

DEPARTMENT OF LICENSES AND INSPECTIONS CODE BULLETIN OF INFORMATION B-1601		CODE OF GENERAL ORDINANCES OF THE CITY OF PHILADELPHIA <hr/> TITLE 4 — BUILDING CONSTRUCTION AND OCCUPANCY CODE
SUBJECT OF BULLETIN: <p style="text-align: center;">IMPLEMENTATION OF THE 2016 UNIFORM CONSTRUCTION CODE</p>		REFERENCE CODE SECTION(S): <p style="text-align: center;">PA UCC Act and Regulations</p>
ISSUED BY		
NAME: Michael Fink	ISSUE DATE: March 17, 2016	
TITLE: Building Code Official	PAGE 1 OF 14	

ISSUE #1

The Pennsylvania Uniform Construction Code (PA UCC) regulations determine the impact of code changes on permit applications as follows:

New buildings or renovations to existing buildings for which a design or construction contract was executed before the effective date of the regulatory amendment adopting the latest triennial versions of the construction codes and standards shall comply with the codes and standards in effect at the time that the design or construction contract was executed.

Design and construction contracts are typically developed and approved prior to permit application and often relate to the previous code in effect. In order to circumvent potential confusion and ease the transition to the new codes, the Department customarily allows a grace period wherein a designer may choose to have his or her project reviewed under the new code or a previous one.

ISSUE #2

The situation regarding the PA UCC has become somewhat confusing over the past 6 years. Accessibility provisions are approved by the PA Department of Labor and Industry. Other code changes are approved by the PA UCC Review and Advisory Council (RAC). This results in code provisions from multiple editions of the International Codes comprising the current PA UCC.

BACKGROUND

Prior to 2012, the PA UCC had adopted the most recent edition of the International Code Council (ICC) Codes beginning on January 1 of the year following the year of the code publication. At its January 18, 2012 meeting, the RAC voted to **not adopt** any of the changes in the 2012 ICC Codes. The PA UCC RAC has no authority under the PA UCC to address accessibility changes to the codes. Therefore on January 1, 2013, the Pennsylvania Department of Labor and Industry adopted the 2012 construction code provisions related to accessibility. Thus the following became the **2013 PA Uniform Construction Code**.

2013 PA Uniform Construction Code

2009 International Codes (with state legislation amendments)

2012 International Building Code (accessibility requirements)

- Chapter 11 was adopted and required that buildings and facilities also comply with the accessibility requirements found in other chapters of the International Building Code 2012 and in the *ICC/ANSI A117.1-2009 Accessible and Usable Buildings and Facilities* standard.
- Appendix E (Supplementary Accessibility Requirements) was adopted.

On May 29, 2015, the UCC RAC informed the Department of Labor and Industry that 16 code revisions shall be adopted from the 2015 International Codes. These 16 code revisions amounted to a number of new and modified code sections (see Appendix A of this Code Bulletin). Labor and Industry then promulgated regulations based on the RAC's adoptions. Therefore, the 2009 edition of the ICC codes remain in effect with the addition of the adopted 2015 code provisions.

However, despite the UCC's requirement that Labor and Industry adopt the most recent accessibility provisions of the ICC Codes, regulations to update the accessibility code provisions contained in the 2015 ICC codes have not been issued to date due to conflicts with the current language of the UCC and changes made in the 2015 ICC codes. Therefore, the above accessibility code provisions from the 2012 ICC Codes still apply.

In accordance with the *Uniform Construction Code*, the City is to maintain the *Philadelphia Building Construction and Occupancy Code* by continuing to enforce the provisions of the following model codes while maintaining existing local modifications. The following shall be known as the 2016 Uniform Construction Code.

2016 Uniform Construction Code

- The 16 code revisions from the 2015 International Codes (see Appendix A of this Code Bulletin)

The Philadelphia Administrative and Plumbing Codes continue as local construction codes and part of the 2016 Uniform Construction Code for Philadelphia.

The 2013 PA Uniform Construction Code includes all of the above, except for the 16 code revisions from the 2015 International Codes.

POLICY

Beginning immediately, the Department will allow a grace period wherein a designer may choose to have his or her project reviewed under the new code provisions or the previous one. The Department will, therefore, allow permit application reviews under either the 2016 Uniform Construction Code or the 2013 Uniform Construction Code **until and including Friday April 29, 2016.**

Beginning Monday May 2, 2016, only those permit applications for new buildings or renovations to existing buildings, for which proof is provided that a contract for design or construction had been signed prior to January 1, 2016, may be reviewed under the 2013 Uniform Construction Code.

