



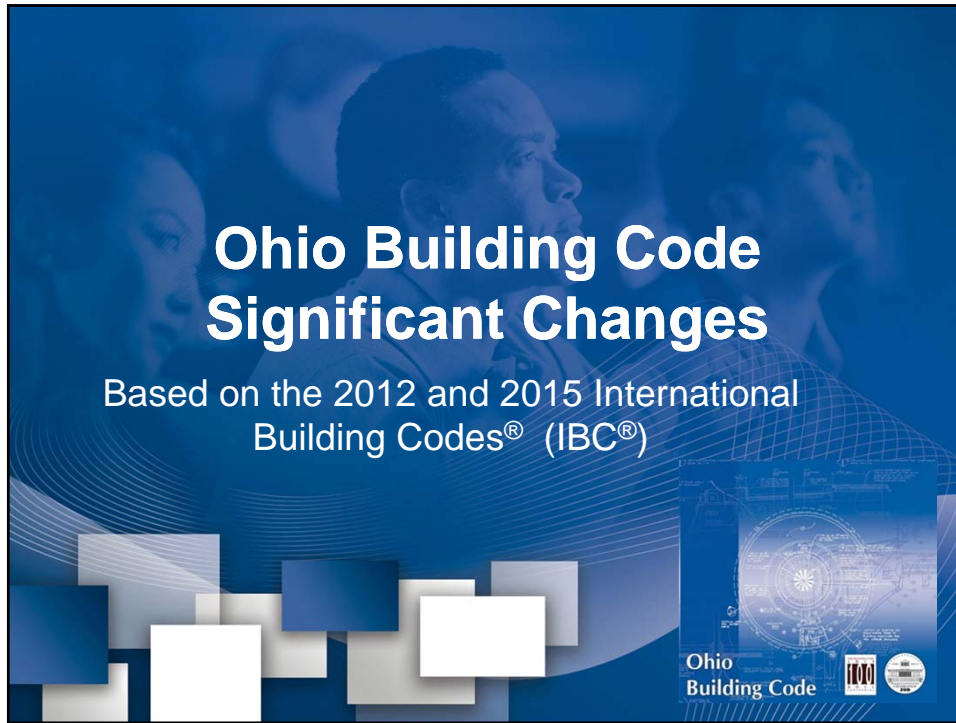
Ohio Building Code Update

Presenter: Steven Regoli

Tuesday, September 12, 2017

8:00 AM – 11:15 AM





Description

- Overviews the changes adopted in Ohio from the 2012 and the 2015 IBC® by the Ohio Board of Building Standards and printed as the *Ohio Building Code*.
 - Identifies changes in organization and code requirements and the applicability of these requirements to design, plan review, and inspection.
 - This course also draws upon the *Significant Changes to the International Building Code: 2012 and 2015 Editions*.



2012 and 2015 IBC Significant Changes



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Goal

- The use of the *Significant Changes to the International Building Code® 2012 and 2015 Editions* allows building officials, fire officials, plans examiners, inspectors, design professionals, contractors, and others in the construction industry to become familiar with many of the important changes in the updated Ohio Building Code® (OBC).



2012/2015 IBC Significant Changes



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Objectives

Upon completion of this seminar, participants will be better able to:

- Identify some of the most significant differences between the OBC based upon the 2009 edition of the IBC and the updated OBC based upon the 2012 and 2015 IBC.
- Explain the differences between the current and previous editions.
- Identify key changes in the organization of the code and new or modified code requirements.
- Identify the applicability of these provisions to the design, plan review, approval, and inspection processes.



2015 IBC Significant Changes



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Introduce the course here

- Instructions for the course, breaks, restroom location.
- Introduction of instructor and participants.
- Other



2015 IBC Significant Changes



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Format of Significant Changes Series

Deleted Language

Change Type

New Code Text

1804.1

Excavation Near Foundations



Foundation excavation

CHANGE TYPE: Addition

CHANGE SUMMARY: Basic requirements for providing safe and adequate underpinning at excavations have been added because the code was not specific on how to address excavations adjacent to structures.

2015 CODE: ~~1804.1 Excavation Near Foundations.~~ Excavation for any purpose shall not remove ~~reduce~~ lateral support from any foundation or adjacent foundation without first underpinning or protecting the foundation against settlement or lateral translation ~~detrimental lateral or vertical movement, or both.~~

1804.2 Underpinning. Where underpinning is ~~chosen~~ used to provide the protection or support of adjacent structures, the underpinning system shall be designed and installed in accordance with provisions of this chapter and Chapter 33.

1804.2.1 Underpinning Sequencing. Underpinning shall be installed in a sequential manner that protects the neighboring structure and the working construction site. The sequence of installation shall be identified in the approved construction documents.

CHANGE SIGNIFICANCE: Specific requirements related to the excavation of foundations adjacent to structures had not previously been addressed in the IBC. Although Section 3307, Protection of Adjacent Property, requires adjoining public and private property, including footings, foundations, party walls and so forth, to be adequately protected from damage during construction, remodeling and demolition work, there were no specific details provided. Because the IBC contained very little detail, due diligence was required during excavations near neigh-



Significant Changes to the International Building Code



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OBC Topic Chapters

- Administration, Chapters 1 and 2
- Building Planning, Chapters 3 through 6
- Fire Protection, Chapters 7 through 9
- Means of Egress, Chapter 10
- Accessibility, Chapter 11
- Building Envelope, Structural Systems and Construction, Chapters 12 through 26
- Building Services, Special Devices, and Special Conditions, Chapters 27 through 34



2015 OBC Significant Changes



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Part 1
Chapters 1 and 2
Administration

8

101.2 Scope.

CHANGE TYPE: Ohio Modification

- 17. *Wind turbines, pumps, site lighting, and flagpoles not connected to building services equipment.*
- 18. *Mine elevator shafts and structures.*
- 19. *Ground signs.*
- 20. *Oil or gas beam pumping units and derricks.*
- 21. *Bungee jumping and zip line structures, and miniature golf courses.*
- 22. *Retaining walls, bridges, walkways or stairs not associated with a building or building egress.*



Ohio Board of Building Standards Significant Changes



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102.10 Work exempt from approval.

