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Preface

The *Uniform Building Security Code*™ establishes minimum standards to make dwelling units resistant to unlawful entry and is published in a format that will allow jurisdictions to enact the code as Appendix Chapter 10 of the *Uniform Building Code*™.

CODES AND RELATED PUBLICATIONS

The International Conference of Building Officials (ICBO) publishes a family of codes, each correlated with the *Uniform Building Code*™ to provide jurisdictions with a complete set of building-related regulations for adoption. Some of these codes are published in affiliation with other organizations such as the International Fire Code Institute (IFCI) and the International Code Council (ICC). Reference materials and related codes also are available to improve knowledge of code enforcement and administration of building inspection programs. Publications and products are continually being added, so inquiries should be directed to Conference headquarters for a listing of available products. Many codes and references are also available on CD-ROM or floppy disk. These are denoted by (*). The following publications and products are available from ICBO:

CODES

***Uniform Building Code**, Volumes 1, 2 and 3. The most widely adopted model building code in the United States, the performance-based *Uniform Building Code* is a proven document, meeting the needs of government units charged with the enforcement of building regulations. Volume 1 contains administrative, fire- and life-safety and field inspection provisions; Volume 2 contains structural engineering design provisions; and Volume 3 contains material, testing and installation standards.

***Uniform Mechanical Code**™**.** Provides a complete set of requirements for the design, construction, installation and maintenance of heating, ventilating, cooling and refrigeration systems; incinerators and other heat-producing appliances.

International Plumbing Code™**.** Provides consistent and technically advanced requirements that can be used across the country to provide comprehensive regulations of modern plumbing systems. Setting minimum regulations for plumbing facilities in terms of performance objectives, the IPC provides for the acceptance of new and innovative products, materials and systems.

International Private Sewage Disposal Code™**.** Provides flexibility in the development of safety and sanitary individual sewage disposal systems and includes detailed provisions for all aspects of design, installation and inspection of private sewage disposal systems.

International Mechanical Code™**.** Establishes minimum regulations for mechanical systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new mechanical designs.

Uniform Zoning Code™**.** This code is dedicated to intelligent community development and to the benefit of the public welfare by providing a means of promoting uniformity in zoning laws and enforcement.

***Uniform Fire Code**™, Volumes 1 and 2. The premier model fire code in the United States, the *Uniform Fire Code* sets forth provisions necessary for fire prevention and fire protection. Published by the International Fire Code Institute, the *Uniform Fire Code* is endorsed by the Western Fire Chiefs Association, the International Association of Fire Chiefs and ICBO. Volume 1 contains code provisions compatible with the *Uniform Building Code,* and Volume 2 contains standards referenced from the code provisions.

***Urban-Wildland Interface Code**™**.** Promulgated by IFCI, this code regulates both land use and the built environment in designated urban-wildland interface areas. This newly developed code is the only model code that bases construction requirements on the fire-hazard severity exposed to the structure. Developed under a grant from the Federal Emergency Management Agency, this code is the direct result of hazard mitigation meetings held after devastating wildfires.

Uniform Housing Code™**.** Provides complete requirements affecting conservation and rehabilitation of housing. Its regulations are compatible with the *Uniform Building Code.*

Uniform Code for the Abatement of Dangerous Buildings™**.** A code compatible with the *Uniform Building Code* and the *Uniform Housing Code* which provides equitable remedies consistent with other laws for the repair, vacation or demolition of dangerous buildings.

Uniform Sign Code™**.** Dedicated to the development of better sign regulation, its requirements pertain to all signs and sign construction attached to buildings.

Uniform Administrative Code™**.** This code covers administrative areas in connection with adoption of the *Uniform Building Code, Uniform Mechanical Code* and related codes. It contains provisions which relate to site preparation, construction, alteration, moving, repair and use and occupancies of buildings or structures and building service equipment, including plumbing, electrical and mechanical regulations. The code is compatible with the administrative provisions of all codes published by the Conference.

Uniform Building Security Code™**.** This code establishes minimum standards to make dwelling units resistant to unlawful entry. It regulates swinging doors, sliding doors, windows and hardware in connection with dwelling units of apartment houses or one- and two-family dwellings. The code gives consideration to the concerns of police, fire and building officials in establishing requirements for resistance to burglary which are compatible with fire and life safety.

Uniform Code for Building Conservation™**.** A building conservation guideline presented in code format which will provide a community with the means to preserve its existing buildings while achieving appropriate levels of safety. It is formatted in the same manner as the *Uniform Building Code,* is compatible with other Uniform Codes, and may be adopted as a code or used as a guideline.

