



Department of Commerce

Division of Industrial Compliance
John R. Kasich, Governor
Jayme Brown, Interim Director

Known Errata in the 2013 Residential Code of Ohio (RCO) (April 2013)

The Board of Building Standards (BBS) staff, after filing the official rules that make up the Ohio building codes, occasionally finds errors in the rules and/or the publishers' copies of the codes. The known errors in the Residential Code of Ohio are listed in the following table for your reference. Most of these errata items require a BBS rule change to correct and will be included in a future public hearing. Other items identified as "ICC Publication Error" have been corrected by the ICC. The replacement pages are attached for your use.

Please contact a BBS technical staff member at (614)644-2613 if you discover an error in the Residential Code of Ohio that is not shown on this list.

Code Section	Description of Error
101.1	Should be "through 25" (not "though 24")
102.8.2	Should be "elevator provisions in Part 5.3 of the ANSI A17.1" (not elevator provisions in Chapter 10 of the ANSI A17.1")
102.10, Building (9)	Should be "serve the egress door required by ... Section 311.2" (not "serve the exit door required by Section 311.4")
103.2.8.2.1	Should be "pursuant to Section 103.2" (not "pursuant Section 103.2") Should be "that are located in a county" (not "that is located in a county")
103.3.7.1.1 2 nd paragraph	Should be "Chapter 119. of the" (not "Chapter 119 of the")
105.4	Should be "If, in" (not "If in")
106.1.3(3)	Should be "used." (not "used;")
106.1.3(6), (7), (8)	Paragraphs should end in a period not a semi-colon
106.1.4.1, 2 nd sentence of Industrialized Units Def.	Should be "but include all" (not "but includes all")
107.2(3)	Should be "section 106.1" (not "section 106.3")
108.2	Should be "Sections 108.2.1 to 108.2.12" (not "Sections 108.2.1 to 108.2.14")
108.2.10	Should be "authorized to cause to be made" (not "authorized to make")
108.2.10	Should be "construction work to be made to" (not "construction work to")
108.5	Add " <i>and communicate their findings to the residential building official. The residential building official, after review of the findings, shall issue the certificate of occupancy in accordance with section 111.</i> "

111.1.4(2)	Should be “safety and welfare;” (not “safety and welfare safely;”)
112.3	Should be “In addition to Section 112.2,” (not “In addition Section 112.2,”)
114.2.1	Should mirror the OBC and reference the list on the BBS website (not OBC Appendix P)
114.4	Should reference the list of BBS Approved Testing Agencies on the BBS website.
Ch 2 Definition of “Attic, Habitable”	Should be “A finished area, not considered a story...” (not “A finished area or unfinished area, not considered a story...”) [ICC Publication Error – see corrected replacement page]
Ch 2 Definition of “Fire Separation Distance”	Last sentence should read “The distance shall be measured at a right angle from the face of the wall” [IRC Errata]
Table 301.2(1) Seismic Design Category	Should reference “Section 301.2.2.1” (not “Section 301.2.2”)
301.2.1.2 Exception, Second sentence	Delete the word “and” and substitute the phrase “so that they can be” [IRC Errata]
301.2.2.1.1	Should be “values in Tables 602.10.3(3), 603.9.2(1) and” (not “values in Tables 602.10.1, 603.7 and”)
301.2.2.2.5 (7)	Delete last sentence of the exception and add it to end of Item 7 (just before exception). [IRC Errata]
301.2.2.3.1	Should be “Table 602.10.3(3)” (not “Table 602.10.1.2(2)”)
301.2.2.3.3	First reference should be “Section 606.12.3” (not “Section 606.11.3”). Second reference should be “Section 606.12.4” (not “Section 606.11.4”) [IRC Errata]
Figure 301.2(7)	Should be “ Θ ” (not “0”) in all views [IRC Errata]
301.3 (1) Exception	Should be “Tables 602.10.3(1) and 602.10.3(2)” (both places) (not Tables 602.10.1.2(1) and 602.10.1.2(2))
Table 301.5 Note g(1)	Add the word “opening” after the word “framed” [IRC Errata]
302.5.3	Should be “in Section 302.6” (not “in Section 309.2”)
Table 308.3.1(1)	Fourth column heading should be “Item 3” (not “Item 7”) [IRC Errata]
Table 308.3.1(1)	Fifth column heading should be “Item 2” (not “Item 6”) [IRC Errata]
Table 308.3.1(2)	Second column heading should be “Item 3” (not “Item 7”) [IRC Errata]