CHANGE TYPE: Ohio Modification

BUILDING:

- 11. *Battery operated smoke or carbon monoxide alarms installed in existing buildings where no construction is taking place.*

ELECTRICAL:

- 6. *Electrical wiring equipment not connected to building services equipment in and adjacent to natural or artificially made bodies of water as defined in Article 682 of NFPA 70 as referenced in Chapter 35.*



Ohio Board of Building Standards Significant Changes



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102.10 Work exempt from approval.

CHANGE TYPE: Ohio Modification

PLUMBING:

2. The clearance of stoppages or the repair of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement of more than one fixture or rearrangement of valves, pipes or fixtures.



Ohio Board of Building Standards Significant Changes



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102.11 Building department jurisdictional limitations.

CHANGE TYPE: Modification

5.2 Park districts created pursuant to Chapter 1545. of the Revised Code. *A certified municipal, township, or county building department may exercise enforcement authority, accept and approve plans and specifications, and make inspections for a park district created pursuant to Chapter 1545. of the Revised Code upon the approval, by resolution, of the board of park commissioners of the park district requesting the department to exercise that authority and conduct those activities.*



Ohio Board of Building Standards Significant Changes



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202 Care Facility

CHANGE TYPE: Modification

- **CARE FACILITY.** *A building or portion of a building that is held out to the public for and intended to provide all the following: (1) housing or accommodation; (2) personal, custodial, or medical care; and (3) a supervised environment. Care provided in a dwelling or dwelling unit that is the permanent residence of the care provider is not a care facility.*



Ohio Board of Building Standards Significant Changes



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202 Custodial Care

CHANGE TYPE: Modification

- **CUSTODIAL CARE.** Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. Custodial care includes persons receiving care who have the ability to respond to emergency situations and evacuate at a slower rate and/or who have mental and psychiatric complications. *Persons who receive custodial care may or may not require assistance with evacuation depending on the occupancy and/or the “condition” in the occupancy.*



Ohio Board of Building Standards and 2015 IBC Significant Changes



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202 Platform

CHANGE TYPE: Clarification

- **202. Platform.** A raised area within a building used for worship, the presentation of music, plays or other entertainment; the head table for special guests; the raised area for lecturers and speakers; boxing and wrestling rings; theater-in-the-round stages; and similar purposes wherein, other than horizontal sliding curtains, there are no overhead hanging curtains, drops, scenery or stage effects other than lighting and sound. A temporary platform is one installed for not more than 30 days.



2015 IBC Significant Changes



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Part 2
Chapters 3 through 6
Building Planning

16

308.3 Groups I-1 Occupancy Classification

CHANGE TYPE: Modification

- The uses permitted in a Group I-1 custodial care facility have been expanded to include care recipients who may need a limited degree of verbal or physical assistance if responding to an emergency situation (Condition 2).



2015 IBC Significant Changes



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308.4 Group I-2 Occupancy Classification

CHANGE TYPE: Modification

- Two basic conditions of Group I-2 medical care uses that have previously been regulated together as a single category have been created, dividing the classification into short-term care facilities, such as hospitals (Condition 2), and long-term care facilities, such as nursing homes (Condition 1).



2012/2015 IBC Significant Changes



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Chapter 3 Simplification

CHANGE TYPE: Modification

- **301.1 Scope.** The provisions of this chapter shall control the classification of all buildings and structures as to use and occupancy *and are established to organize and prescribe the appropriate features of construction and occupant safety requirements for buildings and are not established for compliance with any conditions of licensure which are outside the jurisdiction of this code...*



Chapter 3 Simplification

CHANGE TYPE: Modification

- ... *There may be other requirements owners may be required to meet as set forth by other licensing agencies such as the Ohio State Fire Marshal, Ohio Department of Health, the Ohio Department of Jobs and Family Services, Ohio Department of Mental Health and Addiction Services, Ohio Department of Developmental Disabilities, federal agencies, or other licensing authorities. Owners and designers should investigate these additional licensing agency requirements to ensure they are incorporated into the building design before submitting to the certified building department for plan approval.*



