Oilborne (AAC)137
 P39-18: Standard for 4,5-Dichloro-2-N-Octyl-4-Isothiazolin-3-One (DCOI)138
 P40-13: Standard for 3-Iodo-2-Propynyl Butyl-Carbamate (IPBC).....139
 P41-14: Standard for Tebuconazole (TEB)140
 P42-13: Standard for Propiconazole (PPZ).....141
 P45-14: Standard for Propiconazole Tebuconazole Imidacloprid (PTI).....142
 P47-14: Standard for DCOI/Imidacloprid/Stabilizer, Waterborne (EL2).....143
 P48-15: Standard for Copper Azole Type C (CA-C)144
 P49-15: Standard for Fire Retardant FR-1 (FR-1)145
 P50-15: Standard for Fire Retardant FR-2 (FR-2)146
 P51-14: Standard for Zinc Borate (ZB)147

P52-15: Standard for IPBC-SB-1 (IPBC-SB-1).....	148	A16-16: Standard Method for Determination of Didecyldimethyl Ammonium Compounds in Treated Wood by HPLC	187
P53-15: Standard for IPBC/PPZ/TEB-SB-1 (IPBC/PPZ/TEB-SB-1).....	149	A17-15: Standard for Determination of Quaternary Ammonium Compounds in ACQ Solutions	189
P55-16: Standard for Alkaline Copper Betaine (KDS)	150	A18-18: Standard for Determination of Quaternary Ammonium Compounds in Wood by 2-Phase Titration	191
P56-16: Standard for Alkaline Copper Betaine Type B (KDS-B)	151	A19-17: Standard Method for Sample Preparation for Determining Penetration of Preservatives in Wood	193
P57-16: Standard for Alkaline Copper Betaine (KDS) (nonpressure use).....	152	A20-17: Standard Method for Chlorothalonil Assay	194
P58-15: Standard for 3-Iodo-2-Propynyl Butyl Carbamate/Permethrin (IPBC/PER).....	153	A21-16: Standard Method for Analysis of Wood and Wood Treating Solutions by Inductively Coupled Plasma Emission Spectrometry.....	196
P59-18: Standard for Chemically Modified Wood, Type A (CM-A).....	154	A22-17: Standard Method for the Quantitative Determination of Creosote in AWPB P3 Creosote-Petroleum Oil Solutions (CPS)	200
P60-14: Standard for Inorganic Boron, Oilborne (SBX-O).....	155	A26-14: Standard Method for Analysis of Fire Retardant Solutions and Wood by Titration.....	202
P61-16: Standard for Micronized Copper Azole (MCA).....	156	A28-14: Standard Method for Determination of Propiconazole and Tebuconazole in Waterborne Formulations and in Treating Solutions by HPLC	204
P62-16: Standard for Micronized Copper Azole Type C (MCA-C)	157	A30-18: Standard Method for the Determination of 4,5 Dichloro-2-N-Octyl-4-Isothiazolin-3-One (DCOI) in Wood and Solutions by High Performance Liquid Chromatography (HPLC)	206
 Hydrocarbon Solvent Standards – Page 159		A31-15: Standard Methods for the Analysis of Solutions and Wood for Azoles by Gas Chromatography (GC)	210
HSA-18: Standard for Hydrocarbon Solvent, Type A.....	159	A33-14: Standard Method for the Analysis of N-Cyclohexyldiazoniumdioxide (HDO) in Concentrates and Treating Solutions by Colorimetry	214
HSC-17: Standard for Hydrocarbon Solvent, Type C	160	A34-14: Standard Method for the Analysis of N-Cyclohexyldiazoniumdioxide (HDO) in Wood Treated with HDO Containing Solutions by HPLC	216
HSF-17: Standard for Hydrocarbon Solvent, Type F.....	161	A35-18: The Determination of the Propensity of a Ready-To-Use Oilborne/Oil-Type Wood Preservative Treating Solution to Form Stable Emulsions	218
HSG-18: Standard for Hydrocarbon Solvent, Type G.....	162	A36-14: Standard for Determination of Quaternary Ammonium Compounds in Wood by Potentiometric Back-Titration Using Sodium Lauryl Sulfate and Hyamine 1622	220
HSH-18: Standard for Hydrocarbon Solvent, Type H.....	163	A37-17: Standard for Determination of Quaternary Ammonium Compounds in Wood and Wood Treating Solutions by Potentiometric Titration Using Sodium Tetraphenylborate	224
 Analysis Method Standards – Page 165			
A4-17: Standard Methods for Sampling Wood Preservatives	165		
A6-15: Standard Method for the Determination of Retention of Oil-Type Preservatives from Small Samples	169		
A7-18: Standard Wet Ashing Procedures for Preparing Wood for Chemical Analysis.....	172		
A9-18: Standard Method for Analysis of Treated Wood and Treating Solutions by X-Ray Spectroscopy	173		
A12-18: Wood Densities for Preservative Retention Calculations.....	179		
A13-17: Standard Method of Analysis for Acid Number of Naphthenic Acids in Copper Naphthenate	181		
A14-17: Standard Method for Determination of Water-Extractable Copper in Copper Naphthenate	184		
A15-18: Referee Methods	186		