Table 308.3.1(2)	Third column heading should be "Item 2" (not "Item 6") [IRC Errata]
308.4(7) Exception 2	Should be "Sections 311.7.7" (not "Sections 311.7.6") [IRC Errata]
308.4(8) Exception 1	Should be "Sections 311.7.7" (not "Sections 311.7.6") [IRC Errata]
310.1	Delete "Basements, habitable attics and" from first sentence and change "every" to "Every" [ICC Publication Error – see corrected replacement page]
310.3 Last sentence	Should be "Section 311.7.9.2" (not "Section 311.7.8.2") [IRC Errata]
311.7.5 Exception	Delete the second, third, and fourth sentences of the exception and add them to the end of 311.7.5 (just before exception) [IRC Errata]
311.7.7.2, Exception 3	Should be "rails occurs" (not "rails occur")
316.6	Delete reference to UL 723 [IRC Errata]
317.3.2	Delete "Technical Report No. 7" and substitute "PWF" [IRC Errata]
318.1	Delete phrase "and used in locations as specified in Section 318.1" from the end of Item 5 and add it to the end of Item 4. [IRC Errata]
319.1	Should be "building numbers" (not "7building numbers")
324.1 (8)	Should be "truss sits directly" (not "truss sit directly")
324.1 last paragraph	Should be "provisions of Section 106.5" (not "provisions of Section 116.2")
324.4	Should be "of Section 317" (not "of Section 319")
324.4.1(1)	Should be "with Section 317" (not "with Section 319")
324.4.2	Should be "truss sits directly" (not "truss sit directly")
324.4.3	Should be "of Section 317" (not "of Section 319")
Table 324.4.7	Change footnote numbers to letters and correct "lb" in table (not "#")
Table 324.4.7 footnote 3	Should be "through-bolts" (not "though bolts")
324.5	Add period to end of sentence.
324.6	Should be "Table 324.6" (not "Table 324.5")
403.1.6, Ex 2 & 3	Delete "as shown in Figure 602.10.4.4(1)"

Figure 403.1.7.1 Lowest dimension	Should be "H/2 BUT NEED NOT EXCEED 15 FT." (not "H/2 BUT NOT EXCEED 15 FT.") [IRC Errata]
Table 403.3(2) Title	Should be "For Ohio Locations" (not "For U.S. Locations")
Table 403.4 Conventional, 3-Story Row	Should be "2900 plf" (not "2000 plf") [IRC Errata]
Table 403.4 footnote	Delete "1 pound per square inch=6.89 kPa." and substitute "1 plf=14.6 N/m, 1 pounds per square foot=47.9 N/m ² " [IRC Errata]
Table 404.1.1(3) Title	Should be "10-INCH MASONRY FOUNDATION" (not "10-INCH FOUNDATION") [IRC Errata]
404.1.2.2 Fourth sentence	Should be "Table 404.1.2(8)" (not "Table 404.1.2(9)") [IRC Errata]
404.1.2.3.7.2 Second sentence	Should be "from Table 404.1.2(8)" (not "from Tables 404.1.2(2) or 404.1.2(8)") [IRC Errata]
408.7	Should be "approved by the" (not "approved the")
502.1.1	Should be "Section 317.2" (not "Section 319.1") [IRC Errata]
502.2.1	Should be "Section 602.10.8" (not "Section 602.10.6")
Table 503.2.1.1(1)	Second column for span rating 48/24 should be "23/32, 3/4" (not "23/32, 3/48") [ICC Publication Error – see corrected replacement page]
601.3 Ex.4	Should be "with Section 601.3.1" (not "with 601.3.1")
Table 602.3(1) Item 30	Delete footnote "j" after subfloorwall and add footnote "f" after "roof" [IRC Errata]
Table 602.3(1) Item 31	Delete entire row and renumber remaining items [IRC Errata]
Table 602.3(1) Item 34	Should be "1 1/2" galvanized roofing nail" (not "1/2" galvanized roofing nail") [IRC Errata]
Table 602.3(2) Footnote f	Should be "CPA/ANSI A135.4" (not "ANSI/AHA A135.4") [IRC Errata]
Figure 602.3(2)	Add another anchor bolt to the foundation cripple wall [IRC Errata]
Figure 602.6.1	Metal tie is to be fastened with "8-10d nails" (not "8-16d nails") [IRC Errata]
602.10.1.2 first	Should be "as shown in Figure"

