ICC 400-2012

Standard on the Design and Construction of Log Structures

American National Standard

ICC
INTERNATIONAL CODE COUNCIL®

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American National Standard

International Code Council
500 New Jersey Avenue, NW, 6th Floor
Washington, D.C. 20001

Approved August 17, 2011

American National Standards Institute
1899 L Street, NW, 11th Floor
Washington, D.C. 20036

2012 ICC Standard on the Design and Construction of Log Structures
(ICC 400-2012)

First Printing: December 2011

ISBN: 978-1-60983-168-4

American National Standard

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FOREWORD

Introduction

In 2003, upon direction from the ICC Board of Directors, the ICC Standards Council appointed a consensus committee to develop a standard to cover the design and construction of log structures.

Development

This is the second edition of the International Code Council® (ICC®) *Standard on the Design and Construction of Log Structures*. This standard was developed by the ICC Consensus Committee on Log Structures (IS-LOG) that operates under ANSI Approved ICC Consensus Procedures for the development of ICC standards. ICC is approved by ANSI as an Accredited Standards Developer.

The meetings of the IS-LOG Consensus Committee were open to the public and interested individuals and organizations from across the country participated. Views and objections were solicited through several public comment periods. All views and objections were considered by the consensus committee and an effort was made toward their resolution. A vote by the consensus committee approved this standard.

The requirements in ICC 400 are based on the intent to establish provisions consistent with the scope of the ICC family of codes and standards that adequately protect public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction.

Adoption

ICC 400, *Standard on the Design and Construction of Log Structures* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's law.

Formal Interpretations

Requests for Formal Interpretations on the provisions of ICC 400-2012 should be addressed to: ICC, Chicago District Office, 4051 West Flossmoor Road, Country Club Hills, IL 60478

Maintenance – Submittal of Proposals

All ICC standards are revised as required by ANSI. Proposals for revising this edition are welcome. Please visit the ICC website at www.iccsafe.org for the official "Call for Proposals" announcement. A proposal form and instructions can also be downloaded from www.iccsafe.org.

ICC, its members and those participating in the development of ICC 400-2012 do not accept any liability resulting from compliance or noncompliance with the provisions of ICC 400-2012. ICC does not have the power or authority to police or enforce compliance with the contents of this standard. Only the governmental body that enacts this standard into law has such authority.

International Code Council Consensus Committee on Log Structures (IS-LOG)

Consensus Committee SCOPE: The Consensus Committee (CC) on Log Structures (IS-LOG) shall have primary responsibility for minimum requirements to safeguard the public health, safety and general welfare through design, construction and installation requirements for log and heavy timber structures.

This standard was processed and approved for submittal to ANSI by the ICC Consensus Committee on Log Structures (IS-LOG). Committee approval of the standard does not necessarily imply that all committee members voted for its approval.

Representatives on the Consensus Committee are classified in one of three voting interest categories. The committee has been formed in order to achieve consensus as required by ANSI Essential Requirements. At the time it approved this standard, the IS-LOG Consensus Committee consisted of the following members:

General Interest (G) - User Interest (U) - Producer Interest (P)

Larry Beineke (U), PFS Corporation, Raleigh, North Carolina

Thomas Castle (U), Ficcadenti Waggoner & Castle, Walnut Creek, California

Christopher Clay (Alternate P), Great Lakes Log Crafters Association, Knife River, Minnesota

Gary Hautman (G), Douglas County Building Division, Castle Rock, Colorado

James "Jay" Horner (G), City of Gatlinburg, Gatlinburg, Tennessee

Daniel Icove (U), University of Tennessee, Knoxville, Tennessee

Robert G. Kenel (P), Great Lakes Log Crafters Association, St. Charles, Michigan

Rob Pickett, Chair (P), Log Homes Council, NAHB, Hartland, Vermont

Sharon Walter (G), City of Highland, Highland, Illinois

Bob Wawen (P), BC Log and Timber Building Industry, Rossland, BC Vok 2EO Canada

Committee Secretary: **Edward L. Wirtschoreck**, L.A., Manager of Standards, International Code Council, Country Club Hills, Illinois

Voting Membership in Each Category

Category	Number
General—(G)	3
User—(U)	3
Producer—(P)	3
TOTAL	9

Interest Categories

General Interest: Individuals assigned to the General Interest category are those who represent the interests of an entity, including an association of such entities, representing the general public, or entities that promulgate or enforce the provisions within the committee scope. These entities include consumers and government regulatory agencies.

