SPECIFICATION GUIDE TO TREATED WOOD END USES

| | AWPA STANDARDS | | OILBORNE PRESERVATIVES | | | |
|---|------------------|--------------------|-------------------------|--------------------|------------------|--|
| | UCS | С | COPPER NAP ¹ | CREO ² | PENTA | |
| GRICULTURE, FARM USE | | - | | | | |
| Round poles and posts as structural members Sawn poles and posts as structural members | 4B 4B | C5, C16 C2, C16 | .075 .075 | 7.5 – 16.0 12.0 | .38 – .60 .60 | |
| Posts, fence Round, half and guarter round | 4A | C5, C16 | .055 | 8.0 | .40 | |
| Sawn four sides | 4A | C2, C16 | .060 | 10.0 | .50 | |
| Lumber, in soil contact Lumber, not in soil contact | 4A 3B | C2, C16 C2, C16 | .060 .040 | 10.0 8.0 | .50 .40 | |
| Lumber, food harvesting and storage | 3B | C16, C29 | NR | NR | NR | |
| Plywood, in soil contact | 4A | C9, C16 | .060 | 10.0 | .50 | |
| Plywood, not in soil contact Grape stakes, sawn | 3B 4A | C9, C16 C2, C16 | .040 .060 | 8.0 10.0 | .40 .30 | |
| EAMS & TIMBERS, | | | | | | |
| lue laminated before treatment | | | | | | |
| Dry environment, above ground Damp environment, above ground | 1, 2 3B | C28 C28 | .040 .040 | 8.0 8.0 | .30 .30 | |
| Ground contact | 4A | C28 | .060 | 10.0 | .60 | |
| Highway construction | 4B, 4C | C14 | .075 | 12.0 | .60 | |
| UILDING CONSTRUCTION MATERIAL | | | | | | |
| Floor plate Flooring, residential | 2, 3B | C2, C15, C31 | NL | NR | NR | |
| Damp environment | 3B | C2 | NL | NR | NR | |
| Dry environment | 1, 2 | C2, C31 | NL | | | |
| Framing, interior Joists | 1, 2 | C2, C15, C31 | NL | NR | NR | |
| Interior, above ground | 1, 2 2D | C2, C15, C31 | NL | NR | NR | |
| Exterior, above ground Soil contact | 3B 4A | C2, C15 C2, C15 | NL NL | NR NR | NR NR | |
| Lumber | | , | | | | |
| Above ground Ground contact and fresh water use | 3B 4A | C2 C2 | .04 .06 | 8.0 10.0 | .40 .50 | |
| Out of contact with ground and continuously protected from | | 02 | .00 | 10.0 | .50 | |
| liquid water Permanent Wood Foundation | 2 | C31 | NL | NL | NL | |
| Lumber | 4B | C22 | NL | NL | NL | |
| • Plywood | 4B | C22 | NL | NL | NL | |
| Plywood • Sub-floor, damp above ground | 2 | C9 | NL | 8.0 | .40 | |
| Exterior, above ground | 3B | C9 | NL | 8.0 | .40 | |
| Ground contact and fresh water use Out of contact with ground and continuously protected from | 4A | C9 | NL | 8.0 | .40 | |
| liquid water | 2 | C31 | NL | NL | NL | |
| Poles, building | 44.45 | 04.040 | NU. | 7.5 40.0 | 00 00 | |