sentence	(not “as shown Figure”)
Table 602.10.3(4) 2 nd walls w/stone row	Row should read “one-, two-, and three-family” (not “one- and two-family”)
602.10.6.5 Third paragraph	Should be “Where detached one-, two-, or three-family” (not “Where detached one- or two-family”)
602.10.6.5.1 First sentence, first reference	Should be “Table 602.10.3(1)” (not “Table 602.10.1.2(1)”)
602.10.6.5.1 Second sentence, first reference	Should be “Section 602.10.1.4” (not “Section 602.10.1.3”)
602.10.6.5.1 Second sentence, second reference	Should be “Section 602.10.2.2” (not “Section 602.10.1.4”)
602.10.6.5.1 Third sentence, first reference	Should be “Table 602.10.3(4)” (not “Table 602.10.1.2(3)”)
602.10.8.2, first paragraph, last sentence	Should be “with Section 806.1” (not “with 806.1”)
602.10.10, Ex 3	Should be “Tables 602.10.3(1) and 602.10.3(2)” (not “Tables 602.10.1.2(1) and 602.10.1.2(2)”)
602.11.2 (2)	Should be “Sections 602.10.11, 602.10.11.1 and 602.10.11.2” (not “Sections 602.10.9 and 602.10.9.1”)
603.3.3	Add Item 3 that reads as follows: “Sheathing on one side and strapping on the other side fastened in accordance with Figure 603.3.3(2). Sheathing shall be installed in accordance with Item 1. Steel straps shall be installed in accordance with Item 2.” [IRC Errata]
604.3	Should be “with Table 602.3(1) or Table 602.3(3).” (not “with Table 602.3(1)”) [IRC Errata]
606.1	Should be “TMS 402/ACI 530/ASCE 5” (not “ACI 530/ ASCE 5/ TMS 402”) [IRC Errata]
Figure 606.11.2, Left picture	References should be to “Sections 606.12.2.2.3 and 606.12.2.3.3” (not “Sections 606.12.2.1.3 and 606.12.2.2.3”) [IRC Errata]
Figure 606.11(3), Left picture	References should be “Sections 606.12.2.2.3, 606.12.2.3.3, 606.12.3.2, and 606.12.4” (not “Sections 606.11.2.1.3, 606.11.3.2 and 606.11.4”) [IRC Errata]

Table 607.1 Note c	Add note that reads “Note c. Hydrated lime conforming to the requirements of ASTM C270” (not “ASTM C207”) [IRC Errata]
608.2.2	Should be “Section 608.2.1” (not “Section 607.2.1”) [IRC Errata]
Table 611.7(1C) First row heading (both pages)	Should be “REQUIRED IN SIDEWALLS FOR WIND PARALLEL TO RIDGE” (not “REQUIRED IN ENDWALLS FOR WIND PERPENDICULAR TO RIDGE”) [IRC Errata]
Table 611.8(2) (both pages)	Third row heading (below 1-2-3-40-5) should read “MAXIMUM GROUND SNOW LOAD (psf)” [IRC Errata]
613.5 Last sentence	Should be “Table 602.3(1)” (not “Section 602.3(1)”) [IRC Errata]
Figure 613.5(3)	Should be “Cap/Top Plate Connection” (not “Gap/Top Plate Connection”) [IRC Errata]
Table 703.4, Fiber cement siding rows, Foam plastic sheathing column	Should be “6d common corrosion-resistant nail ^{f, v} ” (not “6d common corrosion-resistant (12” x 0.113”) nail ^{f, v}) [IRC Errata]
703.7.4.2	Should be “nominal ¾ inch (19mm)” (not “nominal 1 inch (¾ inch 19mm)”)
703.11.2.2	Should be “adjusted for height and exposure using Table 301.2(3)” (not “adjusted for height and exposure using Section 301.2(3)”) [IRC Errata]
802.3.2	Should be “in accordance with Table 802.5.1(9)” (not “in accordance with Table 602.3(1)”) [IRC Errata]
Table 804.3, Rafter to ceiling joist row, number and size of fasteners column	Should be “per Table 804.3.1.1(9)” (not “per Table 804.3.1”) [IRC Errata]
804.3.3.4 (2)	Should be “in accordance with Figure 804.3.2.4” (not “in accordance with Figure 804.3.2.1.2”) [IRC Errata]
804.3.8.1	Add title “Ceiling diaphragm” [IRC Errata]