User Interest: Individuals assigned to the User Interest category are those who represent the interests of an entity, including an association of such entities, which is subject to the provisions or voluntarily utilizes provisions within the committee scope. These entities include academia, applied research laboratory, building owner, design professional, government non-regulatory agency, insurance company, private inspection agency, and product certification/evaluation agency.

Producer Interest: Individuals assigned to the Producer Interest category are those who represent the interests of an entity, including an association of such entities, which produces, installs, or maintains a product, assembly, or system subject to the provisions within the committee scope. These entities include builder, contractor, distributor, labor, manufacturer, material association, standards promulgator, testing laboratory and utility.

NOTE—Multiple Interests: Individuals representing entities in more than one of the above interest categories, one of which is a Producer Interest, are assigned to the Producer Interest. Individuals representing entities in the General Interest and User Interest categories are assigned to the User Interest.

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SECTION 101
ADMINISTRATIVE PROVISIONS

101.1 Scope. This standard establishes the minimum requirements for log structures to safeguard the public health, safety and welfare through structural, thermal, and settling provisions. This standard is intended for adoption by local governmental agencies and organizations setting model codes to achieve uniformity in technical design criteria in building codes and other regulations.

SECTION 102
APPLICABILITY

102.1 Applicability. The construction of new log structures shall comply with this standard.

SECTION 103
PROVISIONS FOR COMPLIANCE

103.1 Provisions for compliance. This standard provides the minimum design requirements for the construction of log structures. In lieu of these provisions, or where these provisions are not applicable, accepted engineering methods and practices in accordance with the appropriate sections of the *International Building Code* or the *International Residential Code* as applicable for the intended use of the structure shall be permitted to be used. Structural elements that meet the applicability provisions of Section 102, but are not within the limits of the design provisions of this Standard shall be designed in accordance with the appropriate sections of the *International Building Code* or the *International Residential Code* as applicable.

SECTION 104
COMPLIANCE ALTERNATIVES

104.1 Alternative materials, design and methods of construction and equipment. The provisions of this standard are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this standard, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this standard, and that the material, method of work offered is, for the purposes intended, at least the equivalent of that prescribed in this standard in quality, strength, effectiveness, fire resistance, durability and safety.

104.1.1 Evaluation reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this standard, shall consist of valid evaluation reports from approved sources.

104.1.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this standard, or evidence that a material or method does not conform to the requirements of this standard, or in order to substantiate claims of alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

SECTION 105
CONVENTIONS

105.1 Conventions. Dimensions that are not stated as "maximum or minimum" are absolute. All dimensions are subject to conventional industry standard.

SECTION 106
INSPECTIONS

106.1 Inspections. During the course of the construction the code official is authorized to make all of the necessary inspections, or the code official shall have the authority to accept reports of inspections by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official is authorized to engage such expert opinion deemed necessary to report upon unusual technical issues that arise.

SECTION 107
FOUNDATIONS

107.1 Foundations. Foundations systems shall be designed in accordance with the appropriate sections of the *International Building Code* or the *International Residential Code* as applicable for the intended use of the structure.

SECTION 108
DESIGN LOADS

108.1 Design Loads. Loads and load combinations shall be in accordance with the provisions of this section.

108.2 Loads. Loads applied to log structures shall be in accordance with the *International Building Code*.

Exception: For log structures used as one- and two-family dwellings and their accessory structures, loads shall be permitted to be determined in accordance with AF&PA's