2020 Indiana Residential Code
Significant Changes

Based on the
2018 International Residential Code®
with Indiana Amendments
Chapter 1

Scope and Administration
R102 – Reviews and Interpretations

- Upon the written request of an interested person, the office of the state building commissioner shall issue a written interpretation of a building law or fire safety law, within 10 days.

- The written interpretation as issued under IC 22-13-5 binds the interested person and the county or municipality with whom the interested person has the dispute.

- A written interpretation binds all counties and municipalities if published in the Indiana Register under IC 4-22-7-7(b).

- To request a written interpretation, complete the online form at: http://www.in.gov/dhs/4042.htm.
R103 – Plans

- Plans shall be submitted for Class 1 structures as required by the General Administrative Rules (675 IAC 12-6) and for Class 2 structures as required by local ordinance.
R202 Definitions
Accessible requires the removal of an access panel or similar removable obstruction.

Readily accessible refers to access without having to remove a panel or obstruction.
Chapter 3

Building Planning
### Table R301.2(1) Climatic and geographical design criteria

- Wind speed increased from 90 to 115 mph
- Seismic Design Categories stayed same for all Indiana Counties and are A, B, or C
- Ice shield underlayment required in certain counties
R302.1 – Exterior walls

- One-hour rating per ASTM E 119 or UL 263 or IBC 703.3
- Separate tables depending on sprinklers
- FSD increased from 3 ft. to 5 ft.
  - Unprotected
  - No sprinkler system
Building Location

R302.1 Exterior walls

- Table R302.1(1) or R302.1(2)
- Fire resistance requirements based on fire separation distance (FSD)
- Exceptions:
  - Perpendicular walls
  - Dwellings and accessory structures on same lot
  - Sheds exempt from permits
  - 4-inch garage overhang
  - Foundation vents
Building Location

R302.1 Exterior walls

- Fire Separation Distance (FSD)

- **Definition:**

  The distance measured from the building face to one of the following:

  - Closest interior lot line
  - To the centerline of a street or alley or public way
  - To an imaginary line between two buildings.

  The distance shall be measured at a right angle
R302.1 – R302.14 – Fire-resistant construction

- Exterior walls
- Townhouses and two-family dwellings
  - Separations
  - Penetrations
- Dwelling / Garage
  - Openings and penetrations
  - Fire separation
- Under stair protection
- Fireblocking
R302.1 – Exterior walls

...exterior walls shall comply with Table R302.1.

Exception 2:

2. Walls of dwellings and accessory structures located on the same lot.
R302.1 – Exterior walls

Indiana Exceptions:

6. Prior Zoning approvals
7. Recorded easement
Building Location
R302.1 Exterior Walls

<table>
<thead>
<tr>
<th>Exterior Wall Element</th>
<th>Fire Resist. Rating</th>
<th>Min. FSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls</td>
<td>0</td>
<td>5 feet</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>0 feet</td>
</tr>
<tr>
<td>Projections</td>
<td>0</td>
<td>5 feet</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>2 feet</td>
</tr>
<tr>
<td></td>
<td>Not allowed</td>
<td>&lt;2 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exterior Wall Element</th>
<th>Fire Resist. Rating</th>
<th>Min. FSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls</td>
<td>0</td>
<td>3 feet</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>0 feet</td>
</tr>
<tr>
<td>Projections</td>
<td>0</td>
<td>3 feet</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>2 feet</td>
</tr>
<tr>
<td></td>
<td>Not allowed</td>
<td>&lt;2 feet</td>
</tr>
</tbody>
</table>

Projections: Fire resistance is provided on the underside. Heavy timber or Fire Retardant Treated wood may be used in place of fire resistance rating.
### Table R302.1(1)

<table>
<thead>
<tr>
<th>Exterior Wall Element</th>
<th>Limits</th>
<th>Min. FSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openings</td>
<td>Unlimited</td>
<td>5 feet</td>
</tr>
<tr>
<td></td>
<td>25% of wall area</td>
<td>3 feet</td>
</tr>
<tr>
<td></td>
<td>Not allowed</td>
<td>&lt;3 feet</td>
</tr>
<tr>
<td>Penetrations</td>
<td>No protection</td>
<td>3 feet</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>&lt;3 feet</td>
</tr>
</tbody>
</table>

