

## Attachment 1

### Alternatives List for Arsenic-Treated Wood Acceptable Materials by Use Adopted September 10, 2003

(List will be updated periodically to allow for the inclusion of new materials.)

#### Results of Criteria Screening

Treatment	Result
<b>CuN</b>	Acceptable for some uses. See table below.
<b>Cu8</b>	Not acceptable.
<b>Creosote</b>	Not acceptable.
<b>PCP</b>	Not acceptable.
<b>ACA</b>	Not acceptable. Exception for salt water immersion.
<b>ACC</b>	Not acceptable.
<b>ACQ</b>	Acceptable for some uses. See table below.
<b>ACZA</b>	Not acceptable. Exception for salt water immersion.
<b>CA-B</b>	Acceptable for some uses. See table below.
<b>CBA</b>	Acceptable for some uses. See table below.
<b>CCA</b>	Not acceptable. Exception for salt water immersion.
<b>CC</b>	Acceptable for some uses. See table below.
<b>DOT, borates</b>	Acceptable for some uses. See table below.
<b>CDDC</b>	Not acceptable.
<b>ZnN</b>	Acceptable for some uses. See table below

The treatments that passed the screening criteria for at least some uses were then cross-checked with the AWPAs standards. Those for which standards exist are listed in the table below as acceptable materials.

#### Summary of Acceptable Materials by Use

(List will be updated periodically to allow for the inclusion of new materials.)

<b>DESCRIPTION OF USE</b>	<b>UCS (AWPA Use Classifications)</b>	<b>C (AWPA Standard)</b>	<b>Acceptable Materials (must also be allowed by building code for specific intended use)</b>
<b>BEAMS &amp; TIMBERS (GLUE LAM.)</b>			
Dry environment, above ground	1,2	C28	CuN <sup>1</sup>
Damp environment, above ground	3B	C28	CuN <sup>1</sup>
Ground contact	4A	C28	CuN <sup>1</sup>
Highway construction	4B, 4C	C14	ACQ <sup>2,3</sup>
<b>BUILDING CONSTRUCTION MATERIAL</b>			
Floor plate	2, 3B	C2, 15, 31	ACQ <sup>3</sup> , CA-B, CBA, CC, DOT or other borates
Flooring, residential			
Damp environment	3B	C2	ACQ <sup>3</sup> , CA-B, CBA, CC
Dry environment	1, 2	C2, 31	DOT or other borates
Framing, interior	1, 2	C2, 15, 31	DOT or other borates

<b>DESCRIPTION OF USE</b>	<b>UCS (AWPA Use Classifications)</b>	<b>C (AWPA Standard)</b>	<b>Acceptable Materials (must also be allowed by building code for specific intended use)</b>
<b>Joists</b>			
Interior, above ground	1, 2	C2, 15, 31	DOT or other borates
Exterior, above ground	3B	C2, 15	ACQ <sup>3</sup> , CA-B, CBA, CC
Soil contact	4A	C2, 15	ACQ <sup>3</sup> , CA-B, CBA
<b>Lumber</b>			
Above ground	3B	C2	CuN <sup>1</sup> , ACQ <sup>3</sup> , CA-B, CBA, ZnN <sup>1</sup>
Ground contact	4A	C2	CuN <sup>1</sup> , ACQ <sup>3</sup> , CA-B, CBA
Tree stakes	4A	C2	CuN, ACQ <sup>3</sup> , CA-B, CBA
Fresh water use	4A	C2	Plastic-coated lumber <sup>4</sup> , CuN, ACQ <sup>3</sup>
No ground contact, protected from liquid water	2	C31	DOT or other borates
Permanent wood foundation (lumber or plywood)	4B	C22	None
<b>Plywood</b>			
Sub-floor, damp above ground	2	C9	ACQ <sup>3</sup> , CA-B, CBA, CC
Exterior, above ground	3B	C9	ACQ <sup>3</sup> , CA-B, CBA, CC
Ground contact	4A	C9	ACQ <sup>3</sup> , CA-B, CBA, CC
Fresh water use	4A	C9	None
No ground contact, protected from liquid water	2	C31	DOT or other borates
<b>water</b>			
<b>Poles, building</b>			
Round	4A, 4B	C4, 16	ACQ
Sawn	4A, 4B	C2, 16	CuN <sup>1</sup> , ACQ <sup>3</sup> , CA-B, CBA, CC, DOT or other borates
Studs	3B	C2, 15	DOT or other borates
<b>DECKING</b>			
Highway bridge	4B	C2, 14	CuN, ACQ <sup>3</sup>
<b>Above ground</b>			
Not over or near water	3B	C2, 15	CuN, ACQ <sup>3</sup> , CA-B, CBA,
Over or near water	3B	C2, 15	Plastic-coated wood <sup>4</sup> , CuN, ACQ, ZnN
Ground contact	4B	C2, 15	CuN, ACQ <sup>3</sup> , CA-B, CBA
<b>FENCES</b>			
Pickets, slats, trim	3A, 3B	C2, 15	CuN, ACQ <sup>3</sup> , CA-B, CBA
Posts, sawn	4A	C2, 15	ACC, ACQ <sup>3</sup> , CA-B
Posts, round	4A	C5	CuN, ACQ <sup>3</sup> , CA-B, CC
<b>HIGHWAY MATERIAL</b>			
Lumber and timbers for bridges, structural members, cribbing, and culverts	4B	C2, 14	CuN, ACQ <sup>3</sup>
<b>Structural lumber and timbers</b>			
In salt water use	5A, 5B, 5C	C3, C14	See note 5
Piles, foundation, land use	4C	C3, 14	No acceptable non-arsenic materials available
Piles, foundation, fresh water use	4C	C3, 14	No acceptable non-arsenic materials available

