



ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
Regional Office ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800
Regional Office ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

Legacy report on the 2000 International Building Code® the 2001 Supplement to the International Codes®, the 2000 International Residential Code®, the BOCA® National Building Code/1999, the 1999 Standard Building Code®, the 1997 Uniform Building Code™, and the 1998 International One- and Two- Family Dwelling Code®

DIVISION 06—WOOD AND PLASTICS Section 06070—Wood Treatment

CHEMICAL SPECIALTIES, INC.
200 EAST WOODLAWN ROAD, SUITE 350
CHARLOTTE, NORTH CAROLINA 28217
704-522-0825
www.treatedwood.com

1.0 SUBJECT

- 1.1 ACQ Preserve® treated wood
- 1.2 ACQ Preserve Plus® treated wood

2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

Preservative-Treated Wood

3.0 DESCRIPTION

3.1 General

ACQ Preserve® and ACQ Preserve Plus® pressure treated wood products are appropriate for use in situations where the applicable Code requires wood members to be protected against decay or termites.

ACQ Preserve® and ACQ Preserve Plus® brand wood preservatives are produced by Chemical Specialties, Inc. and used by independently owned and operated wood preserving plants to pressure treat wood products in accordance with Standard ACQ-2002 Quality Control Procedures for ACQ Preserve pressure treated wood products. ACQ Preserve Plus® contains a factory applied emulsion water repellent additive.

ACQ Preserve® and ACQ Preserve Plus® products are appropriate for use in above-ground, ground contact, and fresh water contact applications and resist attack by rot, fungal decay, and subterranean termites, including Formosan termites.

3.2 Preservative System

ACQ Preserve® and ACQ Preserve Plus® preservatives are waterborne, Copper-Quat preservative systems used for pressure treatment of wood members that are required by the applicable Code to be protected against fungal decay or termites, or where such protection is desired.

ACQ Preserve® and ACQ Preserve Plus® compositions are based on copper combined with a quaternary ammonium compound (quat). These active ingredients are dissolved in an alkaline carrier system of ethanolamine and/or ammonia, which aids in preservative penetration and permanence in wood. The ratio of copper, expressed as CuO, to quat is 2:1, by weight.

3.3 Materials

ACQ Preserve and ACQ Preserve Plus® are used to pressure treat the following materials:

- 3.3.1 Dimensional lumber and timbers of the following sapwood species: Southern Pine, Ponderosa Pine, Red Pine, Radiata Pine, and Caribbean Pine.
- 3.3.2 Dimensional lumber and timbers of the following heartwood species: Douglas-Fir, Western Hemlock, Hem-Fir, Lodgepole Pine, Jack Pine, and Redwood.
- 3.3.3 Maximum nominal size of 2-by-8 in all species listed for "decking use" only.
- 3.3.4 Southern Pine and Douglas-Fir plywood.
- 3.3.5 Round and sawn posts and building poles of Southern Pine, Ponderosa Pine, Red Pine, Douglas-Fir, Hem-Fir and Western Hemlock.

Minimum preservative retention levels are provided in Table 1.

3.4 Treatment and Processing

Only the vacuum-pressure treating process described in American Wood-Preservers' Association (AWPA) Commodity Standard C1-00 and in the Processing and Treatment Standard of the Use Category System (UCS) shall be used to produce ACQ Preserve® and ACQ Preserve Plus® treated wood products.

The minimum preservative retention levels are shown above in Section 3.3. Other processing provisions including the minimum preservative penetration requirements are specified in the approved quality control manual. The use of incising may be required to meet the minimum penetration requirements in certain species or sizes of materials.

ICC-ES legacy reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



3.5 Quality Assurance

Treatment of materials by others is beyond the scope of this report.

3.6 Corrosion

Metals used in contact with ACQ Preserve® and ACQ Preserve Plus® pressure treated wood shall be hot dip galvanized, stainless steel or triple coated zinc polymer materials. Carbon steel, aluminum, red brass and bronze shall not be used in contact with ACQ Preserve® and ACQ Preserve Plus® treated wood products.

3.7 AWPA Standards

ACQ Preserve® and ACQ Preserve Plus® Preservatives and ACQ Preserve® and ACQ Preserve Plus® Pressure-Treated Wood standards and specifications rely primarily on those recognized by the American Wood-Preservers' Association (AWPA). Additional specifications set forth by Chemical Specialties, Inc. are proprietary and may differ from AWPA standards.

All applicable AWPA Standards are listed in Section 6 of this report.