### Table R302.1(2) with Fire Sprinklers

<table>
<thead>
<tr>
<th>Exterior Wall Element</th>
<th>Limits</th>
<th>Min. FSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openings</td>
<td>Unlimited</td>
<td>3 feet</td>
</tr>
<tr>
<td></td>
<td>Not allowed</td>
<td>&lt;3 feet</td>
</tr>
<tr>
<td>Penetrations</td>
<td>No protection</td>
<td>3 feet</td>
</tr>
<tr>
<td></td>
<td>1 hour</td>
<td>&lt;3 feet</td>
</tr>
</tbody>
</table>

**Penetrations:** Fire resistance rating of penetrations must be not less than the wall rating per R302.4
Exterior Walls
R302.1
Exterior Walls

Fireblocking
No protection

1-hour fire-resistant-rated exterior wall

NS = No sprinkler system
S = Sprinkler system

Fire resistance rating is not required for roof eave projections when fireblocking is installed.
R302.2 Townhouse Separation

- Two 1-hour FR wall assemblies or
- Common wall
- No penetrations other than electric wiring
R302.2
Townhouse Separation

1-hr. common wall

2-hr. common wall

Sprinklers

No Sprinklers

Common 1-hour fire-resistance-rated wall continuous from foundation to roof sheathing

Electrical installations are permitted in common wall. Electrical boxes must meet fire-resistant penetration requirements.

Common 2-hour fire-resistance-rated wall continuous from foundation to roof sheathing

No plumbing, mechanical, ducts, or vents in common wall

Townhouse dwelling unit A

Townhouse dwelling unit B

One-hour common wall for townhouses with sprinklers

Two-hour common wall for townhouses without sprinklers
R302.2 Townhouse Separation

Note: Gypsum wallboard and wood stud assemblies must meet all materials, dimensions, spacing, installation and fastening requirements of the specific tested assembly.
R302.2.4 – Parapet exception for townhouses

- No roof openings or penetrations within 4 feet
R302.5 – Garage opening & penetration protection

- Relocated from R309.1 and R309.2
- Self-closing devices on doors between the garage and dwelling
- Penetration requirements now reference the fireblocking provisions in R302.11, Item 4
R302.6 and Table R302.6
Garage separation

- Relocated from R309
- Gypsum board requirements in a new table
- Indiana amendment to R302.5.1 says the pull down stairs in a garage ceiling must have a 20 min fire rating
R302.13 Fire protection of floors

- Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a ½ inch gypsum wallboard membrane, 5/8 inch wood structural panel membrane, or equivalent on the underside of the framing member.
R303.5.1 – Intake opening

Min. vertical clearance between a contaminant source and an outdoor air intake below increased from 2 ft. to 3 ft.
R305

Ceiling Height

- 6 feet 8 inches:
  - Bathrooms
  - Toilet rooms
  - Laundry rooms

- 6 feet, 4 inches all basements:
  - Beams
  - Girders
  - Ducts
  - Other obstructions

2018 IRC Indiana
R308.4 – Hazardous locations for glazing

- Reorganization
- Separate subsection for each item

<table>
<thead>
<tr>
<th>2006</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 items</td>
<td>7 subsections</td>
</tr>
<tr>
<td>10 exceptions</td>
<td></td>
</tr>
</tbody>
</table>
R308.4.2
Glazing Adjacent to Doors

Yes indicates safety glazing is required

Yes

In same plane as door

Yes
R308.4.2 Glazing Adjacent to Doors
R308.4.2
Glazing Adjacent to Doors

Yes indicates safety glazing is required

In same plane as door

Angle less than 180 degrees from plane of door

90 degree angle to plane of door

Glazing adjacent to doors
R308.4.2 – Glazing adjacent doors

Operable panel of swinging or sliding glass patio door

Fixed panel

Safety glazing

Safety glazing

Safety glazing

Safety glazing not required

≤24 in.

>24 in.

≥18 in.

Glazing adjacent to the fixed panel of patio doors does not require safety glazing
R308.4.5 – Glazing and wet surfaces

- Combines provisions for tubs & swimming pools

“in walls … facing … bathtubs, showers …”

**Plan view**
- SG = Safety glazing required
- Measurements are to exposed glazing

**Section view**
- Glazing facing or enclosing bathtubs

Bathtub, whirlpool tub or hot tub

<60 in.
R308.4.6 – Glazing adjacent to stairs and ramps

![Diagram showing glazing requirements near stairs and ramps]

- **SG** = Safety glazing required
- **NR** = Not required to be safety glazing

Measurements are to be taken of exposed glazing between flights.