<b>DESCRIPTION OF USE</b>	<b>UCS (AWPA Use Classifications)</b>	<b>C (AWPA Standard)</b>	<b>Acceptable Materials (must also be allowed by building code for specific intended use)</b>
Piling in salt water use	5A, 5B, 5C	C3, 14	See note 5
Posts: round, half-round, quarter round	4A	C5, 14	CuN, ACQ <sup>3</sup>
Posts: sawn	4A	C2, 14	CuN, ACQ <sup>3</sup> , CA-B, CBA
Handrails and guardrails	3B	C2, 14	CuN, ACQ <sup>3</sup> , CA-B, CBA
Posts, guardrail			
Round	4A	C2, 14	CuN, ACQ <sup>3</sup>
Sawn	4A	C2, 14	CuN, ACQ <sup>3</sup> , CA-B, CBA
<b>MARINE LUMBER &amp; TIMBERS</b>			
Fresh water	4A	C2	Plastic-coated wood <sup>4</sup> , CuN, ACQ <sup>3</sup> , CA-B
Brackish water or salt water	5A, 5B, 5C	C2, 18	Plastic-coated wood <sup>4</sup>
<b>PILES</b>			
Foundation (round)	4C	C3	No acceptable non-arsenic materials available
Land use (round)	4C	C3	CuN
Fresh water use (round)	4C	C3	Plastic-coated piles, CuN
Marine (round) in salt or brackish water	5A, 5B, 5C	C3, 18	See note 5
Marine, dual treatment (round)	5A, 5B, 5C	C3, 18	See note 5
Sawn timber piles	4B	C24	See note 5
<b>UTILITY POLES</b>			
Sited in soil	4A, 4B	C4	CuN, ACQ <sup>3</sup>
Sited in impervious surface	4A, 4B	C4	CuN (butt-treatment preferred)

**Notes:**

1. CuN and ZnN allowed for indoor use only as pressure-treated wood. Other applications are not registered for indoor use.
2. Only standardized if treated before lamination.
3. Select either ACQ-B or ACQ-D as appropriate based on AWPA standards.
4. Non-PVC plastic only. Lumber should not be treated with arsenic.
5. Non-wood materials are preferred. When pressure treated wood is required, an exemption exists for saltwater immersion environments for structures such as pilings and piers until a viable alternative is available.

**List of Abbreviations**

AAC	Alkyl ammonium compound
ACA	Ammoniacal copper arsenate
ACC	Acid copper chromate
ACQ	Ammoniacal (or amine) copper quat (see below)
	ACQ-B: Ammoniacal copper quat
	ACQ-D: Amine copper quat
ACZA	Ammoniacal copper zinc arsenate
AWPA	American Wood Preservers' Association
CA-B	Copper azole
CBA	Copper boron azole

CC	Copper citrate (or ammoniacal copper citrate)
CCA	Chromated copper arsenate
CDDC	Copper bis(dimethyldithiocarbamate)
CuN	Copper naphthenate
Cu8	Copper-8-quinolinolate
DOT	Disodium octaborate tetrahydrate
PCP	Pentachlorophenol
ZnN	Zinc naphthenate