Dwelling Construction under the Uniform Building Code™**.** Designed primarily for use in home building and apprentice training, this book contains requirements applicable to the construction of one- and two-story dwellings based on the requirements of the *Uniform Building Code.* Available in English or Spanish.

Dwelling Construction under the Uniform Mechanical Code™**.** This publication is for the convenience of the homeowner or contractor interested in installing mechanical equipment in a one- or two-family dwelling in conformance with the *Uniform Mechanical Code.*

Supplements to UBC and related codes. Published in the years between editions, the Supplements contain all approved changes, plus an analysis of those changes.

Uniform Building Code—1927 Edition. A special 60th anniversary printing of the first published *Uniform Building Code.*

One and Two Family Dwelling Code. Promulgated by ICC, this code eliminates conflicts and duplications among the model codes to achieve national uniformity. Covers mechanical and plumbing requirements as well as construction and occupancy.

Application and Commentary on the One and Two Family Dwelling Code. An interpretative commentary on the *One and Two Family Dwelling Code* intended to enhance uniformity of interpretation and application of the code nationwide. Developed by the three model code organizations, this document includes numerous illustrations of code requirements and the rationale for individual provisions.

Model Energy Code. This code includes minimum requirements for effective use of energy in the design of new buildings and structures and additions to existing buildings. It is based on American Society of Heating, Refrigeration and Air-conditioning Engineers Standard 90A-1980 and was originally developed jointly by ICBO, BOCA, SBCCI and the National Conference of States on Building Codes and Standards under a contract funded by the United States Department of Energy. The code is now maintained by ICC and is adopted by reference in the *Uniform Building Code*.

National Electrical Code®**.** The electrical code used throughout the United States. Published by the National Fire Protection Association, it is an indispensable aid to every electrician, contractor, architect, builder, inspector and anyone who must specify or certify electrical installations.

TECHNICAL REFERENCES AND EDUCATIONAL MATERIALS

Analysis of Revisions to the Uniform Codes™. An analysis of changes between the previous and new editions of the Uniform Codes is provided. Changes between code editions are noted either at the beginning of chapters or in the margins of the code text.

***Handbook to the Uniform Building Code.** The handbook is a completely detailed and illustrated commentary on the *Uniform Building Code,* tracing historical background and rationale of the codes through the current edition. Also included are numerous drawings and figures clarifying the application and intent of the code provisions. Also available in electronic format.

***Handbook to the Uniform Mechanical Code.** An indispensable tool for understanding the provisions of the current UMC, the handbook traces the historical background and rationale behind the UMC provisions, includes 160 figures which clarify the intent and application of the code, and provides a chapter-by-chapter analysis of the UMC.

***Uniform Building Code Application Manual.** This manual discusses sections of the *Uniform Building Code* with a question-and-answer format, providing a comprehensive analysis of the intent of the code sections. Most sections include illustrative examples. The manual is in loose-leaf format so that code applications published in *Building Standards* magazine may be inserted. Also available in electronic format.

***Uniform Mechanical Code Application Manual.** As a companion document to the *Uniform Mechanical Code,* this manual provides a comprehensive analysis of the intent of a number of code sections in an easy-to-use question-and-answer format. The manual is available in a loose-leaf format and includes illustrative examples for many code sections.

***Uniform Fire Code Applications Manual.** This newly developed manual provides questions and answers regarding UFC provisions. A comprehensive analysis of the intent of numerous code sections, the manual is in a loose-leaf format for easy insertion of code applications published in IFCI's *Fire Code Journal.*

Quick-Reference Guide to the Occupancy Requirements of the 1997 UBC. Code requirements are compiled in this publication by occupancy groups for quick access. These tabulations assemble requirements for each occupancy classification in the code. Provisions, such as fire-resistive ratings for occupancy separations in Table 3-B, exterior wall and opening protection requirements in Table 5-A-1, and fire-resistive ratings for types of construction in Table 6-A, are tabulated for quick reference and comparison.

Plan Review Manual. A practical text that will assist and guide both the field inspector and plan reviewer in applying the code requirements. This manual covers the nonstructural and basic structural aspects of plan review.

Field Inspection Manual. An important fundamental text for courses of study at the community college and trade or technical school level. It is an effective text for those studying building construction or architecture and includes sample forms and checklists for use in the field.

Building Department Administration. An excellent guide for improvement of skills in departmental management and in the enforcement and application of the Building Code and other regulations administered by a building inspection department. This textbook will also be a valuable aid to instructors, students and those in related professional fields.