804.3.8.1	Should be "Section 803, in accordance with Table 804.3.8(3)" (not "Section 803, in accordance with Table 804.6(3)") [IRC Errata]
806.2 last sentence	Should be "vapor retarder" (not "vapor barrier") [IRC Errata]
1002.5	Should be "NFPA 211 Section 12.6" (not "NFPA 211 Section 8-7") [IRC Errata]
1003.15.1 Option 1	Should be "Tables 1003.14(1) and 1003.14(2)" (not "Tables 1001.14(1) and 1001.14(2)") [IRC Errata]
1101.2	Should be "demonstrated by meeting" (not "demonstrated by either meeting") [ICC Publication Error – see corrected replacement page]
1102.2.2 Second sentence	Should be "Section 1102.1" (not "Section 402.1.1") [ICC Publication Error – see corrected replacement page]
1102.4.5	Should be "1.57 psf" (not "1.57 psi") [IRC Errata]
1105.2.4.5	Should be "1.57 psf" (not "1.57 psi") [IRC Errata]
1105.4	Should be "Lighting systems" (not "lighting systems")
1305.1.1, Ex 2	Should be "the manufacturer's" (not "the manufactures")
1503.4	Should be "the manufacturer's" (not "the manufacturers")
2417.7.1 (2)	Should be "of pipe or tubing" (not "of pie or tubing")
2904.1 Last sentence	Should be "A backflow preventer" (not "A backflow flow preventer") [IRC Errata]
4401.3 AAMA 101/I.S.2/A440- 08	Should be "North American Fenestration Standard/Specification for Window, Doors and Skylights" (not "North American Fenestration Standards/Specifications for Window, Doors and Skylights")

DEFINITIONS

ATTIC, HABITABLE. A finished area, not considered a story, complying with all of the following requirements:

1. The occupiable floor area is at least 70 square feet (17 m²), in accordance with Section 304,
2. The occupiable floor area has a ceiling height in accordance with Section 305, and
3. The occupiable space is enclosed by the roof assembly above, knee walls (if applicable) on the sides and the floor-ceiling assembly below.

BACKFLOW, DRAINAGE. A reversal of flow in the drainage system.

BACKFLOW PREVENTER. A device or means to prevent backflow.

BACKFLOW PREVENTER, REDUCED-PRESSURE-ZONE TYPE. A backflow-prevention device consisting of two independently acting check valves, internally force loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to atmosphere internally loaded to a normally open position between two tightly closing shutoff valves and with means for testing for tightness of the checks and opening of relief means.

BACKFLOW, WATER DISTRIBUTION. The flow of water or other liquids into the potable water-supply piping from any sources other than its intended source. Backsiphonage is one type of backflow.

BACKPRESSURE. Pressure created by any means in the water distribution system, which by being in excess of the pressure in the water supply mains causes a potential backflow condition.

BACKPRESSURE, LOW HEAD. A pressure less than or equal to 4.33 psi (29.88 kPa) or the pressure exerted by a 10-foot (3048 mm) column of water.

BACKSIPHONAGE. The flowing back of used or contaminated water from piping into a potable water-supply pipe due to a negative pressure in such pipe.

BACKWATER VALVE. A device installed in a drain or pipe to prevent backflow of sewage.

BASEMENT. That portion of a building that is partly or completely below grade (see “Story above grade”).

BASEMENT WALL. The opaque portion of a wall that encloses one side of a basement and has an average below grade wall area that is 50 percent or more of the total opaque and non-opaque area of that enclosing side.

BASIC WIND SPEED. Three-second gust speed at 33 feet (10 058 mm) above the ground in Exposure C (see Section 301.2.1) as given in Figure 301.2(4).

BATHROOM GROUP. A group of fixtures, including or excluding a bidet, consisting of a water closet, lavatory, and bathtub or shower. Such fixtures are located together on the same floor level.

BEND. A drainage fitting, designed to provide a change in direction of a drain pipe of less than the angle specified by the

amount necessary to establish the desired slope of the line (see “Elbow” and “Sweep”).

BOILER. A closed vessel in which water is heated, steam is superheated, or any combination thereof, under pressure to vacuum for use externally to itself by the direct application of heat from the combustion of fuels, or from electricity or nuclear energy. The term boiler includes fired units for heating or vaporizing liquids other than water where these units are separate from processing systems and are complete within themselves.