4.0 INSTALLATION

4.1 General

ACQ Preserve® and ACQ Preserve Plus® pressure treated wood is installed as preservative-treated lumber, timbers and plywood in accordance with the requirements of the applicable Code.

The manufacturer's and industry published installation instructions for wood and pressure-treated wood and this report shall be strictly adhered to and a copy of these shall be available at all times on the job site during installation.

The instructions within this report govern if there are any conflicts between the manufacturer's instructions and this report.

4.2 Applications

ACQ Preserve® and ACQ Preserve Plus® pressure treated products are permitted in locations where wood is used and/or in locations required by the applicable Code to be fungal decay and/or termite resistant. The treated wood members are listed for use in above-ground and ground contact applications. Typical applications are listed below in Table 2.

Locations requiring preservative-treated wood for fungal decay and/or termite resistance are listed in:

Section 2304.11	<i>International Building Code</i>
Section 2304	<i>Standard Building Code</i>
Section 2311	<i>BOCA National Building Code</i>
Section 2306	<i>Uniform Building Code™</i>
Sections R323, R324	<i>International Residential Code™ for One- and Two-Family Dwellings</i>
Sections 322, 323	<i>International One and Two Family Dwelling Code.</i>

4.3 Fasteners

The fasteners used with the product shall be hot dip galvanized, stainless steel or triple coated zinc polymer materials.

4.4 Structural

The maximum load duration factor allowed for structural members pressure-treated with ACQ Preserve® and ACQ Preserve Plus® Preservatives shall be 1.6 in accordance with section 2.3 of the AFPA, National Design Specification for Wood Construction.

5.0 IDENTIFICATION

Identification of wood pressure preservative treated with ACQ Preserve and ACQ Preserve Plus is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

6.1 American Wood-Preservers' Association (AWPA) Standards.

6.1.1 AWPA Analytical Standards A2-98 (sections 1 and 6), A3-00, A9-00, A11-93, A16-93, A17-97, A18-99, A21-00.

6.1.2 AWPA Commodity Standards C1-00, C2-00, C4-99, C5-00, C9-00, C14-99, C15-00, C16-00, C17-00, C22-96.

6.1.3 AWPA Preservative Standard P5-01.

6.2 AWPA Reports of Treatments Subcommittees.

6.2.1 Report of Subcommittee T-2, Lumber and Timbers, September 23, 1992.

6.2.2 Report of Subcommittee T-8, Composites, September 23, 1992.

6.2.3 Report of Subcommittee T-2, Lumber and Timbers, September 14, 1994.

6.2.4 Report of Subcommittee T-2, Lumber and Timbers, September 27, 1995.

6.2.5 Report of Subcommittee T-8, Composites, September 27, 1995.

6.3 Technical Information on the Use of ACQ (Alkaline Copper Quaternary) Preserve as a Wood Preservative, Chemical Specialties, Inc., dated February 2002.

6.3.1 Laboratory Tests

- Soil Block Tests, AWPA E10-91.
- Agar Block Tests, EN 113 and EN 84 Leaching, BAM, Berlin, Germany, Danish Technological Institute, Tastrup, Denmark, and EMPA (Swiss Federal Laboratories for Materials Testing and Research).
- Termite Tests, CSIRO Australian Laboratory Choice Test Method, CSIRO, Melbourne, Australia.

6.3.2 Simulated Field Tests

- Soil Bed Exposure Test, AWPA E14-94.

6.3.3 Field Tests

- Ground Contact Field Stake Tests, AWPA E7-93 at Hilo, HI, Harrisburg, NC, and Gainesville, FL.
- Ground Contact Field Stake Tests, AWPA E7-93 at Dorman, MS and Saucier, MS, Mississippi Forest Products Laboratory, MSU, Starkville, MS.
- Ground Contact Field Stake Tests, AWPA E7-93 at Innisfail, North Queensland, Australia and Canal Creek, North Queensland, Australia, DPI Queensland Forest Service.
- Ground Contact Field Stake Tests, European Standard EN 252 at Simlangsdalen, Sweden and Vikki, Finland, Swedish University of Agricultural Sciences (SLU).
- Ground Contact Field Stake Tests, AWPA E7-93 at Whakarewarewa, New Zealand, New Zealand Forest Research Institute.

6.3.4 Preservative Permanence

- Laboratory Leaching Test, AWPA E10-87 and E11-87, Michigan Technological University.
- Depletion from Soil Bed Test Samples, AWPA E14-94.
- Depletion from Ground Contact Stakes, E7-93 at Hilo, HI and Gainesville, FL.