A40-18: Standard Methods for Determination of Boron Trioxide in Treating Solutions and Treated Wood by Potentiometric Titration with Sodium Hydroxide.....	229	A60-17: Standard Method for the Determination of Arsenic in Arsenic Containing Preservatives	269
A41-18: Standard Method for Determination of Naphthenic Acid in Copper Naphthenate in Wood and Treating Solutions by Gas Chromatography.....	232	A61-17: Standard Method for the Determination of Copper in Copper Containing Preservatives	271
A42-14: Standard Method for Determination of Technical Permethrin and Permethrin Isomers by HPLC Using UV Detection	236	A62-17: Standard Method to Determine the pH of Waterborne Treating Solutions	273
A43-14: Standard Method for Analysis of Imidacloprid in Wood and Waterborne Formulations.....	239	A63-17: Standard Method to Determine the Valency State of the Arsenic Component of Arsenic Containing Solutions	274
A46-14: Standard Method for Determining MCS Stabilizer Concentration in EL2 Treatment Solution Samples by Turbidity Measurement.....	241	A64-17: Standard Method to Determine the Amount of Boron Trioxide in Sodium Borate Wood Preservatives	275
A47-14: Standard Method for Determination of MCS Stabilizer Concentration in EL2 Treated Wood and Wood Treatment Solutions.....	242	A65-15: Standard Method to Determine the Amount of Boron in Treated Wood Using Azomethine-H or Carminic Acid.....	277
A48-15: Standard Method for Analysis of Propiconazole, Tebuconazole and Imidacloprid in Solutions and Treated Wood Products by High Performance Liquid Chromatography	245	A66-17: Standard Method for Determination of Chromium in Chromium Containing Preservatives.....	279
A49-15: Standard for Determination of Heartwood in Pines and Douglas-fir	247	A67-18: Standard Method for Determination of Carbonate in Ammoniacal Copper Zinc Arsenate.....	281
A50-18: Standard Method for Determination of Percent Bound Acetyl and Free Acetic Acid in Acetylated Wood by High Performance Liquid Chromatography.....	249	A68-16: Standard Method for Determining Penetration of Boron-Containing Preservatives and Fire Retardants	283
A51-17: Standard Method for Determining Penetration of Protectant in Acetylated Wood	255	A69-18: Standard Method to Determine the Penetration of Copper Containing Preservatives.....	284
A52-17: Standard Method for the Distillation of Creosote and Creosote Solutions.....	256	A70-18: Standard Method to Determine the Penetration of Pentachlorophenol Using a Silver-Copper Complex Known as Penta-Check	285
A53-17: Standard Method for the Determination of the Amount of Xylene Insoluble Matter in Creosote and Creosote Solutions.....	260	A71-18: Standard Method to Determine the Penetration of Solvent Used with Oil-Soluble Preservatives	286
A54-17: Alternate Standard Method for the Determination of the Amount of Xylene Insoluble Matter in Creosote and Creosote Solutions	262	A72-18: Standard Method to Determine the Penetration of Copper in Wood Using Rubeanic Acid	287
A55-17: Standard Method for the Determination of the Specific Gravity of Oil-Type Preservatives.....	264	A73-18: Standard Method to Determine the Penetration of Phosphorus Containing Fire Retardants.....	288
A57-17: Standard Method for the Determination of Water in Oil-Type Preservatives	265	A74-18: Standard Method to Determine the Presence of Hexavalent Chromium (VI) in Wood Treated with Chromium Containing Preservatives.....	289
A58-17: Standard Method for Determining Conformance of Distillation Fractions of Creosote or Creosote Solution to Specific Gravity Requirements	267	A75-18: Standard Method to Determine the Penetration of Pentachlorophenol in Poles by X-Ray Fluorescence	290
A59-17: Standard Method for the Determination of Ammonia in Ammoniacal Preservatives and Fire Retardant Formulations	268	A76-14: Method for Determining Penetration of Copper-Containing Preservatives.....	291
		A77-18: Beilstein Test for Determining Presence or Penetration of Pentachlorophenol (PCP) in Wood.....	292
		A78-16: Standard Method to Determine the Penetration of Boron Containing Preservatives and Fire Retardants	294