BOND BEAM. A horizontal grouted element within masonry in which reinforcement is embedded.

BRACED WALL LINE. A straight line through the building plan that represents the location of the lateral resistance provided by the wall bracing.

BRACED WALL LINE, CONTINUOUSLY SHEATHED. A braced wall line with structural sheathing applied to all sheathable surfaces including the areas above and below openings.

BRACED WALL PANEL. A full-height section of wall constructed to resist in-plane shear loads through interaction of framing members, sheathing material and anchors. The panel’s length meets the requirements of its particular bracing method, and contributes toward the total amount of bracing required along its braced wall line in accordance with Section 602.10.1.

BRANCH. Any part of the piping system other than a riser, main or stack.

BRANCH, FIXTURE. See “Fixture branch, drainage.”

BRANCH, HORIZONTAL. See “Horizontal branch, drainage.”

BRANCH INTERVAL. A vertical measurement of distance, 8 feet (2438 mm) or more in developed length, between the connections of horizontal branches to a drainage stack. Measurements are taken down the stack from the highest horizontal branch connection.

BRANCH, MAIN. A water-distribution pipe that extends horizontally off a main or riser to convey water to branches or fixture groups.

BRANCH, VENT. A vent connecting two or more individual vents with a vent stack or stack vent.

BTU/H. The listed maximum capacity of an appliance, absorption unit or burner expressed in British thermal units input per hour.

BUILDING. Building shall mean any one-, two- and three-family dwelling detached from other structures used, or designed or intended to be used for human habitation, for living, sleeping, cooking or eating purposes, or any combination thereof, and shall include accessory structures thereto. For the purposes of this code, “building” may also mean structures comprised of multiple single-family dwellings when such structures qualify in accordance with OBC Section 310.1.

BUILDING DRAIN. The lowest piping that collects the discharge from all other drainage piping inside the house and extends 30 inches (762 mm) in developed length of pipe,

highest point of glass not more than 10 feet (3048 mm) above a walking surface or other accessible area.

308.6.6 Glass in greenhouses. Any glazing material is permitted to be installed without screening in the sloped areas of greenhouses, provided the greenhouse height at the ridge does not exceed 20 feet (6096 mm) above grade.

308.6.7 Screen characteristics. The screen and its fastenings shall be capable of supporting twice the weight of the glazing, be firmly and substantially fastened to the framing members, and have a mesh opening of no more than 1 inch by 1 inch (25 mm by 25 mm).

308.6.8 Curbs for skylights. All unit skylights installed in a roof with a pitch flatter than three units vertical in 12 units horizontal (25-percent slope) shall be mounted on a curb extending at least 4 inches (102 mm) above the plane of the roof unless otherwise specified in the manufacturer's installation instructions.

308.6.9 Testing and labeling. Unit skylights shall be tested by an approved independent laboratory, and bear a label identifying manufacturer, performance grade rating and approved inspection agency to indicate compliance with the requirements of AAMA/WDMA/CSA 101/I.S.2/A440.

SECTION 309 GARAGES AND CARPORTS

309.1 Floor surface. Garage floor surfaces shall be of approved noncombustible material.

The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

309.2 Carports. Carports shall be open on at least two sides. Carport floor surfaces shall be of approved noncombustible material. Carports not open on at least two sides shall be considered a garage and shall comply with the provisions of this section for garages.

Exception: Asphalt surfaces shall be permitted at ground level in carports.

The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

309.3 Flood hazard areas. For buildings located in flood hazard areas as established by Table 301.2(1), garage floors shall be:

1. Elevated to or above the design flood elevation as determined in Section 322; or
2. Located below the design flood elevation provided they are at or above grade on at least one side, are used solely for parking, building access or storage, meet the requirements of Section 322 and are otherwise constructed in accordance with this code.

309.4 Automatic garage door openers. Automatic garage door openers, if provided, shall be listed in accordance with UL 325.

SECTION 310 EMERGENCY ESCAPE AND RESCUE OPENINGS

310.1 Emergency escape and rescue required. Every sleeping room shall have at least one operable emergency escape and rescue opening. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches (1118 mm) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section 310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section 310.2.

310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m²).

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465 m²).

310.1.2 Minimum opening height. The minimum net clear opening height shall be 24 inches (610 mm).

310.1.3 Minimum opening width. The minimum net clear opening width shall be 20 inches (508 mm).

310.1.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge.