**Section view**
- Upper floor
- Floor
- Landing
- <36 in.
- ≥36 in.

**Plan view**
- SG
- NR
- Landing between flights
- Down

**Notes**
- SG: Safety glazing required
- NR: Not required to be safety glazing
- Measurements are to be taken of exposed glazing
R308.4.7 – Glazing adjacent to the bottom stair landing

SG = Safety glazing required
NR = Not required to be safety glazing

< 60 in. ≥ 60 in. < 36 in.
R308.4.7 Glazing Adjacent to Bottom Stair Landing

- Area in front of the plane of the bottom tread
R310 Emergency Escape and Rescue Openings

- Reorganized
- Separate provisions for windows and doors
- Grade floor or below grade openings 5.0
R310.1 – Emergency escape and rescue required

- Sleeping rooms
- Basements
- Habitable attics
R310.2.1 EERO
opening dimensions

- Min. width 20 in.
- Min. height 22–24 in.
- Min. area 5.7 ft$^2$
  - 5.0 ft$^2$ for grade floor or below grade openings
R310.2.3.2 – Drainage for window wells (EERO)

- Window wells serving emergency escape and rescue openings
- Direct surface water to the foundation drainage system
R310.2.4 Emergency Escape Openings under Decks and Porches

- Unobstructed passageway $\geq 30$ 36 in. high, 30 in. wide and $\leq 20$ ft. in length, to a yard or court.
R310.3.2 Area Wells for Emergency Escape and Rescue Doors

Bulkhead enclosure → Area well
R310.3.2 Area Wells for Emergency Escape and Rescue Doors

Plan view

Minimum 36 in.

Up

Basement

Floor

Grade

45

Drainage required

2018 IRC Indiana
R310.5 Dwelling Additions

- No additional EERO
  - Basement addition with access to EERO

A basement addition does not require an emergency escape and rescue opening if access is provided to the existing basement.
R310.6 Basement Alterations and Repairs

- No additional EERO:
  - Alterations or repairs to an existing basement
  - Unless new bedroom

A basement addition does not require an emergency escape and rescue opening if access is provided to the existing basement.
R311 Means of egress

- R311.2 Net clear opening for required egress door (30 x 78 in.)
- R311.3 No landing at balcony < 60 sq. ft.
- R311.3.1 Means of egress to grade
- R311.4 Vertical egress
R311.3.1 Landing at Required Egress Door

- Required egress door
- Landings or finished floors ≤ 1½ in. below top of threshold
- Exception
  - Door swings in
  - Exterior landing can be a maximum of 7¾ inches one stair riser below top of the threshold
- Access to grade

2018 IRC Indiana
R311.3.2 Landings at Other Exterior Doors

- Landing on either side:
  - $7\frac{3}{4}$ inches one stair riser below top of the threshold
- Door swings either direction
R311.3.2 Stairs at Other Exterior Doors

Landing Exception:

1. Threshold ≤ 16.5 in. permits a single step with tread depth ≥ 11 in.

2. ≤ 3 risers provided door does not swing over stairway

Threshold ≤ 30 in. above adjacent surface provided door does not swing over stairs
R311.7.5.1-Riser Height

- The riser height shall not be more than 8 ¼ inches (210 mm).

R311.7.5.2-Tread Depth

- The tread depth shall be not less than 9 inches (229 mm).
R311.7.6 – Landings for stairways

- Angular and curved stair landings at a turn in a stairway
R311.7.6 – Stair Landings

- Required at top and bottom
  - **Exception:** bottom of exterior stair that does not serve required egress door
- ≤ 12 ft. 7 in. (151 in.) vertically between landings

12 ft. 7 in. max.
R311.7.8.4 Handrail continuity

- Continuity not required if ends returned
- And ends ≤ 4 in. apart
R312.1 Guards

- Measure vertical distance to lowest point within 36 inches horizontally from edge of deck
R313 – Automatic fire sprinkler systems

- Not required
- When installed, comply with IRC Section P2904 or NFPA 13D
- Exception for existing dwellings
R314 Smoke Alarm Locations

R314.3.2 Location

1. ≥ 3 ft horizontally from door of a bathroom or air vent
2. Where prohibited by listing

R314.3.1 Minimum distance from cooking appliances

<table>
<thead>
<tr>
<th>Type of alarm</th>
<th>Separation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ionization</td>
<td>20 ft</td>
</tr>
<tr>
<td>Ionization with alarm-silencing switch</td>
<td>10 ft</td>
</tr>
<tr>
<td>Photoelectric</td>
<td>6 ft</td>
</tr>
</tbody>
</table>
R314.3.3.1 Flat Ceilings