Chapter 3 Simplification

CHANGE TYPE: Modification

CAPACITY OF OCCUPANTS		OCCUPANCY CLASSIFICATION OF CARE FACILITIES			
Capacity of Occupants	Type of Care Facility	1-2 Occupants	3-18 Occupants	More Than 18 Occupants	
Capable of responding to emergency situation without assistance	Alcohol & drug center, assisted living, emergency care, group home, halfway house, residential board & care, social rehabilitation	In Facility dwelling within the scope of ABCD See 310.2.1.1 R-1 In 2- or 3-family dwelling See 310.2.1.2	R-4 Condition 1 See 308.2.2 & 310.4.1.1	R-1 Condition 1 See 308.2.1.1	
Capable of responding to emergency situation but with limited verbal or physical assistance	Alcohol & drug center, assisted living, emergency care, group home, halfway house, residential board & care, social rehabilitation	In Facility dwelling within the scope of ABCD See 310.2.1.1 R-4 In 2- or 3-family dwelling See 310.2.1.2	R-4 Condition 2 See 308.2.2 & 310.4.1.2	R-1 Condition 2 See 308.2.1.2	
Incappable of self-preservation	Housing homes, foster care facilities, facilities providing nursing and medical care but without emergency, surgery or obstetric services, or inpatient rehabilitation for psychiatric or identification	In 1- or 2-family dwelling R-2P See 310.2.1.1 In 3- or 4-family dwelling R-2P See 310.2.1.2	R-2 Condition 1 See 308.4.1.1	R-2 Condition 1 See 308.4.1.1	
Generally incapable of self-preservation due to security measures not under the occupant's control	Correction facilities, detention centers, jails, psychiatric centers, prisons, reformatories	In 1- or 2-family dwelling R-2P See 310.2.1.1 In 3- or 4-family dwelling R-2P See 310.2.1.2	R-2 Condition 2 See 308.4.1.2	R-2 Condition 2 See 308.4.1.2	
			R-3 Condition 1, Sec. 308.3.1.1	R-3 Condition 1, Sec. 308.3.1.1	
			R-3 Condition 2, Sec. 308.3.1.2	R-3 Condition 2, Sec. 308.3.1.2	
			R-3 Condition 3, Sec. 308.3.1.3	R-3 Condition 3, Sec. 308.3.1.3	
			R-3 Condition 4, Sec. 308.3.1.4	R-3 Condition 4, Sec. 308.3.1.4	
			R-3 Condition 5, Sec. 308.3.1.5	R-3 Condition 5, Sec. 308.3.1.5	
AGE AND CAPACITY OF OCCUPANTS		FACILITY DAY CARE HOME			
Age and Capacity of Occupants	Type of Care Facility	1-2 in a Dwelling Unit	1-2 Occupants	3 or More Occupants	
Capable of self-preservation, requiring approval and services only	Child day care	Not in a dwelling, or in a dwelling unit See 310.2.1.1	Same as general occupancy of building See 308.2.2 & 308.4.2	R-4 See 308.4	
Capable of self-preservation	Child day care	Not in a dwelling, or in a dwelling unit See 310.2.1.1	Same as general occupancy of building See 308.2.2 & 308.4.2	R-4P See 308.4	
201 years or less and other where incapable of self-preservation	Day care with care	See 310.2.1.1	Same as general occupancy of building See 308.2.2 & 308.4.2	R-4P See 308.4	
Older than 201 years and 127 grade or younger	Day care with care, education	See 310.2.1.1	Same as general occupancy of building See 308.2.2 & 308.4.2	R-4P See 308.4	
Any age - Capable of self-preservation receiving medical care	Outpatient clinic, doctor's office	Not Change of Occupancy See 308.1	R See 308.1.1	R See 308.1	
Any age - Generally incapable of self-preservation receiving medical care	Ambulatory care facility	Not Change of Occupancy See 308.1	R See 308.1.1	R See 308.1	



310.3.2 Vacation Rentals

CHANGE TYPE: Addition

- Group R-1 vacation rentals shall be permitted to comply with the construction requirements of the "Residential Code of Ohio for One-, Two-, and Three-Family Dwellings" when:
 - The building is composed of a single dwelling unit;
 - The building is occupied by a family or no more than 10 unrelated adults;
 - The building has two exits directly to the exterior at the level of exit discharge; and,
 - The building is located to maintain a minimum fire separation distance of thirty feet.



310.5 Group R-3 Lodging Houses

CHANGE TYPE: Modification

- Lodging houses are now specifically defined in Chapter 2 and are permitted to be constructed in accordance with the *Residential Code of Ohio* (RCO) if they contain no more than five guest rooms.



2015 IBC Significant Changes



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310.6 Group R-4 Lodging Houses



CHANGE TYPE: Modification

- The uses permitted in a Group R-4 custodial care facility have been expanded to include care recipients who may need a limited degree of verbal or physical assistance (Condition 2) while responding to an emergency situation.



2015 IBC Significant Changes



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407.2.5 Group I-2 Shared Living Spaces

CHANGE TYPE: Addition

- Shared living spaces, group meeting areas, and multipurpose therapeutic spaces are now permitted to be open to corridors in Group I-2, Condition 1 (Capable of responding) nursing homes provided five specific conditions are met.



2015 IBC Significant Changes

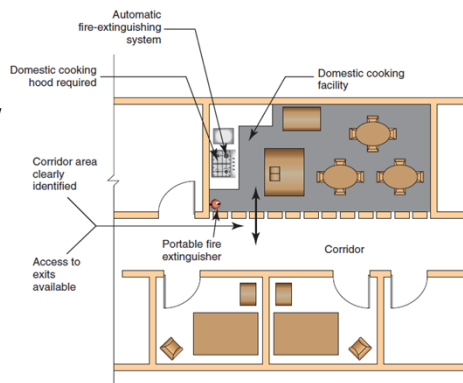


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407.2.6 Group I-2 Cooking Facilities

CHANGE TYPE: Addition

- A room or space containing a cooking facility with domestic cooking appliances is now permitted to be open to the corridor in a Group I-2, Condition 1 (Capable of responding) nursing home provided 13 specific conditions are met.



2015 IBC Significant Changes

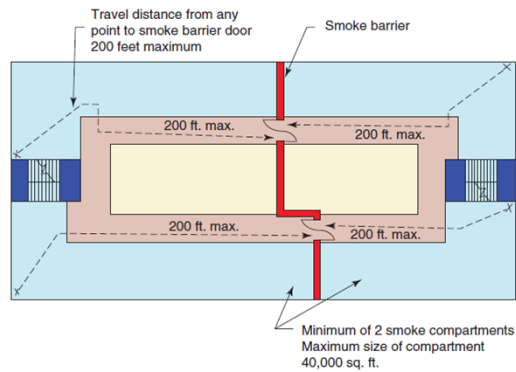


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407.5 Maximum Size of Group I-2 Smoke Compartments

CHANGE TYPE: Modification

- The maximum allowable smoke compartment size for Group I-2, Condition 2 (hospitals and similar occupancies) has been increased to 40,000 square feet (from 22,500).



2015 IBC Significant Changes



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423.4 Storm Shelters Serving Group E Occupancies



CHANGE TYPE: Addition

- Storm shelters are now required in Group E occupancies located in those areas of the United States where the shelter design wind speed for tornadoes is at its highest.



2015 IBC Significant Changes



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424 Children's Play Structures

CHANGE TYPE: Modification

- Regulations for children's play structures, previously limited in application only to covered mall buildings now applicable where such structures are located within any building regulated by the OBC, regardless of occupancy classification.



2012 IBC Significant Changes



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426 Combustible Dusts, Grain Storage, and Storage

CHANGE TYPE: Addition

- New language and standards added to address grinding rooms, conveyors, grain elevators, coal packets, tire rebuilding, and explosion control.



2015 IBC Significant Changes



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503 General Building Height and Area Limitations



CHANGE TYPE: Clarification

- The provisions regulating building height and area limitations have been extensively revised with no change in technical application in order to provide an increased degree of user-friendliness and technical consistency.