310.1.5 Replacement windows. *Replacement windows installed in accordance with Section 113.6.1 shall not be required to comply with Sections 310.1.1 through 310.1.3.*

310.2 Window wells. The minimum horizontal area of the window well shall be 9 square feet (0.9 m²), with a minimum horizontal projection and width of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

Exception: The ladder or steps required by Section 310.2.1 shall be permitted to encroach a maximum of 6 inches (152 mm) into the required dimensions of the window well.

310.2.1 Ladder and steps. Window wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections 311.7 and 311.8. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18

503.2 Wood structural panel sheathing.

503.2.1 Identification and grade. Wood structural panel sheathing used for structural purposes shall conform to DOC PS 1, DOC PS 2 or, when manufactured in Canada, CSA O437 or CSA O325. All panels shall be identified by a grade mark of certificate or inspection issued by an approved agency.

503.2.1.1 Subfloor and combined subfloor underlayment. Where used as subflooring or combination subfloor underlayment, wood structural panels shall be of one of the grades specified in Table 503.2.1.1(1). When sanded plywood is used as combination subfloor underlayment, the grade shall be as specified in Table 503.2.1.1(2).

**TABLE 503.2.1.1(1)
ALLOWABLE SPANS AND LOADS FOR WOOD STRUCTURAL PANELS FOR ROOF
AND SUBFLOOR SHEATHING AND COMBINATION SUBFLOOR UNDERLAYMENT^{a, b, c}**

SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (inch)	ALLOWABLE LIVE LOAD (psf) ^{h, 1}		MAXIMUM SPAN (inches)		LOAD (pounds per square foot, at maximum span)		MAXIMUM SPAN (inches)
		SPAN @ 16 o.c.	SPAN @ 24 o.c.	With edge support ^d	Without edge support	Total load	Live load	
Sheathing^e		Roof^f						Subfloor^j
16/0	3/8	30	—	16	16	40	30	0
20/0	3/8	50	—	20	20	40	30	0
24/0	3/8	100	30	24	20 ^g	40	30	0
24/16	7/16	100	40	24	24	50	40	16
32/16	15/32, 1/2	180	70	32	28	40	30	16 ^h
40/20	19/32, 5/8	305	130	40	32	40	30	20 ^{h, i}
48/24	23/32, 3/4	—	175	48	36	45	35	24
60/32	7/8	—	305	60	48	45	35	32
Underlayment, C-C plugged, single floor^e		Roof^f						Combination subfloor underlayment^k
16 o.c.	19/32, 5/8	100	40	24	24	50	40	16 ⁱ
20 o.c.	19/32, 5/8	150	60	32	32	40	30	20 ^{i, j}
24 o.c.	23/32, 3/4	240	100	48	36	35	25	24
32 o.c.	7/8	—	185	48	40	50	40	32
48 o.c.	1 3/32, 1 1/8	—	290	60	48	50	40	48

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

- a. The allowable total loads were determined using a dead load of 10 psf. If the dead load exceeds 10 psf, then the live load shall be reduced accordingly.
- b. Panels continuous over two or more spans with long dimension (strength axis) perpendicular to supports. Spans shall be limited to values shown because of possible effect of concentrated loads.
- c. Applies to panels 24 inches or wider.
- d. Lumber blocking, panel edge clips (one midway between each support, except two equally spaced between supports when span is 48 inches), tongue-and-groove panel edges, or other approved type of edge support.
- e. Includes Structural 1 panels in these grades.
- f. Uniform load deflection limitation: 1/180 of span under live load plus dead load, 1/240 of span under live load only.
- g. Maximum span 24 inches for 15/32- and 1/2-inch panels.
- h. Maximum span 24 inches where 3/4-inch wood finish flooring is installed at right angles to joists.
- i. Maximum span 24 inches where 1.5 inches of lightweight concrete or approved cellular concrete is placed over the subfloor.
- j. Unsupported edges shall have tongue-and-groove joints or shall be supported with blocking unless minimum nominal 1/4-inch thick underlayment with end and edge joints offset at least 2 inches or 1.5 inches of lightweight concrete or approved cellular concrete is placed over the subfloor, or 3/4-inch wood finish flooring is installed at right angles to the supports. Allowable uniform live load at maximum span, based on deflection of 1/360 of span, is 100 psf.
- k. Unsupported edges shall have tongue-and-groove joints or shall be supported by blocking unless nominal 1/4-inch-thick underlayment with end and edge joints offset at least 2 inches or 3/4-inch wood finish flooring is installed at right angles to the supports. Allowable uniform live load at maximum span, based on deflection of 1/360 of span, is 100 psf, except panels with a span rating of 48 on center are limited to 65 psf total uniform load at maximum span.
- l. Allowable live load values at spans of 16" o.c. and 24" o.c taken from reference standard APA E30, APA Engineered Wood Construction Guide. Refer to reference standard for allowable spans not listed in the table.