- 2018 IRC Indiana 102
- In rooms with flat, peaked sloping or single slope ceilings with a slope of less than 1:5/12, smoke alarms shall be mounted:
  - On the ceiling at least 4” from each wall.
  - On a wall with the top of the alarm not less than 4” below the ceiling and not farther from the ceiling than 12”.
  - Distance from the ceiling specified in the smoke alarm manufacturer's listing and installation instructions, whichever is less.
R314 Smoke Alarms in Existing Dwellings

- Smoke alarms when a permit is required:
  - Interior alterations
  - Additions
  - Complete electrical
- Battery-operated
- Interconnection always required
- Exceptions:
  - Exterior work
  - Minor electrical, plumbing and mechanical work
R202 Carbon Monoxide Alarm

- New definitions differentiate Carbon Monoxide Alarm from Carbon Monoxide Detector.
R315 Carbon Monoxide Alarms

- When required
  - Fuel-fired appliance
  - Attached garage with opening communicating with dwelling unit.

- Locations
  - Outside each sleeping area
  - In bedroom with fuel-fired appliance in the bedroom or adjoining bathroom
R315 Carbon Monoxide Alarms (Continued)

Power and interconnection

- Building wiring system to provide primary power
- Battery backup
- Interconnection
R315 CO Alarms in Existing Dwellings

- When a permit is required:
  - Interior alterations
  - Additions
    - Complete electrical
- Battery-operated
- Interconnection (sometimes)
- Exceptions:
  - Exterior work
  - Minor electrical, plumbing and mechanical work
R324.6 Roof Access for PV Solar Energy Systems

- Applies to all PV roof systems
- General
  - ≥ 2 different paths
  - Separate planes
  - One on street side
  - 36 in. wide
R324.6 Roof Access for PV Solar Energy Systems

- Setbacks both sides of horizontal ridge varies:
  - Arrays
    - \( \leq 33\% = 18\) in.
    - \( > 33\% = 36\) in.
  - With sprinklers
    - \( \leq 66\% = 18\) in.
    - \( > 66\% = 36\) in.
R324.6 Roof Access for PV Solar Energy Systems

- Exceptions:
  - Detached non-habitable structures
  - Code official determines no rooftop operations
  - Roofs ≤ 2:12
R324.6.2.2 Solar Panels Near Emergency Escape and Rescue Openings

- ≥ 3-ft path
R325
Mezzanines

- Mezzanine: An intermediate level or levels between the floor and ceiling of any story.
- Limitations on ceiling height and openness consistent with IBC.
R325.6 and R202
Habitable Attics

- Definition revised
  - A finished or unfinished habitable space in attic

- Technical requirements in new section
  - Not considered a story
    1. Minimum room area
    2. Ceiling height
    3. Enclosed by roof and floor/ceiling assembly
    4. Floor area ≤ story below
Chapter 4

Foundations
R403.1.1
Minimum Footing Size

- Expanded tables
  - Type of structure
    - Light frame
    - Veneer
    - Concrete
  - Type of foundation
    - Slab on grade
    - Crawl space
    - Basement

- Expanded tables
  - Roof snow load
  - 32-ft. wide house
  - No. of stories
### R403.1.1
Minimum Footing Size

<table>
<thead>
<tr>
<th>Snow load</th>
<th>Type of foundation</th>
<th>Load bearing value of soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 psf</td>
<td></td>
<td>1,500</td>
</tr>
<tr>
<td><strong>1-story</strong></td>
<td>Slab-on-grade</td>
<td>12 x 6</td>
</tr>
<tr>
<td></td>
<td>With crawl space</td>
<td>13 x 6</td>
</tr>
<tr>
<td></td>
<td>Plus basement</td>
<td>19 x 6</td>
</tr>
<tr>
<td><strong>2-story</strong></td>
<td>Slab-on-grade</td>
<td>12 x 6</td>
</tr>
<tr>
<td></td>
<td>With crawl space</td>
<td>17 x 6</td>
</tr>
<tr>
<td></td>
<td>Plus basement</td>
<td>23 x 6</td>
</tr>
</tbody>
</table>

b. Based on 32-foot-wide house with load-bearing center wall that carries half of the tributary attic, and floor framing. For every 2 feet of adjustment to the width of the house, add or subtract 2 inches of footing width and 1 inch of footing thickness (but not less than 6 inches thick).
R403.1.6
Foundation Anchorage

- Anchor bolts in the middle third of sill plate
- Measured to edge of bolt
Table R404.1.2(1) Horizontal Reinforcing for Basement Walls