| • Round • Sawn | 4A, 4B 4A, 4B | C4, C16 C2, C16 | NL .075 | 7.5 – 16.0 12.0 | .38 – .60 .60 | |
| Studs | 3B | C2, C15 | NL | NR | NR | |
| DECKING | | | | | | |
| Highway Bridge | 4B | C2, C14 | .075 | 12.0 | .60 .40 | |
| Above ground Ground contact | 3B 4B | C2, C15 C2, C15 | .040 .060 | 8.0 10.0 | .40 | |
| ENCES | | | | | | |
| Pickets, slats, trim | 3A, 3B | C2, C15 | .055 | 8.0 | .50 | |
| Posts, sawn | 4A | C2, C15 | NL | 10.0 | .50 | |
| Posts, round | 4A | C5 | .055 | 8.0 | .40 | |
| IGHWAY MATERIAL | | | | | | |
| Lumber and timbers for bridges, structural members, decking, cribbing, and culverts | 4B | C2, C14 | .075 | 12.0 | .60 | |
| Structural lumber and timbers: | 54 55 50 | 00.014 | | | | |
| In salt water use and subject to marine borer attack Piles, foundation, land and fresh water use | 5A, 5B, 5C 4C | C3, C14 C3, C14 | NL NL | 25.0 12 – 17 | .60 .60 – .85 | |
| - Piling in salt water use and subject to marine borer attack | 5A, 5B, 5C | C3, C14 | NL | 16 – 20 | NR | |
| Posts: Round, half-round, quarter round Posts: Sawn | 4A 4A | C5, C14 C2, C14 | .055 .060 | 8.0 10.0 | .40 NL | |
| - Handrails and guardrails | 4A 3B | C2, C14 C2, C14 | .060 | 8.0 | .40 | |
| Posts, guardrail • Round | 4.4 | C2 C14 | 060 | 10.0 | 50 | |
| • Round • Sawn | 4A 4A | C2, C14 C2, C14 | .069 .075 | 10.0 12.0 | .50 .60 | |
| UMBER | | | | | | |
| Above ground | 3B | C2 | .04 | 8.0 | .40 | |
| Ground contact and fresh water use | 4A | C2 | .06 | 10.0 | .50 | |
| Out of contact with ground and continuously protected from liquid water | 2 | C31 | NL | NL | NL | |
| IARINE LUMBER & TIMBERS | | | | | | |
| Fresh water | 4A | C2 | .06 | 10.0 | .50 | |
| In brackish or saltwater use and subject to marine borer attack | 5A, 5B, 5C | C2, C18 | NL | 25.0 | NR | |
| ILES | | | | | | |
| Foundation (round) | 4C | C3 | NL | 12 – 17 | .6085 | |
| Land and fresh water use (round) Marine (round) in salt or brackish and subject to marine borer attack | 4C 5A, 5B, 5C | C3 C3, C18 | .14 NL | 12 – 17 16 – 20 | .60 – .85 NR | |
| Marine, dual treatment (round) | 5A, 5B, 5C | C3, C18 | NL | 20 | NR | |
| Sawn timber piles | 4B | C24 | NL | 9 – 12 | .45 – .60 | |
| LYWOOD | | | | | | |
| Sub-floor, damp above ground | 2 3B | C9 | NL | 8.0 8.0 | .40 | |
| Exterior, above ground Ground contact and fresh water use | 3B 4A | C9 C9 | NL NL | 8.0 8.0 | .40 .40 | |
| | | | | | | |
| Out of contact with ground and continuously protected from liquid water | 2 | C31 | NL | NL | NL | |