A79-18: Standard Method for Determination of Total Acidity for Calculating Pentachlorophenol in Dry Chemical295

A80-18: Standard Method for Determination of Alkali Insoluble Material in Pentachlorophenol.....297

A81-18: Standard Method for Determination of the Freezing Point of Pentachlorophenol298

A82-18: Standard Method for Determination of Pentachlorophenol Solvency299

A83-18: Standard Method for Determination of Chloride for Calculating Pentachlorophenol in Solution or Wood301

A84-12: Standard Method for Determination of Copper in Copper Naphthenate Solution or in Wood Treated with Copper Naphthenate (*withdrawn*)309

A85-18: Standard Method for Determining Conformance of Co-Solvent Used with Type A Hydrocarbon Solvents to Leaching Resistance (Pentachlorophenol)310

A86-18: Standard Method to Determine the Conformance of Auxiliary Solvent (Co-Solvent) Used with Type C Hydrocarbon Solvent to Water Solubility Requirement.....311

A87-18: Standard Method of Test for Emulsifiability of Type A Hydrocarbon Solvents and/or Auxiliary Solvents Used with Type A Hydrocarbon Solvents312

A88-18: Standard Method for Determination of the Copper Content of Copper Soaps.....313

A89-12: Standard Method for Colorimetric Analysis of Copper in Copper Naphthenate Treated Wood or Copper Naphthenate Solutions (*withdrawn*)315

A90-18: Standard Method for the Determination of 3-Iodo-2-Propynyl Butyl Carbamate (IPBC) in Treating Solutions.....316

A91-18: Standard Method for Determination of Iodine and Chlorine in Wood Using Neutron Activation Analysis318

A92-13: Standard Method for Determining Penetration Using a Fluorescent Dye or Pigment Penetration Surrogate320

A93-15: Standard Method for using Color Machine Vision to Quantify the Extent of Penetration.....321

A94-17: Standard Method for Determination of IPBC/PER in Solution and Wood Using HPLC and Solid-Phase Extraction323

Miscellaneous Standards – Page 329

M1-18: Standard for the Purchase of Treated Wood Products 329

M2-16: Standard for the Inspection of Preservative Treated Products for Industrial Use 333

M3-16: Standard for the Quality Control of Preservative Treated Products for Industrial Use..... 340

M4-15: Standard for the Care of Preservative-Treated Wood Products..... 343

M6-18: Brands Used on Preservative Treated Materials 345

M13-15: Guidelines for a Pole Maintenance Program..... 346

M19-17: Standard for Destination Inspections 356

M20-15: Guidelines for Minimizing Oil-Type Wood Preservative Migration..... 357

M21-16: Standard for Quality Control Inspection of Nonpressure Preservative Treated Millwork Products..... 359

M22-18: Standard for Third-Party Agency Evaluation of Inspection Data 361

M23-16: Third-Party Agency Assessment of Treating Plant Internal Quality Control (IQC) 364

M24-15: Standard for Quality Control Inspection of Nonpressure Preservative Treated Composite Wood Products 367

M25-18: Standard for Quality Control and Inspection of Preservative Treated Products for Residential and Commercial Use..... 369

M26-17: Guidelines for Fixation/Stabilization of Waterborne Preservatives in Poles..... 376

Evaluation Standards – Page 381

E1-17: Laboratory Methods for Evaluating the Termite Resistance of Wood-Based Materials: Choice and No-Choice Tests..... 381

E4-15: Standard Method of Testing Water Repellency of Pressure Treated Wood..... 386

E5-15: Standard Field Test for Evaluation of Wood Preservatives to be Used in Marine Applications (UC5A, UC5B, UC5C); Panel and Block Tests..... 388

E7-15: Standard Field Test for Evaluation of Wood Preservatives to be Used in Ground Contact (UC4A, UC4B, UC4C); Stake Test..... 392

E8-15: Standard Field Test for Evaluation of Wood Preservatives to be Used in Ground Contact (UC4A, UC4B, UC4C); Post Test..... 400