<table>
<thead>
<tr>
<th>Height of Wall</th>
<th>Location of Horizontal Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤8 feet</td>
<td>One No. 4 bar within 12 in. of top of wall and one No. 4 bar near mid-height</td>
</tr>
<tr>
<td>&gt;8 feet</td>
<td>One No. 4 bar within 12 in. of top of wall and one No. 4 bar near third points</td>
</tr>
</tbody>
</table>
Table R404.1.2(1) Horizontal Reinforcing for Basement Walls
Chapter 5

Floors
Tables R502.3.1(1), R502.3.1(2) Floor Joist Spans for Common Lumber Species

- Span lengths
  - Decreased for Southern Pine
  - Increased for DFL and HF

2 X 10 Floor Joists
- Dead load = 10 psf
- Live load = 40 psf
- 16 in. o.c. spacing

<table>
<thead>
<tr>
<th>Spans</th>
<th>2012</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2 SP</td>
<td>16 - 1</td>
<td>14 - 0</td>
</tr>
<tr>
<td>#2 DFL</td>
<td>15 - 5</td>
<td>15 - 7</td>
</tr>
<tr>
<td>#2 HF</td>
<td>15 - 2</td>
<td>15 - 2</td>
</tr>
</tbody>
</table>

#1 SP: 16 – 1 in 2018
R507 Decks
R507.3 Deck Footings

Note: Posts must be centered on or in footing.
## R507.3 Deck Footings

<table>
<thead>
<tr>
<th>Live or ground snow load (sq ft)</th>
<th>Tributary Area (sq ft)</th>
<th>Side of square footing (in)</th>
<th>Diameter of round footing (in)</th>
<th>Thickness (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>40</td>
<td>12</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>40</td>
<td>60</td>
<td>15</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>40</td>
<td>80</td>
<td>17</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>40</td>
<td>100</td>
<td>19</td>
<td>21</td>
<td>6</td>
</tr>
<tr>
<td>40</td>
<td>120</td>
<td>21</td>
<td>23</td>
<td>7</td>
</tr>
</tbody>
</table>

2000 Load bearing value of soils

**Notes:**
- 2000 load bearing value of soils
- Side of square footing, Diameter of round footing, Thickness (in)
- Table shows dimensions for various load-bearing scenarios.
R507.3 Deck Footings

Corner post

Corner post tributary area

$\frac{1}{2}$

$\frac{1}{4}$

$\frac{1}{4}$

$\frac{1}{4}$

12 ft

Interior post tributary area

20 ft

Interior post
## R507.4 Deck Posts

<table>
<thead>
<tr>
<th>Deck post size</th>
<th>Beam plies</th>
<th>Maximum height (ft. – in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>3 or more</td>
<td>6-9</td>
</tr>
<tr>
<td>4 x 4</td>
<td>1 or 2</td>
<td>8</td>
</tr>
<tr>
<td>4 x 6</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>6 x 6</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>8 x 8</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>
R507.5
Deck
Beams

Beam splice (if required) must occur over post

Approved post cap

Beam over post cap

5½” minimum for beam splices (if required)

Beam over post

Deck beam to deck post connection

Minimum 2”

Single ply beam

Minimum 2½”

Multiply beam

(2) ½” diameter through-bolts or approved equivalent connector

Post notch for full beam bearing

≥2½” min.

Beam splice

2018 IRC Indiana
R507.6 Deck Joists
R507.6
Deck Joists

2018 IRC Indiana
R507.9 – Deck ledger connection

- Prescriptive provisions for deck ledger attachment
- Expanded from 2005 Indiana Residential Code (Table 502.2.1)
- Options, details, edge distances

Placement of lag screws and bolts in ledgers.

“Distance shall be permitted to be reduced to 4.5” if lag screws are used or bolt spacing is reduced to that of lag screws to attach 2×8 ledgers to 2×8 band joists.”
R507.9 – Deck ledger connection

Placement of lag screws and bolts in band joists.
## R507.9 Deck ledger connection

<table>
<thead>
<tr>
<th>Joist Span</th>
<th>8’-1” to 10’-0”</th>
<th>10’-1” to 12’-0”</th>
<th>12’-1” to 14’-0”</th>
<th>14’-1” to 16’-0”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Details</td>
<td>On-Center Spacing of Fasteners (Inches)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2” lag screw</td>
<td>18</td>
<td>15</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>15/32” sheathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2” bolt</td>
<td>34</td>
<td>29</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>15/32” sheathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2” bolt</td>
<td>29</td>
<td>24</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>15/32” sheathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2” stacked</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>washers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R507.9.2 Deck Lateral Load Connection

Optional Connection 1

- Figure 507.9.2(1):
  - Two hold-down devices ≤ 2 ft of ends of deck
  - 1500 lb. capacity
R507.9.2 Alternative Deck Lateral Load Connection