FOOTNOTES

(1) Copper Naphthenate.
 (2) Creosote-coal tar creosote.
 (3) Pentachlorophenol may be dissolved with several solvents. The solvents specified in AWPA P-9 are: Type A-Oil; Type C-Light Hydrocarbon solvent with auxilliary solvent; Use Type C where conditions require cleanliness and ability for staining.

SPECIFICATION GUIDE TO TREATED WOOD END USES

| | | ANDARDS | | | RBORN | | | | |
|---|--|--|--|--|--|---|---|---|---|
| | UCS | С | ACQ⁴ | ACZA ⁵ | CA-B ⁶ | CBA ⁷ | CCA ⁸ | CC ⁹ | DOT ¹⁰ |
| AGRICULTURE, FARM USE | | | | | | | | 10 | |
| Round poles and posts as structural members Sawn poles and posts as structural members Posts, fence | 4B 4B | C5, C16 C2, C16 | .60 .60 | .60 .60 | NL ¹¹ .31 | NL .61 | .60 .60 | NR ¹² NR | NL NL |
| Round, half and quarter round | 4A | C5, C16 | .40 | .40 | .21 | .41 | .40 | .40 | NL |
| Sawn four sides Lumber, in soil contact | 4A 4A | C2, C16 C2, C16 | .40 .40 | .40 .40 | .21 .21 | .41 .41 | .40 .40 | .40 .40 | NL NL |
| Lumber, not in soil contact | 3B | C2, C16 | .25 | .25 | .10 | .20 | .25 | .25 | NL |
| Lumber, food harvesting and storage Plywood, in soil contact | 3B 4A | C16, C29 C9, C16 | NR .40 | NR .40 | NR .21 | NR .41 | NR .40 | NR .40 | NL NL |
| Plywood, not in soil contact Grape stakes, sawn | 3B 4A | C9, C16 C2, C16 | .25 .40 | .25 .40 | .10 .21 | .20 .41 | .25 .40 | .25 .40 | NL NL |
| BEAMS & TIMBERS, | | | | | | | | | |
| glue laminated before treatment Dry environment, above ground | 1, 2 | C28 | NL | .30 ¹³ | NL | NL | NL | NL | NL |
| Damp environment, above ground | 3B | C28 | NL | .30 ¹³ | NL | NL | NL | NL | NL |
| Ground contact Highway construction | 4A 4B, 4C | C28 C14 | NL NL | .60 ¹³ NL | NL NL | NL NL | NL NL | NL NL | NL NL |
| | 40, 40 | 014 | | | | | | INL. | INL. |
| BUILDING CONSTRUCTION MATERIAL Floor plate | 2, 3B | C2, C15, C31 | .25 | .25 | .10 | .20 | .25 | .25 | .25 |
| Flooring, residential | 2, 36 | 62, 615, 651 | .23 | .25 | .10 | .20 | .25 | .20 | .25 |
| Damp environment | 3B | C2 | .25 | .25 | .10 | .20 | .25 | .25 | NL |
| Dry environment Framing, interior | 1, 2 1, 2 | C2, C31 C2, C15, C31 | .25 .25 | .25 .25 | .10 .10 | .20 .20 | .25 .25 | .25 .25 | .25 .25 |
| Joists | | . , | | | | | | | |
| Interior, above ground Exterior, above ground | 1, 2 3B | C2, C15, C31 C2, C15 | .25 .25 | .25 .25 | .10 .10 | .20 .20 | .25 .25 | .25 .25 | .25 NL |
| Exterior, above ground Soil contact | 3B 4A | C2, C15 C2, C15 | .25 .40 | .25 .40 | .10 .21 | .20 .41 | .25 .40 | .25 NL | NL |
| Lumber | 20 | <u></u> | 25 | 05 | 40 | 20 | 05 | 05 | NII |
| Above ground Ground contact and fresh water use | 3B 4A | C2 C2 | .25 .40 | .25 .40 | .10 .21 | .20 .41 | .25 .40 | .25 .40 | NL NL |
| Out of contact with ground and continuously | | | | | | | | | |
| protected from liquid water Permanent Wood Foundation | 2 | C31 | NL | NL | NL | NL | NL | NL | .25 |
| Lumber | 4B | C22 | .60 | .60 | NL | NL | .60 | NL | NL |
| • Plywood | 4B | C22 | .60 | .60 | NL | NL | .60 | NL | NL |
| Plywood Sub-floor, damp above ground | 2 | C9 | .25 | .25 | .10 | .20 | .25 | .25 | NL |
| Exterior, above ground | 3B | C9 | .25 | .25 | .10 | .20 | .25 | .25 | NL |
| Ground contact and fresh water use | 4A | C9 | .40 | .40 | .21 | .41 | .40 | .40 | NL |
| Out of contact with ground and continuously protected from liquid water | 2 | C31 | NL | NL | NL | NL | NL | NL | .25 |