6.3.5 Effects on Wood Properties

- Static Bending Strength Test, ASTM D 143, Clemson University and Michigan Technological University.
- Glueline Shear Properties of 4-ply 15/32 Southern Pine Plywood, Michigan Technological University.

6.3.6 Corrosivity

- Corrosion of Metals by Treated Wood, AWPA E12-94.

6.3.7 Treatment Testing

- Treatment Trials of Various Wood Species, Vacuum-Pressure Method described in AWPA C1.

6.4 Chemical Specialties, Inc.'s Quality Control Procedures for ACQ Preserve pressure treated wood products, Standard ACQ-2002, dated January 2002, Revised 2-19-02.**7.0 CONDITIONS OF USE**

The ICC-ES Subcommittee for the National Evaluation Service finds that the ACQ Preserve® and ACQ Preserve Plus® pressure treated wood as described in this report complies with or is a suitable alternate to that specified in the 2000 *International Building Code*®, the 2001 *Supplement to the International Codes*®, the 2000 *International Residential Code*®, the BOCA® *National Building Code/1999*, the 1999 *Standard Building Code*®, the 1997 *Uniform Building Code*™, and the 1998 *International One- and Two- Family Dwelling Code*® subject to the following conditions:

- 7.1** This Evaluation Report and the manufacturer's published installation instructions, when required by the code official, shall be submitted at the time of permit application.
- 7.2** The ACQ Preserve® and ACQ Preserve Plus® products are limited to the wood species and minimum retentions noted under Section 3.3 and Table 1 above.
- 7.3** The treatment process complies with this report and Chemical Specialties, Inc.'s Standard ACQ-2002 Quality Control Procedures for ACQ Preserve® pressure treated wood products.
- 7.4** The process of treating wood products with ACQ Preserve and ACQ Preserve Plus is outside the scope of this report and must be justified to the satisfaction of the code official.
- 7.5** Dimensional lumber designated for "Decking Use" shall be a maximum of 2 inches thick and 8 inches wide.
- 7.6** The product is limited to the applications noted under Section 4.2 above.
- 7.7** ACQ Preserve® and ACQ Preserve Plus® pressure treated wood preservatives shall not be used to treat LVL, OSB, or FRTW wood products.
- 7.8** Surface treatment of field cuts shall be in accordance with the manufacturer's recommendations.
- 7.9** In areas where a soil treatment/barrier termiticide treatment is required by the applicable Code or local code official, ACQ Preserve® and ACQ Preserve Plus® pressure treated wood is used only as supplemental protection from termites and is not a replacement for required treatments or barriers.
- 7.10** ACQ Preserve® and ACQ Preserve Plus® pressure treated wood has not been evaluated for exposure to salt water.
- 7.11** This report is subject to periodic re-examination. For information on the current status of this report, contact the ICC-ES.

**TABLE 1—MINIMUM PRESERVATIVE RETENTION REQUIREMENTS
FOR ACQ PRESERVE® AND ACQ PRESERVE PLUS® TREATED WOOD PRODUCTS BY END USE**

END USE	ACQ PRESERVE MINIMUM ACTIVES^{1,2} RETENTION PCF (KG/M³)	ACQ PRESERVE PLUS MINIMUM ACTIVES^{1,2} RETENTION PCF (KG/M³)
Above Ground - General Use	0.25 (4.0)	0.25 (4.0)
Decking & Specialties Use - Above Ground		
● Sapwood Species Listed in Section 3.3.1	0.15 (2.4)	0.15 (2.4)
● Heartwood Species Listed in Section 3.3.2	0.25 (4.0)	0.25 (4.0)
Ground Contact	0.40 (6.4)	0.40 (6.4)
Critical Structural Members	0.60 (9.6)	0.60 (9.6)
Wood Foundation Systems	0.60 (9.6)	0.60 (9.6)

Table 1 Notes:

¹ Actives retention expressed as CuO + quat

² Pounds of preservative per cubic foot of wood

**TABLE 2—TYPICAL APPLICATIONS FOR
ACQ PRESERVE® AND ACQ PRESERVE PLUS® PRESSURE TREATED WOOD PRODUCTS**

SERVICE CONDITIONS	TYPICAL APPLICATIONS
Above Ground	Decking, Rails, Spindles, Trim and Fascia, Framing, Flooring, Sill Plates, Trellises, Gazebos, Fencing
Ground Contact	Deck Support Posts, Fence Posts
Critical Structural	Permanent Wood Foundations, Building Poles