Optional Connections

- Figure 507.9.2(2):
  - Four hold-downs installed below deck structure
  - 750 lb. capacity
Chapter 6

Wall Construction
Tables R602.7(1), R602.7(2) Girder and Header Spans

Moved to Chapter 6
R602.7.1 – Single member headers

Prescriptive provisions for single-member headers under limited conditions

Single member header with cripple wall

Alternate single member header without cripple
Table R602.7.5
Full Height Studs at End of Headers
### TABLE R602.7.5
MINIMUM NUMBER OF FULL-HEIGHT STUDS
AT EACH END OF HEADERS IN EXTERIOR WALLS

<table>
<thead>
<tr>
<th>MAXIMUM HEADER SPAN (feet)</th>
<th>ULTIMATE DESIGN WIND SPEED AND EXPOSURE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 140 mph, Exposure B or &lt; 130 mph, Exposure C</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>4</td>
</tr>
</tbody>
</table>

For SI: 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

a. For header spans between those given, use the minimum number of full-height studs associated with the larger header span.

b. The tabulated minimum number of full-height studs is applicable where jack studs are provided to support the header at each end in accordance with Table R602.7(1). Where a framing anchor is used to support the header in lieu of a jack stud in accordance with Note d of Table R602.7(1), the minimum number of full-height studs at each end of a header shall be in accordance with requirements for wind speed < 140 mph, Exposure B.
Chapter 7

Wall Coverings
R703.2 Water-resistive Barrier

1. Per manufacturer
2. Detached accessory buildings
R802.11 – Roof tie-down

- New Table R802.11 for uplift connections
  - Accurate prescriptive values
  - Both low- and high-slope roofs
  - Wind Exposure Categories B and C
## R802.11 – Roof tie-down

<table>
<thead>
<tr>
<th>Rafter or Truss Spacing</th>
<th>Roof Span (feet)</th>
<th>Exposure B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Basic Wind Speed (mph)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roof Pitch</td>
</tr>
<tr>
<td>24 in. o.c.</td>
<td>28</td>
<td>208</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>230</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>252</td>
</tr>
</tbody>
</table>
R806.5 – Unvented attics and unvented enclosed rafter assemblies

- Previously called “conditioned” attics
- Vapor retarder in climate Zones 5, 6, 7 & 8
- Impermeable R-Value in Table R806.5
- Insulation board requires sealed edges
Unvented enclosed rafter assemblies

Option 1
- Structural roof sheathing
- Rigid board insulation
- Air-impermeable insulation
- Rafter or top chord of truss

Option 2
- Air-permeable insulation

Option 3
- Air-permeable insulation
- Air-impermeable insulation

Area of details
Unvented attic
No insulation or vapor barrier
Top story
Thermal envelope

Unvented attic insulation
Unvented enclosed rafter assemblies

Option 1
- Air impermeable insulation
- Insulation in enclosed rafter spaces forming vaulted ceilings

Option 2
- Air permeable insulation in rafter space with air impermeable insulation above structural sheathing
- Class II vapor retarder in climate zones 5, 6, 7, and 8

Option 3
- Air impermeable over air permeable insulation
Chapter 9

Roof Assemblies
R903.2.1 Roof flashing locations

- General flashing provisions for all roofing
  - Kick-out flashing where eave of roof intersects a wall
R905.2.8.5 – Roof drip edge

- Roof drip edge required for asphalt shingles
  - 2-inch laps
  - Nails at 12 inches OC
Chapter 10

Chimneys and Fireplaces
R1003.9.1 – Chimney caps

- Chimney cap required (ASTM C 1283)
  - Concrete, metal or stone
  - Sloped to shed water
  - Drip edge
  - Caulked bond break around flue liner

![Diagram of Masonry chimney cap with labels for Flue, Sealant, Face of chimney, Required chimney cap, and Slope all sides.]
R1003.9.3 – Rain caps

- Rain caps optional
- Minimum criteria for installation
Chapters 12 through 23

Mechanical
M1307.3.1 – Protection from impact

- Appliances not in a location subject to vehicle damage or protected
- Previously just in garage or carport
- **Installed outside the intended vehicle travel path determined by garage door rough opening width**
- 5 methods of protection
M1307.3.1 – Protection from impact

5 methods of protection
1. Equipment room
2. Equipment alcove with ≥ 24-in.-high raised platform
3. Bollard(s) embedded ≥ 18 in. and ≥ 24 in. above floor
4. Bollard(s) anchored to floor
5. 72 x 6 x 4 in. bumper curb
M1502.4.4, M1502.4.5 Dryer Exhaust Duct Power Ventilators