| Poles, building | _ | | | | | | | | .20 |
| • Round • Sawn | 4A, 4B 4A, 4B | C4, C16 C2, C16 | .60 .60 | .60 .60 | NL .31 | NL 61 | .60 .60 | NL | NL NL |
| Studs | 3B | C2, C16 C2, C15 | .25 | .25 | .10 | .61 .20 | .00 | NL .25 | .25 |
| DECKING | | | | | | | | | |
| Highway Bridge | 4B | C2, C14 | .60 | .60 | NL | NL | .60 | NL | NL |
| Above ground | 3B | C2, C15 | .25 | .25 | .10 | .20 | .25 | NL | NL |
| Ground contact | 4B | C2, C15 | .40 | .40 | .21 | .41 | .40 | NL | NL |
| FENCES | | | | | | | | | |
| Pickets, slats, trim Posts, sawn | 3A, 3B 4A | C2, C15 C2, C15 | .40 .40 | .40 .40 | .21 .21 | .41 NL | .40 .40 | NL NL | NL NL |
| Posts, round | 4A | C5 | .40 | .40 | .21 | NL | .40 | .40 | NL |
| HIGHWAY MATERIAL | | | | | | | | | |
| Lumber and timbers for bridges, structural members, | | | | | | | | | |
| decking, cribbing, and culverts Structural lumber and timbers: | 4B | C2, C14 | .60 | .60 | NL | NL | .60 | NL | NL |
| In salt water use and subject to marine | | | | | | | | | |
| borer attack | 5A, 5B, 5C | C3, C14 | NL | 2.5 | NL | NL | 2.5 | NL | NL |
| Piles, foundation, land and fresh water use Piling in salt water use and subject to | 4C | C3, C14 | NL | .80 – 1.0 | NL | NL | .80 | NL | NL |
| marine borer attack | 5A, 5B, 5C | C3, C14 | NL | 1.5 – 2.5 | NL | NL | 1.5 – 2.5 | NL | NL |
| Posts: Round, half-round, quarter round Poste: Sawn | 4A | C5, C14 C2, C14 | .40 | .40 | NL 21 | NL 41 | .40 | NL | NL |
| Posts: Sawn Handrails and guardrails | 4A 3B | C2, C14 C2, C14 | .40 .25 | .40 .25 | .21 .10 | .41 .20 | .40 .25 | NL NL | NL NL |
| Posts, guardrail | | | | | | | | | |
| • Round • Sawn | 4A 4A | C2, C14 C2, C14 | .50 .50 | .50 .50 | NL .31 | NL .41 | .50 .50 | NL NL | NL NL |
| | | , | | | | | | | |
| LUMBER Above ground | | <u></u> | .25 | .25 | 40 | .20 | .25 | .25 | NL |
| | 2R | | | | | | .20 | | NL |
| Ground contact and fresh water use | 3B 4A | C2 C2 | .40 | .40 | .10 .21 | .41 | .40 | .40 | |
| Out of contact with ground and continuously | 4A | C2 | .40 | .40 | .21 | .41 | | | |
| Out of contact with ground and continuously protected from liquid water | | | | | | | .40 NL | .40 NL | .25 |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS | 4A 2 | C2 C31 | .40 NL | .40 NL | .21 NL | .41 NL | NL | NL | .25 |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water | 4A | C2 | .40 | .40 | .21 | .41 | | | |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS | 4A 2 | C2 C31 C2 | .40 NL | .40 NL | .21 NL | .41 NL | NL | NL | .25 |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack | 4A 2 4A | C2 C31 | .40 NL .40 | .40 NL .40 | .21 NL .21 | .41 NL NL | NL .40 | NL | .25 NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES | 4A 2 4A 5A, 5B, 5C | C2 C31 C2 C2, C18 | .40 NL .40 NL | .40 NL .40 2.5 | .21 NL .21 NL | .41 NL NL | NL .40 2.5 | NL NL NL | .25 NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) | 4A 2 4A | C2 C31 C2 | .40 NL .40 | .40 NL .40 | .21 NL .21 | .41 NL NL | NL .40 | NL | .25 NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) Marine (round) in salt or brackish and subject to | 4A 2 4A 5A, 5B, 5C 4C 4C | C2 C31 C2 C2, C18 C3 C3 | .40 NL .40 NL NL NL | .40 NL .40 2.5 .80 - 1.0 .80 - 1.0 | .21 NL .21 NL NL | .41 NL NL NL | NL .40 2.5 .80 .80 | NL NL NL NL | .25 NL NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) | 4A 2 4A 5A, 5B, 5C 4C | C2 C31 C2 C2, C18 C3 | .40 NL .40 NL | .40 NL .40 2.5 .80 - 1.0 | .21 NL .21 NL | .41 NL NL NL | NL .40 2.5 .80 | NL NL NL | .25 NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) Marine (round) in salt or brackish and subject to marine borer attack | 4A 2 4A 5A, 5B, 5C 4C 4C 4C 5A, 5B, 5C | C2 C31 C2 C2, C18 C3 C3 C3 C3, C18 | .40 NL .40 NL NL NL NL | .40 NL .40 2.5 .80 - 1.0 .80 - 1.0 1.5 - 2.5 | .21 NL .21 NL NL NL | .41 NL NL NL NL NL | NL .40 2.5 .80 .80 1.5 - 2.5 | NL NL NL NL NL | .25 NL NL NL NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) Marine (round) in salt or brackish and subject to marine borer attack Marine, dual treatment (round) | 4A 2 4A 5A, 5B, 5C 4C 4C 5A, 5B, 5C 5A, 5B, 5C | C2 C31 C2 C2, C18 C3 C3 C3 C3, C18 C3, C18 C3, C18 | .40 NL .40 NL NL NL NL NL | .40 NL .40 2.5 .80 - 1.0 .80 - 1.0 1.5 - 2.5 1.0 | .21 NL .21 NL NL NL NL | .41 NL NL NL NL NL NL | NL .40 2.5 .80 .80 1.5 - 2.5 1.0 | NL NL NL NL NL NL | .25 NL NL NL NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) Marine (round) in salt or brackish and subject to marine borer attack Marine, dual treatment (round) Sawn timber piles | 4A 2 4A 5A, 5B, 5C 4C 4C 5A, 5B, 5C 5A, 5B, 5C 4B 2 | C2 C31 C2 C2, C18 C3 C3 C3 C3, C18 C3, C18 C3, C18 C24 C9 | .40 NL .40 NL NL NL NL NL | .40 NL .40 2.5 .80 - 1.0 .80 - 1.0 1.5 - 2.5 1.0 .6080 .25 | .21 NL .21 NL NL NL NL | .41 NL NL NL NL NL NL | NL .40 2.5 .80 .80 1.5 - 2.5 1.0 | NL NL NL NL NL NL | .25 NL NL NL NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) Marine (round) in salt or brackish and subject to marine borer attack Marine, dual treatment (round) Sawn timber piles PLYWOOD Sub-floor, damp above ground Exterior, above ground | 4A 2 4A 5A, 5B, 5C 4C 4C 5A, 5B, 5C 5A, 5B, 5C 4B 2 3B | C2 C31 C2 C2, C18 C3 C3 C3 C3, C18 C3, C18 C3, C18 C24 C9 C9 C9 | .40 NL .40 NL NL NL NL NL NL NL .25 .25 | .40 NL .40 2.5 .80 - 1.0 .80 - 1.0 1.5 - 2.5 1.0 .6080 .25 .25 | .21 NL .21 NL NL NL NL NL NL .10 .10 | .41 NL NL NL NL NL NL NL .20 .20 | NL .40 2.5 .80 .80 1.5 - 2.5 1.0 .6080 .25 .25 | NL NL NL NL NL NL NL NL 25 .25 | .25 NL NL NL NL NL NL NL NL |
| Out of contact with ground and continuously protected from liquid water MARINE LUMBER & TIMBERS Fresh water In brackish or saltwater use and subject to marine borer attack PILES Foundation (round) Land and fresh water use (round) Marine (round) in salt or brackish and subject to marine borer attack Marine, dual treatment (round) Sawn timber piles PLYWOOD Sub-floor, damp above ground | 4A 2 4A 5A, 5B, 5C 4C 4C 5A, 5B, 5C 5A, 5B, 5C 4B 2 | C2 C31 C2 C2, C18 C3 C3 C3 C3, C18 C3, C18 C3, C18 C24 C9 | .40 NL .40 NL NL NL NL NL NL .25 | .40 NL .40 2.5 .80 - 1.0 .80 - 1.0 1.5 - 2.5 1.0 .6080 .25 | .21 NL .21 NL NL NL NL NL NL NL NL NL | .41 NL NL NL NL NL NL NL NL .20 | NL .40 2.5 .80 .80 1.5 - 2.5 1.0 .6080 .25 | NL NL NL NL NL NL NL NL NL 25 | .25 NL NL NL NL NL NL NL |

FOOTNOTES

(4) Ammoniacal Copper Quat.
(5) Ammoniacal Copper Zinc Arsenate.
(6) Copper Azole.
(7) Copper Boron Azole.
(8) Chromated Copper Arsenate.

(9) Copper Citrate.
(10) DOT (Disodium Octaborate Tetrathydrate): a retention of 0.25 pcf DOT is equivalent to 0.17 pcf B₂0₃.
(11) Not listed in AWPA Standards.

(12) Not recommended in AWPA Standards.(13) Douglas fir only.