Building Department Guide to Disaster Mitigation. This new, expanded guide is designed to assist building departments in developing or updating disaster mitigation plans. Subjects covered include guidelines for damage mitigation, disaster-response management, immediate response, mutual aid and inspections, working with the media, repair and recovery policies, and public information bulletins. This publication is a must for those involved in preparing for and responding to disaster.

Building Official Management Manual. This manual addresses the unique nature of code administration and the managerial duties of the building official. A supplementary insert addresses the budgetary and financial aspects of a building department. It is also an ideal resource for those preparing for the management module of the CABO Building Official Certification Examination.

Legal Aspects of Code Administration. A manual developed by the three model code organizations to inform the building official on the legal aspects of the profession. The text is written in a logical sequence with explanation of legal terminology. It is designed to serve as a refresher for those preparing to take the legal module of the CABO Building Official Certification Examination.

Illustrated Guide to Conventional Construction Provisions of the UBC. This comprehensive guide and commentary provides detailed explanations of the conventional construction provisions in the UBC, including descriptive discussions and illustrated drawings to convey the prescriptive provisions related to wood-frame construction.

Introduction to the Uniform Building Code. A workbook that provides an overview of the basics of the UBC.

Uniform Building Code Update Workbook. This manual addresses many of the changes to the administrative, fire- and life-safety, and inspection provisions appearing in the UBC.

UMC Workbook. Designed for independent study or use with instructor-led programs based on the *Uniform Mechanical Code,* this comprehensive study guide consists of 16 learning sessions, with the first two sessions reviewing the purpose, scope, definitions and administrative provisions and the remaining 14 sessions progressively exploring the requirements for installing, inspecting and maintaining heating, ventilating, cooling and refrigeration systems.

UBC Field Inspection Workbook. A comprehensive workbook for studying the provisions of the UBC. Divided into 12 sessions, this workbook focuses on the UBC combustible construction requirements for the inspection of wood-framed construction.

Concrete Manual. A publication for individuals seeking an understanding of the fundamentals of concrete field technology and inspection practices. Of particular interest to concrete construction inspectors, it will also benefit employees of concrete producers, contractors, testing and inspection laboratories and material suppliers.

Reinforced Concrete Masonry Construction Inspector's Handbook. A comprehensive information source written especially for masonry inspection covering terminology, technology, materials, quality control, inspection and standards. Published jointly by ICBO and the Masonry Institute of America.

You Can Build It! Sponsored by ICBO in cooperation with CABO, this booklet contains information and advice to aid "do-it-yourselfers" with building projects. Provides guidance in necessary procedures such as permit requirements, codes, plans, cost estimation, etc.

Guidelines for Manufactured Housing Installations. A guideline in code form implementing the *Uniform Building Code* and its companion code documents to regulate the permanent installation of a manufactured home on a privately owned, nonrental site. A commentary is included to explain specific provisions, and codes applying to each component part are defined.

Accessibility Reference Guide. This guide is a valuable resource for architects, interior designers, plan reviewers and others who design and enforce accessibility provisions. Features include accessibility requirements, along with detailed commentary and graphics to clarify the provisions; cross-references to other applicable sections of the UBC and the Americans with Disabilities Act Accessibility Guidelines; a checklist of UBC provisions on access and usability requirements; and many other useful references.

Educational and Technical Reference Materials. The Conference has been a leader in the development of texts and course material to assist in the educational process. These materials include vital information necessary for the building official and subordinates in carrying out their responsibilities and have proven to be excellent references in connection with community college curricula and higher-level courses in the field of building construction technology and inspection and in the administration of building departments. Included are plan review checklists for structural, nonstructural, mechanical and fire-safety provisions and a full line of videotapes and automated products.

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Appendix Chapter 10
SECURITY PROVISIONS

SECTION 1011 — PURPOSE

The purpose of this code is to establish minimum standards to make dwelling units resistant to unlawful entry.

SECTION 1012 — SCOPE

The provisions of this chapter shall apply to openings into dwelling units within apartment houses of Group R, Division 1 Occupancies and Group R, Division 3 Occupancies and to openings between attached garages and dwelling units. Except for vehicular access, door openings in enclosed attached garages shall be in accordance with the provisions of this chapter.

EXCEPTIONS: 1. An opening in an exterior wall when all portions of such openings are more than 12 feet (3658 mm) vertically or 6 feet (1829 mm) horizontally from an accessible surface of any adjoining yard, court, passageway, public way, walk, breezeway, patio, planter, porch or similar area.

2. An opening in an exterior wall when all portions of such openings are more than 12 feet (3658 mm) vertically or 6 feet (1829 mm) horizontally from the surface of any adjoining roof, balcony, landing, stair tread, platform or similar structure or when any portion of such surface is itself more than 12 feet (3658 mm) above an accessible surface.