- Dryer exhaust duct power ventilators (DEDPVs)
- Listed and labeled UL 705
- Max. length per manufacturer
M1502.4.6
Dryer Duct Length Identification

- Permanent label where >35 feet
- Not required where ≤ 35 feet
- Whether the duct is concealed or not
M1503.6 Makeup Air for Kitchen Exhaust Systems

- Makeup air for kitchen exhaust systems >400 cfm:
  - Automatic damper, or
  - Gravity damper
  - Transfer openings okay
M1503.6 Makeup Air for Kitchen Exhaust Systems

- Not required if all direct vent or mechanical draft vent
- Domestic cooking exhaust

Option 2

Exterior

Outdoor air

Gravity damper

Makeup air

Transfer air opening

Range exhaust hood > 400 cfm

Kitchen range

Exhaust duct through roof

2018 IRC Indiana
M1504.3 Exhaust openings

- Exhaust opening termination
  - ≥ 3 feet from property line
  - ≥ 3 feet from openings
  - ≥ 10 feet from or 3 feet above mechanical air intakes

Minimum clearance from exhaust openings.
M1505.4 – Whole-house mechanical ventilation system

- Whole-house mechanical ventilation
  - Prescriptive air flow rate based on
    - Area of dwelling
    - Number of bedrooms
    - Continuous or intermittent operation

- Local exhaust
  - Mechanical ventilation of kitchens and bathrooms
G2406.2 Prohibited Locations for Appliances

- Gas dryer allowed in bathrooms / toilet rooms
- 100 sq. in. transfer grill
  - Not to sleeping, bath, toilet rooms or closet
G2411.2 Electrical Bonding of Corrugated Stainless Steel Tubing

- Bonded to metal pipe, pipe fitting or CSST fitting
- 75-foot maximum allowable length of bonding jumper
- Bonding methods per NFPA 70
- Devices listed per UL 467
G2411.2, G2411.3 Electrical Bonding of CSST

- Arc-resistant CSST
- No bonding
- Connected to appliance with equipment grounding conductor
G2415.6 Underground penetrations prohibited

- Gas piping is no longer permitted to penetrate the foundation wall below ground.
G2420.5, G2420.6 Appliance shutoff valve

- Manifold piping configuration
  - shutoff valve located at manifold
  - ≤ 50 feet from appliance
- Shutoff valves installed in tubing systems rigidly and securely supported independently
Appliance shutoff valves

- Readily accessible
- Permanently identified

Furnace
Water heater
Dryer
Range

Approved gas piping

≤50 ft.

Meter

Shutoff valve not required
G2420.5.1 Shutoff Valve Location

- Behind movable appliances allowed
- Considered to have access
G2422.1.2.1 Maximum length of connectors

- Increased from 3 ft. to 6 ft.

Rigid metallic piping is permitted to exceed 6 ft. if sized as part of gas piping system. Appliance shutoff must comply with Section G2420.5.
G2426.7.1 Door Clearance to Vent Terminals

- Vent terminal not permitted within 12 in. of arc of swinging door
G2439.4, G2439.7
Clothes Dryer Exhaust Ducts

- Dryer exhaust duct power ventilators (DEDVPVs)
  - UL 705 per manufacturer
- Permanent label:
  - Duct length
    - >35 feet
  - Duct concealed or not
- Duct fastener permitted
G2447.2 Commercial Cooking Appliances

- Where designed by a licensed Professional Engineer
- Per manufacturer’s installation instructions
Chapters 25 through 33

Plumbing
P2503.5 Drain, Waste, and Vent Systems Testing

- DWV systems:
- Head pressure for water test reduced from 10 ft. to 5 ft.

2018 IRC Indiana
P2503.5.1 – Rough plumbing test

No longer permits air testing of plastic piping in DWV systems.