2015 IBC Significant Changes



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Tables 504.3, 504.4 Building Height and Number of Stories

TABLE 503 504.3^a Allowable Building Heights and Areas in Feet Above Grade Plane

Occupancy Classification	See Footnotes	Type of Construction									
		Type I		Type II		Type III		Type IV	Type V		
		A	B	A	B	A	B	HT	A	B	
A, B, E, F, M, S, U	NS ^b	UL	160	65	55	65	55	65	50	40	
	S	UL	180	85	75	85	75	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	65	50	40	
	S	UL	160	65	55	65	55	65	50	40	

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1

(Only a portion of Table 504.3 is shown above.)



2015 IBC Significant Changes



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Tables 504.3, 504.4 Building Height and Number of Stories

TABLE 503 504.4^{a,b} Allowable Building Heights and Areas Number of Stories Above Grade Plane

Occupancy Classification	See Foot-Notes	Type of Construction									
		Type I		Type II		Type III		Type IV	Type V		
		A	B	A	B	A	B	HT	A	B	
A-1	NS	UL	5	3	2	3	2	3	2	1	
	S	UL	<u>6</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>2</u>	
A-2	NS	UL	11	3	2	3	2	3	2	1	
	S	UL	<u>12</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>2</u>	
A-3	NS	UL	11	3	2	3	2	3	2	1	
	S	UL	<u>12</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>2</u>	

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1

(Only a portion of Table 504.4 is shown above.)



2015 IBC Significant Changes



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Table 506.2 Building Area

CHANGE TYPE: Clarification

TABLE 503 506.2^{a,b} Allowable Building Heights and Areas Factor ($A_1 = NS, S1, S13R$ or SM , as applicable) in Square Feet

Occupancy Classification	See Footnotes	Type of Construction									
		Type I		Type II		Type III		Type IV	Type V		
		A	B	A	B	A	B	HT	A	B	
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500	
	S1	UL	UL	<u>62,000</u>	<u>34,000</u>	<u>56,000</u>	<u>34,000</u>	<u>60,000</u>	<u>46,000</u>	<u>22,000</u>	
	SM	UL	UL	<u>46,500</u>	<u>25,500</u>	<u>42,000</u>	<u>25,500</u>	<u>45,000</u>	<u>34,500</u>	<u>16,500</u>	
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000	
	S1	UL	UL	<u>62,000</u>	<u>38,000</u>	<u>56,000</u>	<u>38,000</u>	<u>60,000</u>	<u>46,000</u>	<u>24,000</u>	
	SM	UL	UL	<u>46,500</u>	<u>28,500</u>	<u>42,000</u>	<u>28,500</u>	<u>45,000</u>	<u>34,500</u>	<u>18,000</u>	
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000	
	S1	UL	UL	<u>62,000</u>	<u>38,000</u>	<u>56,000</u>	<u>38,000</u>	<u>60,000</u>	<u>46,000</u>	<u>24,000</u>	
	SM	UL	UL	<u>46,500</u>	<u>28,500</u>	<u>42,000</u>	<u>28,500</u>	<u>45,000</u>	<u>34,500</u>	<u>18,000</u>	



2015 IBC Significant Changes



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602.4.2 Cross-Laminated Timber in Exterior Walls

CHANGE TYPE: Addition

- Cross-laminated timber is now permitted within the exterior walls of Type IV buildings where protected by one of three specified materials.



2015 IBC Significant Changes



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Chapters 7 through 9

Fire Protection

36

703.7 Identification of Fire and Smoke Separation Walls

CHANGE TYPE: Modification

- Size and location of identification markings required on vertical fire assemblies in accessible above-ceiling spaces modified to increase potential for such markings to be seen.

DELETED



2012 IBC Significant Changes



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711, 712 Horizontal Assemblies and Vertical Openings

CHANGE TYPE: Modification

- The reorganization of Sections 711 and 712 has been continued such that Section 711 now contains only the construction requirements for floor and roof assemblies, and Section 712 only contains the requirements related to the protection of vertical openings.

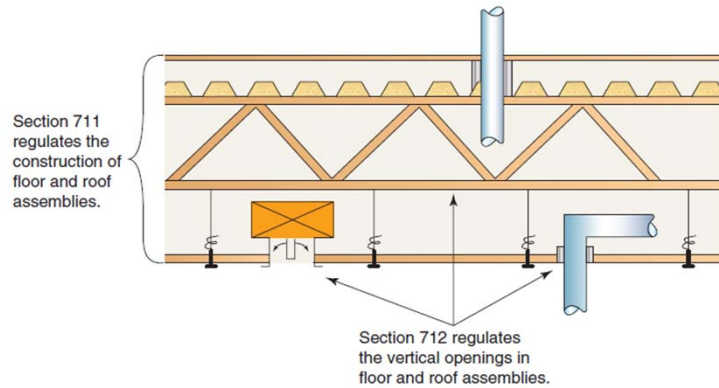


2012/2015 IBC Significant Changes



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711, 712 Horizontal Assemblies and Vertical Openings



2012/2015 IBC Significant Changes



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716.3 Marking of Fire-Rated Glazing Assemblies

CHANGE TYPE: Clarification

- Table 716.3 added to define and relate various test standards for fire-rated glazing to designations used to mark such glazing.
- Fire-rated glazing now defined in Chapter 2.

TABLE 716.3 Marking Fire-Rated Glazing Assemblies

Fire Test Standard	Marking	Definition Of Marking
ASTM E 119 or UL 263	W	Meets wall assembly criteria.
NFPA 257 or UL 9	OH	Meets fire window assembly criteria including the hose stream test.
NFPA 252 or UL 10B or UL 10C	D	Meets fire door assembly criteria.
	H	Meets fire door assembly "Hose Stream" test.
	T	Meets 450° F temperature rise criteria for 30 minutes
	XXX	The time in minutes of the fire resistance or fire protection rating of the glazing assembly



2012 IBC Significant Changes



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908.7 Carbon Monoxide Alarms

CHANGE TYPE: Clarification

- Single-station carbon monoxide (CO) alarms now required in buildings housing Group I or R occupancies where building:
 - Contains one or more fuel-burning appliances, or
 - Provided with attached garage.



