Table 13 Southern Pine Preservative Retentions & Applicable AWPA Standards[1]

Product / Application	Waterborne Preservatives[2, 6, 7]					AWPA Standard(s)		Creosote and Oilborne Preservatives[3]			
	Chromated Copper Arsenate (CCA)[7]	Alkaline Copper Quat – Type D (ACQ-D) Amine Copper Quat – Type D	Alkaline Copper Quat – Type C (ACQ-C)	Ammoniacal Copper Quat – Type B (ACQ-B)	Copper Azole – Type B (CA-B)	Copper Azole – Type A (CBA-A)	Ammoniacal Copper Zinc Arsenate (ACZA)	Use Category (UC)	Commodity Standard	Creosote	Creosote-Petroleum	Creosote Solution	Pentachlorophenol (Penta)
	Retention Assay of Treated Wood – lbs./cu.ft.												
Lumber, Timbers & Plywood													
Above Ground	0.25[7]	0.25	NA	0.10	0.20	0.25	UC1-3	C2/C9	8[5]	8[5]	8[5]	0.40
Soil & Freshwater use	0.40[7]	0.40	NA	0.21	0.41	0.40	UC4A	C2/C9	10[5]	10[5]	10[5]	0.50
Permanent Wood Foundation (PWF)	0.60[7]	0.60	0.60	0.31	0.61	0.60	UC4B	C22	NR	NR	NR	NR
Saltwater use	2.5	NR	NR	NR	NR	2.5	UC5	C2/C9	25	NR	25	NR
Piles													
Land or Freshwater Use & Foundations	0.80	NR	NR	NR	NR	0.80	UC4C	C3	12	12	12	0.60
Marine													
Prevalent Marine Organism													
Teredo only	2.5[4] and 1.5	NR	NR	NR	NR	2.5[4] and 1.5	UC5A	C18	20	NR	20	NR
Pholads only	NR	NR	NR	NR	NR	NR	UC5A	C18	20	NR	20	NR
Limnoria tripunctata only	2.5[4] and 1.5	NR	NR	NR	NR	2.5[4] and 1.5	UC5B	C18	NR	NR	NR	NR
Sphaeroma terebrans or for both pholads & limnoria tripunctata use a dual treatment													
First treatment	1.0	NR	NR	NR	NR	1.0	UC5C	C18	–	–	–	–
Second treatment	–	NR	NR	NR	NR	–	UC5C	C18	20	NR	20	NR
Poles													
Utility													
Normal	0.60	NR	0.60	NR	NR	0.60	UC4B	C4	7.5	NR	7.5	0.38
Severe service conditions (high incidence of decay and termite attack)	0.60	NR	0.60	NR	NR	0.60	UC4C	C4	9.0	NR	9.0	0.45
Building Construction – Round	0.60	NR	NR	NR	NR	0.60	UC4B	C23	9.0[5]	NR	NR	0.45
Posts													
Commercial-Residential													
Fence													
Round, half-round, and quarter-round	0.40	0.40	0.40	0.21	0.41	0.40	UC4A	C5	8[5]	8[5]	8[5]	0.40
Sawn four sides	0.40[7]	0.40	NA	0.21	0.41	0.40	UC4A	C2	10[5]	10[5]	10[5]	0.50
Building Construction – Sawn	0.60	0.60	NA	0.31	0.61	0.60	UC4B	C15/C16	12	12	12	0.60
Highway Construction													
Fence, Guide, Sign, and Sight Posts													
Round, half-round, and quarter-round	0.40	0.40	0.40	NR	NR	0.40	UC4A	C14	8	8	8	0.40
Sawn four sides	0.40	0.40	NA	0.21	0.41	0.40	UC4A	C14	10	10	10	0.50
Guardrail and Spacer Blocks													
Round	0.50	0.50	0.50	NR	NR	0.50	UC4A	C14	10	10	10	0.50
Sawn four sides	0.50	0.50	NA	NR	NR	0.50	UC4A	C14	12	12	12	0.60

NR – Not Recommended; NA – Not Available **(1)** AWPA Standards detail plant operating procedures for pressure treatment of wood. These Standards include minimum vacuum, pressure, penetration requirements, and maximum steaming parameters. AWPA also details minimum retention requirements, sampling zones for assay and maximum redrying temperature allowance for each preservative, commodity, and wood species. To order the AWPA Book of Standards, go to www.awpa.com. **(2)** CCA, ACQ, Copper Azole, Copper Citrate, and CDDC are approved by AWPA as waterborne preservatives for Southern Pine as lumber, timbers, and ties. **(3)** Copper Naphthenate is also approved by AWPA as an oilborne preservative for specific wood species and applications excluding saltwater use. **(4)** The assay retentions are based on two assay zones – 0 to 0.5 inch, and 0.5 to 2.0 inches. **(5)** Not recommended where cleanliness and freedom from odor are necessary. **(6)** Borates B_2O_3 (SBX) may be used above ground and continuously protected from liquid water applications such as sill plates or other enclosed structural framing at retentions of 0.17 pcf or 0.25 pcf where Formosan termites are confirmed. **(7)** CCA will not be available for most residential consumer-use treated lumber applications after December 31, 2003.