Part IV—Energy Conservation

CHAPTER 11 ENERGY EFFICIENCY

SECTION 1101 GENERAL

1101.1 Scope. This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code. *Buildings in R-3 occupancies shall comply with Chapter 13 of the Ohio Building Code for energy efficiency.*

Exception: Portions of the building envelope that do not enclose conditioned space.

1101.2 Compliance. Compliance shall be demonstrated by meeting the requirements of *one of the following options:*

1. *The “International Energy Conservation Code”;* or
2. *Sections 1101 through 1104 of this chapter;* or
3. *Section 1105 – “The Ohio Home Builder’s Association (OHBA) Alternative Energy Code Option.”*

1101.2.1 Warm humid counties. *Deleted.*

1101.3 Identification. Materials, systems and equipment shall be identified in a manner that will allow a determination of compliance with the applicable provisions of this chapter.

1101.4 Building thermal envelope insulation. An *R*-value identification mark shall be applied by the manufacturer to each piece of building thermal envelope insulation 12 inches (305 mm) or more wide. Alternately, the insulation installers shall provide a certification listing the type, manufacturer and

R-value of insulation installed in each element of the building thermal envelope. For blown or sprayed insulation (fiberglass and cellulose), the initial installed thickness, settled thickness, settled *R*-value, installed density, coverage area and number of bags installed shall be listed on the certification. For sprayed polyurethane foam (SPF) insulation, the installed thickness of the area covered and *R*-value of installed thickness shall be listed on the certificate. The insulation installer shall sign, date and post the certificate in a conspicuous location on the job site.

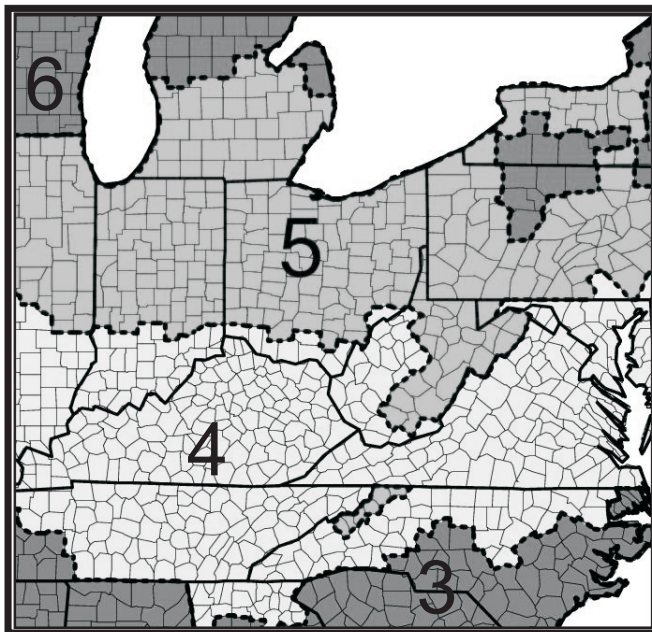
1101.4.1 Blown or sprayed roof/ceiling insulation. The thickness of blown in or sprayed roof/ceiling insulation (fiberglass or cellulose) shall be written in inches (mm) on markers that are installed at least one for every 300 ft² (28 m²) throughout the attic space. The markers shall be affixed to the trusses