2012 IBC Significant Changes

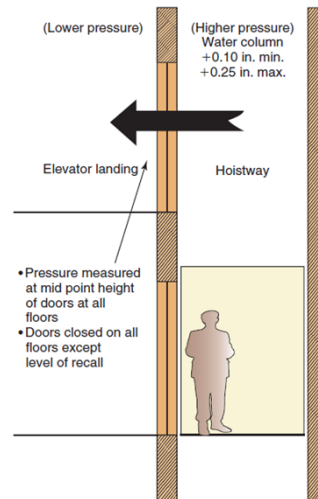


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909.21.1 Elevator Hoistway Pressurization

CHANGE TYPE: Modification

- Viable alternatives to the general elevator hoistway pressurization requirements are now available where pressurization is provided in lieu of an enclosed elevator lobby or an additional door.

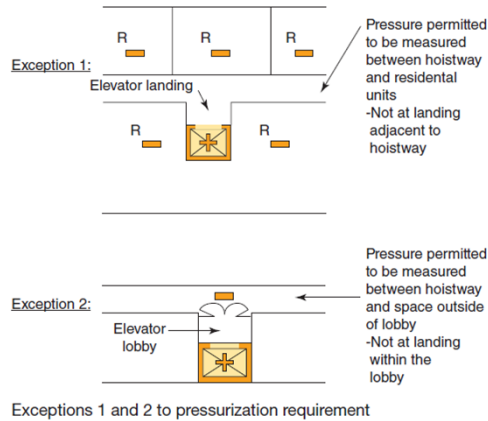


2015 IBC Significant Changes



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909.21.1 Elevator Hoistway Pressurization, Exception 1,2

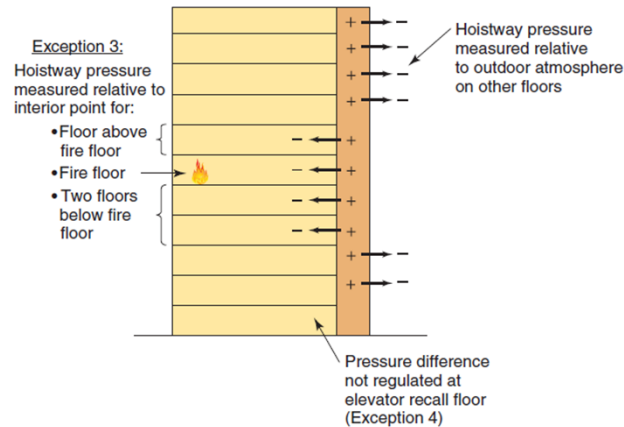


2015 IBC Significant Changes



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909.21.1 Elevator Hoistway Pressurization, Exception 3, 4



2015 IBC Significant Changes



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910 Smoke and Heat Removal

CHANGE TYPE: Modification

- The format and technical requirements for smoke and heat removal systems have been revised, including a new allowance permitting a mechanical smoke removal system as an alternative to smoke and heat vents.



2015 IBC Significant Changes



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915 Carbon Monoxide Detection

CHANGE TYPE:
Modification

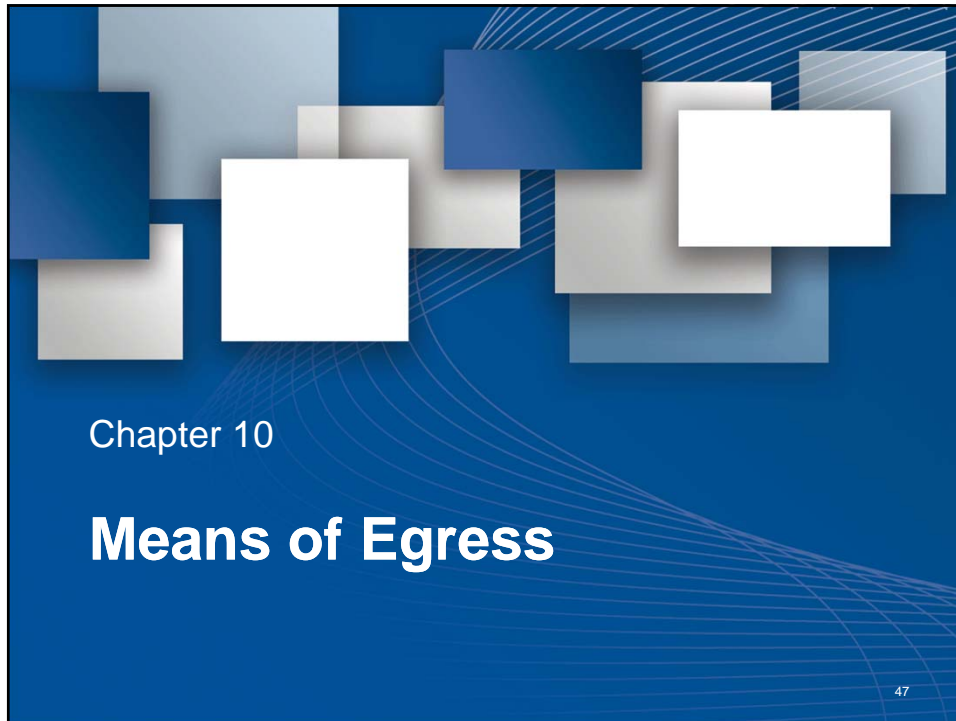
- The carbon monoxide (CO) alarm provisions have been relocated, reformatted and revised; the scope has been modified to exclude Group I-3 occupancies while adding Group E occupancies.