E9-15: Standard Field Test for Evaluation of Wood Preservatives to be Used Above Ground (UC3A and UC3B); L-Joint Test.....	404	E26-15: Standard Field Test for Evaluation of Wood Preservatives to be Used for Interior Applications (UC1 and UC2); Ground Proximity Termite Test.....	478
E10-16: Laboratory Method for Evaluating the Decay Resistance of Wood-Based Materials Against Pure Basidiomycete Cultures: Soil/Block Test.....	408	E27-15: Standard Field Test for Evaluation of Wood Preservatives to be Used Above Ground (UC3B); Accelerated Horizontal Lap Joint Test.....	485
E11-16: Standard Method for Accelerated Evaluation of Preservative Leaching.....	420	E28-16: Standard Field Test for Serviceability of Decking.....	489
E12-15: Standard Method of Determining Corrosion of Metal in Contact with Treated Wood.....	423	E29-15: Antisapstain Field Test Method for Green Lumber.....	492
E13-15: Standard Method of Testing to Determine if Lumber has been Pressure Treated with a Water Repellent.....	426	E30-16: Standard Method for Evaluating Natural Decay Resistance of Woods Using Laboratory Decay Tests.....	496
E14-16: Laboratory Method for Rapidly Evaluating the Decay Resistance of Wood-Based Materials in Ground Contact: Soil Bed Test.....	427	E31-18: Standard Field Test for Evaluation of Field-Cut Preservatives to be Used in Ground Contact (UC4): Block Test.....	500
E15-17: Laboratory Method for Evaluating the Efficacy of Diffusible or Volatile Remedial Preservatives Against Pure Basidiomycete Cultures: Inoculated Block Test.....	432	E32-18: Standard Field Test for Evaluation of Field-Cut Preservatives to be Used Above Ground (UC3B): Modified Post and Rail Test.....	502
E16-16: Standard Field Test for Evaluation of Wood Preservatives to be Used Above Ground (UC3B); Horizontal Lap-Joint Test.....	435	E33-18: Standard Test Method of Evaluating Wood Preservatives Against Decay in Use Category UC2.....	505
E17-15: Standard Method for Determining Corrosion Rates of Metals in Contact with Treating Solution.....	440		
E18-18: Standard Field Test for Evaluation of Wood Preservatives to be Used Above Ground (UC3B); Ground Proximity Decay Test.....	442		
E19-16: Standard Method for Determining Preservative Fixation of Inorganic Waterborne Wood Preservatives.....	447		
E20-15: Standard Method for Determining the Depletion of Wood Preservatives in Soil Contact.....	449		
E21-18: Standard Field Test for Evaluation of Wood Preservatives to be Used for Interior Applications (UC1 and UC2); Full-Size Commodity Termite Test.....	452		
E22-16: Laboratory Method for Rapidly Evaluating the Decay Resistance of Wood-Based Materials Against Pure Basidiomycete Cultures Using Compression Strength: Soil/Wafer Test.....	457		
E23-16: Laboratory Method for Rapidly Evaluating the Decay Resistance of Wood-Based Materials in Ground Contact Using Static Bending: Soil Jar Test.....	465		
E24-16: Laboratory Method for Evaluating the Mold Resistance of Wood-Based Materials: Mold Chamber Test.....	469		
E25-15: Standard Field Test for Evaluation of Wood Preservatives to be Used Above Ground (UC3B); Decking Test.....	474		

Regulations – Page 509

AWPA Technical Committee Regulations.....	509
Annex 1 – Operating Procedures for Accredited Standards Committee O5.....	522

Guidance Documents – Page 529

A. Data Requirement Guidelines for Listing Wood Preservatives in the AWPB Standards.....	529
B. Guidelines for Evaluating New Fire Retardants for Consideration by AWPB.....	538
C. Protocol for Standardization of New Millwork Preservative Systems.....	542
D. Protocol for Standardization of New Wood Preservative Finishes.....	544
E. Recommended Method for Determining the Treatability of a Species for Inclusion in the AWPB Use Category System Commodity Specifications for Sawn Material.....	547
F. Guidelines for Evaluating Composite Wood Products Preservative Treated Using Nonpressure Processes.....	549
G. Surface Applied Wood Preservative Finish Performance Testing Guidelines.....	554
H. Evaluating Preservatives for Remedial Treatment.....	557