**TABLE 1101.2
CLIMATE ZONES, MOISTURE REGIMES AND WARM-HUMID
DESIGNATIONS BY COUNTY AND TERRITORY**

Ohio

4A Adams	5A Guernsey	5A Morrow
5A Allen	4A Hamilton	5A Muskingum
5A Ashland	5A Hancock	5A Noble
5A Ashtabula	5A Hardin	5A Ottawa
5A Athens	5A Harrison	5A Paulding
5A Auglaize	5A Henry	5A Perry
5A Belmont	5A Highland	5A Pickaway
4A Brown	5A Hocking	4A Pike
5A Butler	5A Holmes	5A Portage
5A Carroll	5A Huron	5A Preble
5A Champaign	5A Jackson	5A Putnam
5A Clark	5A Jefferson	5A Richland
4A Clermont	5A Knox	5A Ross
5A Clinton	5A Lake	5A Sandusky
5A Columbiana	4A Lawrence	4A Scioto
5A Coshocton	5A Licking	5A Seneca
5A Crawford	5A Logan	5A Shelby
5A Cuyahoga	5A Lorain	5A Stark
5A Darke	5A Lucas	5A Summit
5A Defiance	5A Madison	5A Trumbull
5A Delaware	5A Mahoning	5A Tuscarawas
5A Erie	5A Marion	5A Union
5A Fairfield	5A Medina	5A Van Wert
5A Fayette	5A Meigs	5A Vinton
5A Franklin	5A Mercer	5A Warren
5A Fulton	5A Miami	4A Washington
4A Gallia	5A Monroe	5A Wayne
5A Geauga	5A Montgomery	5A Williams
5A Greene	5A Morgan	5A Wood
		5A Wyandot

Key: A—Moist



**FIGURE 1101.2
CLIMATE ZONES**

1102.2 Specific insulation requirements.

1102.2.1 Ceilings with attic spaces. When Section 1102.1 would require R-38 in the ceiling, R-30 shall be deemed to satisfy the requirement for R-38 wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. Similarly R-38 shall be deemed to satisfy the requirement for R-49 wherever the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves. This reduction shall not apply to the *U*-factor alternative approach in Section 1102.1.2 and the Total UA alternative in Section 1102.1.3.

1102.2.2 Ceilings without attic spaces. Where Section 1102.1 would require insulation levels above R-30 and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies shall be R-30. This reduction of insulation from the requirements of Section 1102.1 shall be limited to 500 square feet (46 m²) or twenty per cent of the total insulated ceiling area, whichever is less. This reduction shall not apply to the *U*-factor alternative approach in Section 1102.1.2 and the Total UA alternative in Section 1102.1.3. .

1102.2.3 Access hatches and doors. Access doors from conditioned spaces to unconditioned spaces (e.g., attics and

crawl spaces) shall be weatherstripped and insulated to a level equivalent to the insulation on the surrounding surfaces. Access shall be provided to all equipment which prevents damaging or compressing the insulation. A wood framed or equivalent baffle or retainer is required to be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into the living space when the attic access is opened and to provide a permanent means of maintaining the installed *R*-value of the loose fill insulation.

1102.2.4 Mass walls. Mass walls, for the purposes of this chapter, shall be considered above-grade walls of concrete block, concrete, insulated concrete form (ICF), masonry cavity, brick (other than brick veneer), earth (adobe, compressed earth block, rammed earth) and solid timber/logs.

1102.2.5 Steel-frame ceilings, walls and floors. Steel-frame ceilings, walls and floors shall meet the insulation requirements of Table 1102.2.5 or shall meet the *U*-factor requirements in Table 1102.1.2. The calculation of the *U*-factor for a steel-frame envelope assembly shall use a series-parallel path calculation method.

Exception: Deleted.

**TABLE 1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE AND DEPTH	CRAWL SPACE ^e WALL R-VALUE
4	0.35	0.60	NR	38	13	5/10	19	10/13	10, 2 ft	10/13
5	0.35	0.60	NR	38	20 or 13 + 5 ^h	13/17	30 ^g	10/13	10, 2 ft	10/13

- R*-values are minimums. *U*-factors and solar heat gain coefficient (SHGC) are maximums. R-19 batts compressed in to nominal 2 × 6 framing cavity such that the *R*-value is reduced by R-1 or more shall be marked with the compressed batt *R*-value in addition to the full thickness *R*-value.
- The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- R-5 shall be added to the required slab edge *R*-values for heated slabs.
- Deleted.
- Deleted.
- Or insulation sufficient to fill the framing cavity, R-19 minimum.
- "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

**TABLE 1102.1.2
EQUIVALENT U-FACTORS^a**

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
4	0.35	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5	0.35	0.60	0.030	0.060	0.082	0.033	0.059	0.065

- Nonfenestration *U*-factors shall be obtained from measurement, calculation or approved *referenced publications approved in accordance with this code*.
- When more than half the insulation is on the interior, the mass wall *U*-factors shall be a maximum of 0.10 in zone 4 and the same as the frame wall *U*-factor in Marine zone 5.
- Deleted.