3. Any opening in a roof when all portions of such roof are more than 12 feet (3658 mm) above an accessible surface.

4. Openings when the smaller dimension is 6 inches (152 mm) or less, provided that the closest edge of the opening is at least 36 inches (914 mm) from the locking device of the door or window assembly.

5. Openings protected by required fire door assemblies having a fire-endurance rating of not less than 45 minutes.

SECTION 1013 — OBSTRUCTING EXITS

1013.1 General. Security methods shall not create a hazard to life by obstructing any means of egress or any opening which is classified as an emergency exiting facility. Security provisions shall not supersede the safety requirements relative to latching or locking devices on exit doors which would be contrary to the provisions of Chapter 10 of the Building Code nor shall the provisions of this chapter be construed to waive any other provisions of this code.

1013.2 Emergency Escape or Rescue Windows. Bars, grilles, grates or similar devices may be installed in an emergency escape or rescue windows or doors required by Section 310.4 of the Building Code, provided:

1. The devices are equipped with approved release mechanisms which are openable from the inside without the use of a key or special knowledge or effort; and

2. The building is equipped with smoke detectors installed in accordance with Section 310.9 of the Building Code.

SECTION 1014 — TESTS AND IDENTIFICATION

Tests required by this chapter shall be performed by an approved agency and the product shall bear an identification indicating that it conforms to the standards prescribed in this chapter.

SECTION 1015 — ENTRY VISION

All main or front entry doors to dwelling units shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. Except as provided in Section 1004.3.4 of the Building Code, such view may be provided by a door viewer having a field of view of not less than 180 degrees through windows or through view ports.

SECTION 1016 — SWINGING DOORS

1016.1 General. Swinging doors regulated by this chapter required for security shall comply with UBC Standard 10-5, Part I. Doors in pairs shall be tested in pairs.

1016.2 Strike Plate Installation. In wood-frame construction, an open space between trimmers and wood doorjambs shall be solid shimmed by a single piece extending not less than 12 inches (305 mm) above and below the strike plate.

Strike plates shall be attached to wood with not less than four No. 8 by 3-inch (76 mm) screws, which shall have a minimum of $^3/_4$-inch (19 mm) penetration into the nearest stud. Strike plates when attached to metal shall be attached with not less than four No. 8 machine screws.

All strike plates of doors in pairs shall be installed as tested.

1016.3 Hinges. When hinges are exposed to the exterior, at least one of the three required hinges shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins. Not less than three $4^1/_2$-inch (114 mm) steel butt hinges shall be symmetrically fastened to both the door and frame with not less than four No. 9 by $^3/_4$-inch (19 mm) wood screws or to metal with not less than four No. 8 machine screws.

In wood construction, an open space between trimmers and wood doorjambs shall be solid shimmed extending not less than 6 inches (152 mm) above and below the plate.

1016.4 Locking Hardware. Single-swinging doors and the active leaf of doors in pairs shall be equipped with an approved exterior key-operating deadbolt, which has been tested in accordance with UBC Standard 10-5, Part I. See Chapter 10 of the Building Code for requirements on door operation for exiting.

SECTION 1017 — SLIDING DOORS

Sliding door assemblies regulated by this chapter shall comply with UBC Standard 10-5, Part II.

SECTION 1018 — WINDOWS

Window assemblies which are designed to be openable and which are regulated by this chapter shall comply with UBC Standard 10-6, unless such windows are protected by approved metal bars, screens or grilles. Louvered windows regulated by this chapter shall be protected by approved metal bars, screens or grilles. See also Building Code Section 310.4.

SECTION 1019 — ALTERNATE MATERIALS OR METHODS

The provisions of this chapter are not intended to prevent the use of any material, device, hardware or method not specifically prescribed in this chapter when such alternate provides equivalent security and is approved by the building official.

UNIFORM BUILDING CODE STANDARD 10-5
TESTS FOR DOORS AND LOCKING HARDWARE USED FOR SECURITY

Standard of the International Conference of Building Officials

See Sections 1015 and 1016

Part I—Swinging Doors and Locking Hardware on Swinging Doors

SECTION 10.501 — SCOPE

Part I of this standard covers test methods for swinging doors and locking hardware on swinging doors which are required by Sections 1016 and 1017 of this code.

The wall assembly described in Section 10.505 is considered suitable for the scope of these methods of tests. See Figure 10-5-1.