Water test on plastic pipe DWV system.
P2503.7 Air Testing of PEX Piping
P2603.2.1 Protection Against Physical Damage

- Edge distance reduced from <1½ in. to <1¼ in.
- Accommodates ½-in. dia. copper pipe in 2x4 framing
P2804.6.1 Water Heater Relief Valve Discharge Piping

- The T&P relief valve discharge pipe termination requires an air gap
- PEX and PE-RT tubing (insert fittings):
  - One size larger than the T&P valve discharge outlet
  - Outlet end fastened in place

Air gap:
Min. 2 X pipe dia.
Max. 6 in.
P2904 Dwelling fire sprinkler systems

- Simple, prescriptive approach for the design of dwelling fire sprinkler systems
  - Considered equivalent to NFPA 13D

Photo courtesy of Uponor Inc.
Nonpotable Water Systems

- Nonpotable water outlets identified
- Purple identifies distribution piping for nonpotable water
- New Sections P2910 through P2913:
  - Collection
  - Storage
  - Distribution
P3003.9.2
Solvent Cementing of PVC Joints

- Primer not required for:
  - DWV PVC pipe and fittings
  - ≤ 4-inch pipe size
  - Non-pressure application

Purple primer is no longer required for joints of non-pressure PVC DWV piping 4 inches or less in diameter.
P3005.1.6 Reduction in Pipe Size

- Exceptions
  1. 4 x 3 water closet flange
  2. 4 x 3 closet bend
  3. Offset closet flange
P3005.2

Cleanouts

- Section completely reorganized
- Brass cleanout plugs only for metallic piping
- Cleanout $\leq 1\frac{1}{2}$ inches of finished wall surface
- No longer required at base of each waste or soil stack
P3103.4 – Location of vent terminal

- Vent terminations above openings within 10 feet
  - Increased from 2 to 3 feet.
Chapters 34 through 43

Electrical
E3401.2 – Scope of Electrical Provisions

- The 2020 Indiana Residential Code permits compliance with either:
  - Electrical provisions of the IRC
    - Based on 2017 NEC
  - Indiana Electrical Code
    - Based on the 2008 NEC
- Builders/electricians responsible for specifying which code
E3608.4 – Supplemental electrode required

- Rod, pipe, or plate electrode requires a supplemental electrode (6 ft. apart)
  - Exception: Testing confirms single electrode has resistance to earth ≤ 25 ohms
Supplemental rod electrode
E3703.5 Garage Branch Circuits

- One 20-amp branch circuit to supply receptacle outlets in garage only
- Permitted to supply readily accessible outdoor receptacle outlets.
E3901.2 Wall Space for Receptacle Distribution

Cabinets with countertops or work surfaces are counted as wall space.
E3901.3 Appliances on 15 Amp Circuits

Individual 15-amp circuits permitted for receptacle outlets for specific appliances

Elevation view—Kitchen
E3901.7 Outdoor Outlets

Outdoor outlet required for any size of deck, porch, or balcony that is accessible from inside the dwelling unit.
Outdoor receptacle outlet is required at a balcony.
E3901.9 Garage Receptacle Outlet Location

Min. one receptacle outlet in each vehicle bay

Max. height 5 ft. 6 in.

Three stall garage
E3901.11 – Receptacle outlets in foyers

- Foyers > 100 square feet in area
  - Receptacle in each wall space > 4 feet
  - The code says >3 feet but Indiana amended it to say > 4 feet
E3902 – GFCI protection

• Readily accessible location
• GFCI now required for all 125-volt, single-phase, 15- and 20-ampere receptacles in
  – garages
  – unfinished basement areas
  (exception fire or burglar alarm systems)
E3902.4 GFCI Protection for Crawl Space Lighting Outlets
E3902.8, E3902.9, E3902.10
GFCI Protection

- Laundry areas
- Receptacles within 6 feet of bathtubs and showers
- Receptacles for dishwashers

GFCI protection required for 125-volt, 15- and 20-amp receptacle outlets in laundry areas and near showers or bathtubs
E3902.16 – AFCI protection

• AFCI protection for branch circuits:
  – All habitable spaces including kitchens
  – Hallways
  – Closets
  – Laundry areas
  – Similar areas

• Combination type AFCI
E4002.14 Tamper-resistant Receptacles

- Most 125-volt 15- and 20-amp receptacles
- Exceptions:
  - ≥ 5½ feet above the floor
  - part of a luminaire or appliance
  - in a dedicated space for an appliance
E4101.3 Cord- and-Plug-Connected Appliances

- Food waste disposer cord length 18 to 36 in.
- Dishwasher cord length 36–78 in.
- Receptacle for dishwasher located in space adjacent to dishwasher
# Table E4101.3

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Minimum Cord Length (inches)</th>
<th>Maximum Cord Length (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrically operated in-sink waste disposal</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Built-in dishwasher</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>Trash compactor</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>Range hoods</td>
<td>18</td>
<td>36</td>
</tr>
</tbody>
</table>
Appendices
Appendix Q Tiny Houses
Thank you for participating

Please direct questions to:

Instructor Lynn Madden
lmadden@hallmarkhomes.com

IBA Governmental Affairs Director
Carlie Hopper
Carlie@buildindiana.org