I. Reaffirmation Requirement Guidelines.....	561	AWPA Membership Application	591
J. Preservatives Review Board Procedures (suspended)	564	Factors 0: Unit Conversion Factors.....	595
K. Data Requirement Guidelines for Solvents Used with Oil-borne Preservatives	565	Factors 1: Volume and Specific Gravity Conversion Tables for Creosote and Creosote Solution.....	596
L. Data Requirement Guidelines for Listing Chemically Modified Wood with Enhanced Durability in the AWWPA Standards	571	Factors 2: Abridged Volume and Specific Gravity Correction Tables for Petroleum Oils and Pentachlorophenol and Copper Naphthenate Solutions	598
M. Data Requirement Guidelines for Evaluating Performance Enhancing Additives (PEA)	577	Factors 3: Volumes of Round Forest Products.....	602
N. Data Requirements for Listing Thermally Modified Wood with Enhanced Durability in the AWPA Standards	579	Factors 4: Volume Correction Table for Creosote- Petroleum Solutions	616
		Factors 5: Volume Correction Factors for Preservative Salt Solutions.....	617
		Factors 6: Miscellaneous Conversion Factors and Correction Tables.....	618
		Factors 7: Approximate Pole Weight Tables	620
		Glossary of Terms Used in Wood Protection.....	627
Other Information – Page 586			
List of Technical Committees.....	586		
Technical Committee Application.....	587		
AWPA Standardization Proposal Form.....	588		
Publications List and Order Form	589		

Recently Withdrawn AWWA Standards

A1-15: Standard Methods for Analysis of Creosote and Oil-Type Preservatives	A89-12: Standard Method for Colorimetric Analysis of Copper in Copper Naphthenate Treated Wood or Copper Naphthenate Solutions
A2-15: Standard Methods for Analysis of Waterborne Preservatives and Fire Retardant Formulations	E6-05: Standard Method for Determining the Equilibrium Moisture Content of Treated Wood
A3-15: Standard Methods for Determining Penetration of Preservatives and Fire Retardants	M18-05: Standard Quality Control Procedures for Permanent Wood Foundation Materials
A5-15: Standard Methods for Analysis of Oil-Borne Preservatives	P4-11: Standard for Petroleum Oil for Blending with Creosote
A32-10: Standard Method for Measuring Losses of Inorganic Preservatives from Treated Wood	P5-11: Standard for Waterborne Preservatives
A38-04: Standard Method for Determination of PXTS in Treated Wood by HPLC with UV Detection	P8-14: Standard for Oil-Borne Preservatives
A39-05: Standard Method for Determination of PXTS in Wood Treatment Solutions by HPLC with UV Detection	P9-10: Standards for Solvents and Formulations for Organic Preservative Systems
A44-08: Standard Method for Determination of Cyproconazole in Solventborne Wood Treating Solutions by HPLC	P18-14: Nonpressure Preservatives
A45-08: Standard Method for Determination of Cyproconazole in Wood Extracts by HPLC	P19-04: Standard for Oligomeric Alkylphenol Polysulfide (PXTS) Preservative
A56-11: Standard Method for the Determination of the Specific Gravity of Distillation Fractions and Residue	P21-11: Standard for Acid Copper Chromate (ACC)
A84-12: Standard Method for Determination of Copper in Copper Naphthenate Solution or in Wood Treated with Copper Naphthenate	P30-08: Standard for Copper bis(dimethyldithiocarbamate) (CDDC)
	P43-08: Standard for Chlorpyrifos (CPF)
	P44-08: Standard for Permethrin (PER)
	P46-08: Standard for Cyproconazole (CPZ)
	P54-09: Standard for Alkaline Copper DCOI (ACD)

Notes:

AWPA "C Standards" (e.g., C1, C2, C9, etc.) were last updated during the Fall 2002 Standardization Cycle and final editions were printed in the 2003 and 2004 AWWA Books of Standards. All specifications for treated wood products from the C Standards are now found in the AWWA Use Category System Standards U1 and T1. If you are a specifier, you may simply change all of your C Standard references to AWWA Standard U1. If you are a manufacturer of treated wood products, you will need to refer to Standard T1 for the treating requirements to enable you to determine conformance to Standard U1. If references to the C Standards are still needed, individual standards may be purchased online at www.awpa.com or by contacting AWWA to purchase older editions of the Book of Standards.

AWPA "F Standards" (e.g., F1, F2, etc.) were withdrawn as AWWA Standards during the Fall 2008 Standardization Cycle, and are now printed as "Factors" tables in the back of the AWWA Book of Standards.