SECTION 10.502 — DEFINITIONS

For the purpose of this standard, certain terms are defined as follows:

BOLT is a metal bar which, when actuated, is projected (or "thrown") either horizontally or vertically into a retaining member, such as a strike plate, to prevent a door from moving or opening.

BOLT PROJECTION or **BOLT THROW** is the distance from the lock front surface to the farthest projected point on the bolt or latch at the center line when subjected to end pressure.

COMPONENT, as distinguished from a part, is a subassembly which combines with other components to make up a total door assembly. The prime components of a door assembly include door, lock, hinges, jamb/wall, jamb/strike and wall.

CYLINDER is the cylindrical subassembly of a lock containing the cylinder core, tumbler mechanism and the keyway. A double-cylinder lock is one which has a key-actuated cylinder on both the exterior and interior of the door.

CYLINDER CORE or **CYLINDER PLUG** is the central part of a cylinder containing the keyway, which is rotated by the key to operate the lock mechanism.

CYLINDER GUARD is a tapered or flush metal ring or plate surrounding the otherwise exposed portion of a cylinder lock.

DEADBOLT is a lock bolt which does not have a spring action. This bolt must be actuated by a key from the exterior and a knob or thumb turn from the interior and when projected becomes locked against return by end pressure.

STRIKE is a metal plate designed to receive and hold a projected bolt.

SWINGING DOOR is a stile (side) hinged door.

SECTION 10.503 — SAMPLES FOR TESTING

Specimens shall be representative and the construction shall be verified. The test specimen shall be the maximum dimensions for which approval is sought. Each door design for which recognition is sought must be tested; that is, panel size, panel thickness, core material, glazing size, etc. Complete manufacturer or fabricator installation instructions and full-size templates for hardware shall be included.

SECTION 10.504 — TEST EQUIPMENT PERFORMANCE

10.504.1 Door Ram. The door ram shall be a pendulum system with a steel weight capable of delivering horizontal impacts of up to 148 foot-pounds (201 N·m). The striking end of the weight shall be hemispherical and have a diameter of approximately 6 inches (152 mm).

10.504.2 Vertical Impactor. The vertical pendulum system shall employ a steel weight and be capable of delivering vertical (downward) impacts of up to 74 foot-pounds (100 N·m). See Figure 10-5-2.

10.504.3 Impact Buffer. The impact buffer shall be a rigid polystyrene foam having a diameter of 6 inches (152 mm), a thickness of 2 inches (51 mm) and shall have a cut cell surface. It shall have a density of 1.8 to 2 pounds per cubic foot (28.8 to 32.0 kg/m^3) and a compressive strength of 40 psi (276 kPa) as determined by nationally recognized standards.

10.504.4 Torque Applicator. The portable torque applicator shall be capable of delivering and measuring up to 118 foot-pounds (160 N·m) of torque to lock cylinders. The torque-loading adapters shall be designed to grip the cylinders.

10.504.5 Compression-loading Device. The compression-loading device shall be capable of delivering and measuring compressive forces of up to 200 pounds (890 N).

10.504.6 Instrument Accuracy. All test-monitoring equipment shall be calibrated to an accuracy of ± 2 percent of full scale. The impact energy of each pendulum system shall be controlled to within ± 1 percent.

SECTION 10.505 — DOOR SUPPORT TEST FIXTURES

10.505.1 Full-sized Door Fixture. The door support test fixture shall simulate the rigidity normally provided to a door in a building by the ceiling, floor and walls. See Figure 10-5-1.

The door support test fixture shall consist of a vertical wall section constructed from 2-inch-by-4-inch (51 mm by 102 mm) wood studs, 16 inches (406 mm) on center, with a rough entry door opening, and shall be covered with $^1/_2$-inch (12.7 mm) gypsum board on the interior and $^1/_2$-inch (12.7 mm) Structural I plywood on the exterior. The wall shall extend 36 inches (914 mm) from each outside edge of the jamb and 16 inches (406 mm) above the top edge of the head. It shall be secured to the wall support fixture (at the sides and top) and to the laboratory floor. A description of the nailing or method of attachment shall be reported when the test results may be affected by such nailing or attachment.

10.505.2 Small Door Fixture for Hardware. Except for the bolt impact test described in Section 10.508.5, the test fixture for lockset components consisting of a small door assembly may be used. The frame shall be fabricated from steel angle and plate at least $^3/_{16}$-inch (4.8 mm) thick. The test panel shall be 24 inches (610 mm) square and $1^3/_4$ inches (44 mm) thick, made by bonding three pieces of plywood together. A 2-inch-by-2-inch-by-$^1/_8$-inch (51 mm by 51 by 3.2 mm) steel angle shall be bolted to the hinge