2015 IBC Significant Changes




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Means of Egress

CHANGE TYPE: Modification

- Provisions addressing the minimum required number of means of egress and their arrangement for rooms and space as well as stories have been reformatted and relocated.
- **Section 1015-1006 Numbers of Exits and Exit Access Doorways**
- ~~Section 1021 Number of Exits and Exit Configuration~~
- **Section 1007 Exit and Exit Access Doorway Configuration**
- **Section 1007-1009 Accessible Means of Egress**



2015 IBC Significant Changes



Ohio Building Code

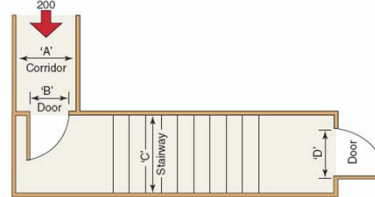
48

This slide contains a list of changes to the Means of Egress chapter. It includes a 'CHANGE TYPE' of 'Modification' and a list of specific sections. One section, 'Section 1021 Number of Exits and Exit Configuration', is crossed out. At the bottom, there are three small images: the cover of the '2015 IBC Significant Changes' book, the cover of the 'Ohio Building Code' book, and the number '48'.

1005 Means of Egress Capacity Determination

CHANGE TYPE: Modification

- Reduced exit width factors established for sprinklered buildings provided with emergency voice/alarm communication system.
 - Stairways:
 - 0.2 inches per occupant
 - Other egress components:
 - 0.15 inches per occupant
- Not applicable to Group H and I-2 occupancies



Example : Assuming exit is serving 200 people

Component	Min width based on component (1005.2)	Min width based on occupant load (1005.3)	
		General ¹	Sprinklered building with EV/ACS ²
Corridor 'A'	44"	40"	30"
Door 'B'	32"	40"	30"
Stairway 'C'	44"	60"	40"
Door 'D'	32"	40"	30"

1. Building without sprinkler system or EV/ACS; (also includes Group H and I-2 occupancies)

2. Other than Group H and I-2 occupancies

Means of egress sizing

International Code Council®



2012 IBC Significant Changes



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1006.3 Egress From Stories or Occupied Roofs

CHANGE TYPE: Addition

- The means of egress requirements – number of exits, occupant load based egress, single exits, mixed occupancies – from stories or occupied roofs have been consolidated in Chapter 10.



2015 IBC Significant Changes



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1009, 1010 Interior Stairways and Ramps

CHANGE TYPE: Clarification

- Interior means of egress stairways now include:
 - Interior exit stairways.
 - Exit component
 - Exit access stairways.
 - Not a required interior exit stairway.
 - Exit access component.



2012 IBC Significant Changes

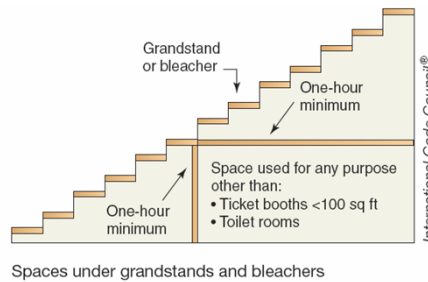


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1028.1.1.1/1029.1.1.1 Separation of Spaces Under Grandstands and Bleachers

CHANGE TYPE: Addition

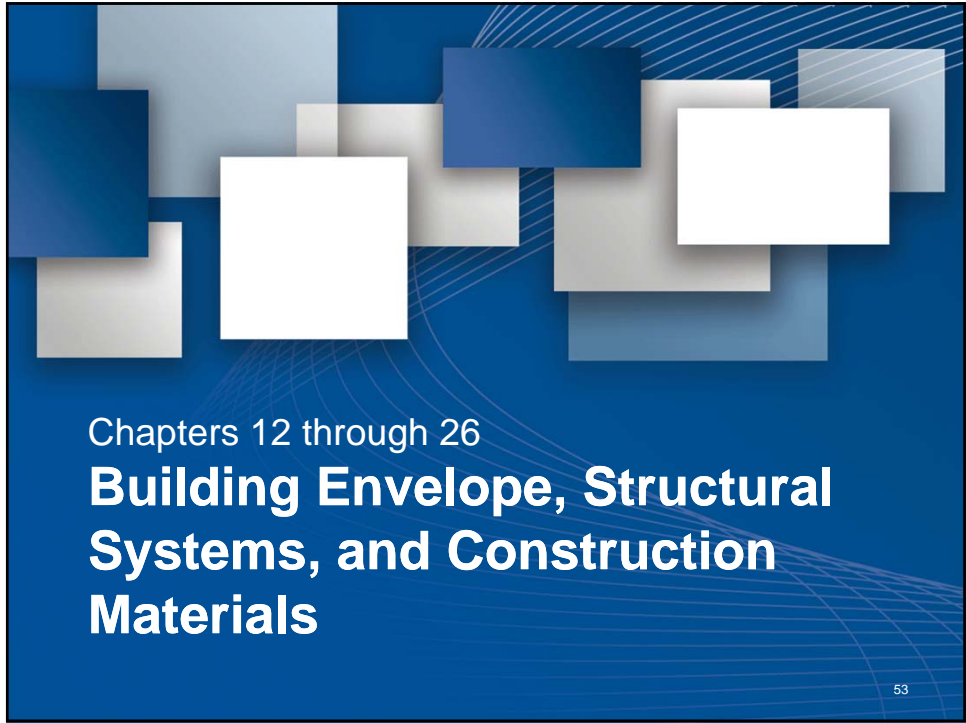
- Spaces beneath grandstands and bleachers now required to be separated by minimum 1-hour fire barriers and/or horizontal assemblies to protect the assembly seating area from any potential hazards below.
- Exception for small ticket booths and toilet rooms.



2012/2015 IBC Significant Changes



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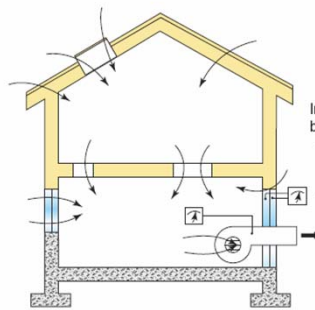
Chapters 12 through 26
Building Envelope, Structural Systems, and Construction Materials

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1203.1 Mechanical Ventilation Required

CHANGE TYPE: Addition

- Option of natural ventilation rather than mechanical ventilation now unavailable when at least 5 air changes per hour not provided.
- Determination to be made using blower door test.



Infiltration of dwelling unit tested with blower door at pressure of 0.2 in. w.c.

- <5 air changes per hour (ACH)—requires mechanical ventilation
- ≥ 5 ACH—natural or mechanical ventilation permitted

Blower door test determines air infiltration rate

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2012 IBC Significant Changes



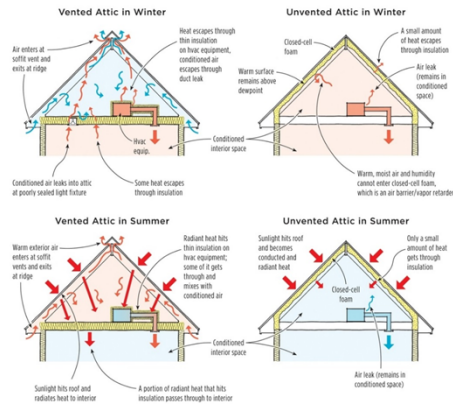
54

1203.3 Unvented Attic and Unvented Enclosed Rafter Framing.

CHANGE TYPE: Addition

- New provisions added for the use of unventilated attics and unvented enclosed rafter assemblies.

Vented vs. Unvented Attics



2012 IBC Significant Changes



55

1404.12, 1405.18 Polypropylene Siding

CHANGE TYPE: Addition

- Polypropylene siding now regulated for:
 - Flame-spread
 - Testing requirements
 - Fire-separation distance.
- Use limited to exterior walls of buildings of Type V construction.



2012 IBC Significant Changes



56

1507.16 Roof Gardens and Landscaped Roofs

CHANGE TYPE: Addition

- New reference to IFC provisions addressing roof gardens and landscaped roofs.
- Footnote a to Table 601 not applicable for roof gardens or landscaped roofs.



2012 IBC Significant Changes



57

1507.17 Photovoltaic Systems

CHANGE TYPE: Addition

- Photovoltaic elements (modules/shingles or systems) must now meet general code requirements for roofing materials and rooftop structures.



2012 IBC Significant Changes

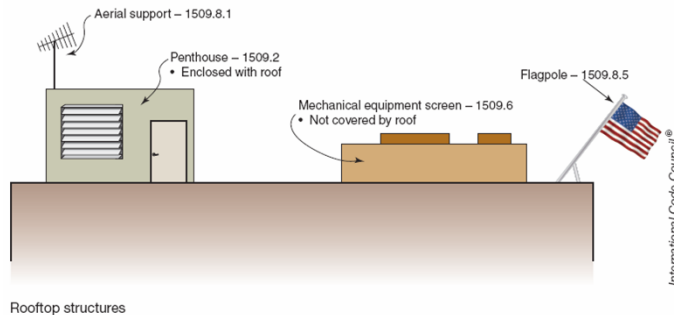


58

1509 Rooftop Structures

CHANGE TYPE: Modification

- Provisions addressing rooftop structures reformatted to better organize and clarify requirements.



2012 IBC Significant Changes



59

1602.2 Live Loads Posted

CHANGE TYPE: Addition

- Where the live loads for a commercial or industrial building exceed 50 psf (2.40 kN/m²), design live loads shall be conspicuously posted by the owner in that part of each story in which they apply.
- Language was originally in Ch. 16 but later moved to IBC Ch.1 and thus lost from OBC Ch. 16.

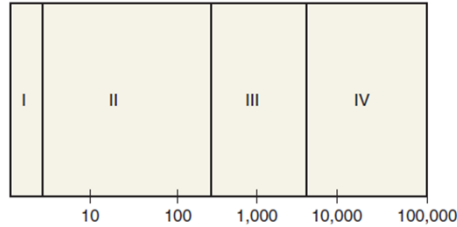


Ohio Board of Building Standards Significant Changes



60

1604.5 Risk Category



Approximate relationship between number of lives placed at risk by a failure and occupancy category per ASCE 7

CHANGE TYPE: Clarification

- In the application of assigning the appropriate risk category for a structure, Section 1604.5 has been revised to clarify that where standards refer to ASCE 7 Table 1.5-1, IBC Table 1604.5 should be used **instead**. In addition, descriptions for Risk Category III structures have been revised to include occupancy classifications to help clarify the intent.



2012/2015 IBC Significant Changes



61

1607.12 Roof Loads

CHANGE TYPE: Addition

- The term “vegetative roof” has been defined in Section 202 and a reference to ASTM E 2397 has been added to Section 1607.



2015 IBC Significant Changes



62

1607.12.5 Photovoltaic Panel Systems

CHANGE TYPE: Addition

- Design requirements for roof structures supporting photovoltaic (PV) solar panels and modules have been added to Section 1607.



2015 IBC Significant Changes



63

1609, 202 Determination of Wind Loads

CHANGE TYPE: Modification

- Wind design requirements of Section 1609 updated and coordinated with latest wind load provisions in ASCE/SEI 7 (ASCE 7-10).
- Wind load maps in IBC now based on ultimate design wind speeds, V_{ult} , which produce a strength level wind load similar to seismic load effects.
- Maps shown per Risk Category.

$$V_{asd} = V_{ult} \sqrt{0.6}$$

Equation 16-33, conversion of wind speed from V_{ult} to V_{ASD}



2015 IBC Significant Changes



64

1704.3 Statement of Special Inspections

CHANGE TYPE: Modification

- Provisions requiring specific items to have special inspection and what information is required to be included in the statement of special inspections have been clarified and coordinated, with previous conflicts between the two being resolved.



2012 IBC Significant Changes



65

1704.5 Submittals to the Building Official

CHANGE TYPE: Addition

- Requirements for submittal of reports and *certificates of compliance* related to construction that is subject to special inspections and tests are now clearly specified.



2015 IBC Significant Changes



66

1704.5 Submittals to the Building Official

CHANGE TYPE: Addition

- Requirements for submittal of reports and certificates of compliance related to construction that is subject to special inspections in ADDITION to special inspection reports and tests are now clearly specified.



2015 IBC Significant Changes



67

1705.16 Special Inspection of Fire-Resistant Penetration and Joint Systems

CHANGE TYPE: Addition

- Special inspection required for penetration firestop systems (ASTM E 2174) and fire-resistant joint systems (ASTM E 2393) used in:
 - High-rise buildings
 - Buildings assigned to Risk Categories III and IV.



2012 IBC Significant Changes

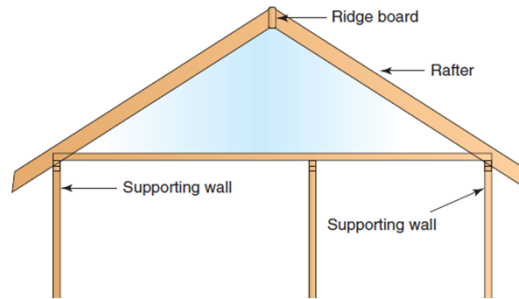


68

2308.7 Roof and Ceiling Framing

CHANGE TYPE: Modification

- Ceiling joist and rafter span tables from the IRC have been incorporated into the conventional construction provisions of the IBC and incorporate updated stress values.



2015 IBC Significant Changes

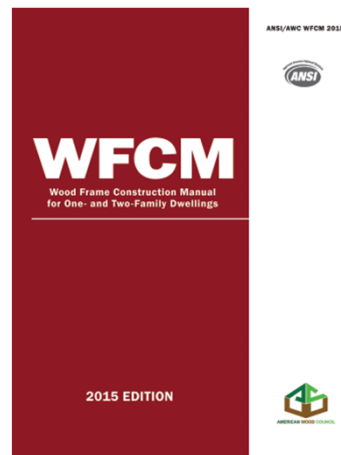


69

2309 Wood Frame Construction Manual

CHANGE TYPE: Addition

- Section 2309 has been added to reference the American Wood Council's (AWC) *Wood Frame Construction Manual (WFCM)* for structural design of wood frame buildings assigned to Risk Category I or II.



2015 IBC Significant Changes



70

2612 Plastic Composites

CHANGE TYPE: Addition

- New definitions and applicable test standards now address the use of plastic composites for use as exterior deck boards, stair treads, handrails and guards.



2012/2015 IBC Significant Changes



71

Chapters 27 through 34

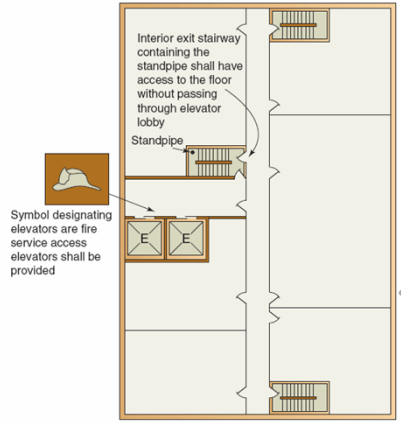
Building Services, Special Devices, and Special Conditions

72

3007 Fire Service Access Elevators

CHANGE TYPE: Modification

- Many provisions addressing fire service access elevators now coordinated with those applicable to occupant evacuation elevators.
- Pictorial symbol identifying fire service access elevators to be provided.



Fire service access elevator



2012 IBC Significant Changes

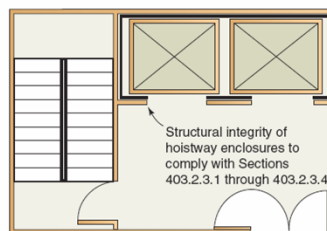


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3008 Occupant Evacuation Elevators

CHANGE TYPE: Modification

- Provisions addressing occupant evacuation elevators now more closely coordinated with those regulating fire service access elevators.



Occupant evacuation elevator

Occupant evacuation elevator system activated by any of the following:

- Operation of sprinkler system per Section 3008.3
- Smoke detectors
- Approved manual means

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2012 IBC Significant Changes



74

Chapter 34 Existing Structures

CHANGE TYPE: Deletion

- Chapter 34 has been deleted from the IBC in its entirety, and existing buildings will now be solely regulated by the *International Existing Building Code (IEBC)*.
- Ohio will keep Ch. 34.



3401.1.1 Compliance

CHANGE TYPE: Clarification

Compliance shall be demonstrated by meeting the requirements of one of the following options:

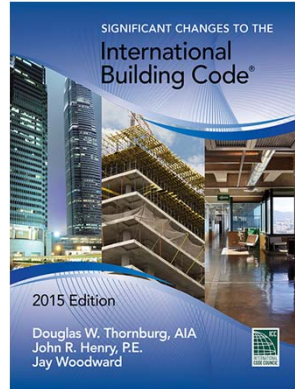
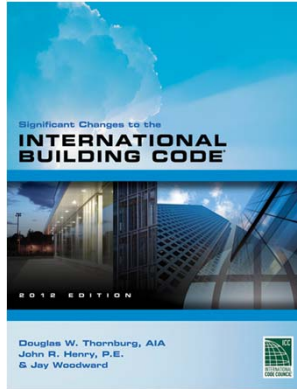
- 1. Chapters 2 through 33 of this code; or
- 2. Sections 3403 through 3411; or
- 3. Section 3412 Compliance Alternatives.



Additional and Helpful Resources

ICC publishes the *Significant Changes to the IBC* for each edition of the IBC.

Significant Changes publications are also available for the IMC, IPC, IRC, IFGC, IFC, IECC, ASHRAE 90.1, and ANSI A117.1).



The Ohio Board of Building Standards and the International Code Council

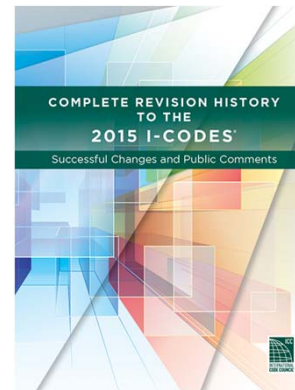


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Additional and Helpful Resources

ICC publishes revision histories for each edition of the codes.

These publication present a complete history of each code change including the original petition, justification, committee actions, modifications, and final actions.



The Ohio Board of Building Standards and the International Code Council



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