DIRECTION

Based on the Department's policy, examiners shall conduct reviews under the code standards of the applicant's choice (among those listed above) for all applications received up to and including Friday, April 29, 2016.

A construction permit applicant will be allowed to select one of the two versions for the review and indicate that on the application or plans. If no selection is made, the examiner will perform the review based on the 2013 Uniform Construction Code.

Building permits must contain reference to the selected code in "Description of Work" in order to ensure continuity of code provisions during inspections.

Applications submitted on and after Monday, May 2, 2016* for review under the 2013 Uniform Construction Code provisions will require documentation of the construction or design contracts and approval of the unit supervisor.

Until the PA Department of Labor and Industry issues a formal directive, or resolves the outstanding issues regarding adoption of the accessibility provisions of the 2015 International Codes, applications submitted for compliance with the 2009 International Existing Building Code (IEBC), must comply with the accessibility provisions of the 2012 IEBC.

For adopted provisions from the 2015 International Codes, please see Appendix A of this Code Bulletin.

Errata - (3/22/16); change year from '2013' to '2016'.

2015 INTERNATIONAL CODE ADOPTIONS FOR THE 2016 PENNSYLVANIA UNIFORM CONSTRUCTION CODE

CODE BULLETIN B-1601 – APPENDIX A

INTERNATIONAL BUILDING CODE

SECTION 304 BUSINESS GROUP B

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

* * *

- Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet (232 m²) in area.

* * *

- Training and skill development not in a school or academic program (this shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics and similar uses regardless of the ages served, and where not classified as a Group A occupancy).

SECTION 306 FACTORY GROUP F

306.2 Moderate-hazard factory industrial, Group F-1.

Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

* * *

- Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m²) in area.

SECTION 902 DEFINITIONS

902.1 Definitions. The following terms are defined in Chapter 2:

* * *

AUTOMATIC WATER MIST SYSTEM. A system consisting of a water supply, a pressure source and a distribution piping system with attached nozzles which, at or above a minimum operating pressure, defined by its listing, discharges water in fine droplets meeting the requirements of NFPA 750 for the purpose of the control, suppression or extinguishment of a fire. Such systems include wet-pipe, drypipe and pre-action types. The systems are designed as engineered, preengineered, local-application or total flooding systems.

SECTION 904 ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHING SYSTEMS

* * *

[F] 904.2 Where permitted. Automatic fire-extinguishing systems installed as an alternative to the required *automatic sprinkler systems* of Section 903 shall be *approved* by the fire code official.

[F] 904.2.1 Restriction on using automatic sprinkler system exceptions or reductions. Automatic fire-extinguishing systems shall not be considered alternatives for the purposes of exceptions or reductions allowed for *automatic sprinkler systems* or by other requirements of this code.

* * *

[F] **904.11 Automatic water mist systems.** *Automatic water mist systems* shall be permitted in applications that are consistent with the applicable listing or approvals and shall comply with Sections 904.11.1 through 904.11.3.

[F] **904.11.1 Design and installation requirements.** *Automatic water mist systems* shall be designed and installed in accordance with Sections 904.11.1.1 through 904.11.1.4.

[F] **904.11.1.1 General.** *Automatic water mist systems* shall be designed and installed in accordance with NFPA 750 and the manufacturer's instructions.

[F] **904.11.1.2 Actuation.** *Automatic water mist systems* shall be automatically actuated.

[F] **904.11.1.3 Water supply protection.** Connections to a potable water supply shall be protected against backflow in accordance with the *International Plumbing Code*.

[F] **904.11.1.4 Secondary water supply.** Where a secondary water supply is required for an *automatic sprinkler system*, an *automatic water mist system* shall be provided with an *approved* secondary water supply.

[F] **904.11.2 Water mist system supervision and alarms.** Supervision and alarms shall be provided as required for *automatic sprinkler systems* in accordance with Section 903.4.

[F] **904.11.2.1 Monitoring.** Monitoring shall be provided as required for *automatic sprinkler systems* in accordance with Section 903.4.1.

[F] **904.11.2.2 Alarms.** Alarms shall be provided as required for *automatic sprinkler systems* in accordance with Section 903.4.2.

[F] **904.11.2.3 Floor control valves.** Floor control valves shall be provided as required for *automatic sprinkler systems* in accordance with Section 903.4.3.

[F] **904.11.3 Testing and maintenance.** *Automatic water mist systems* shall be tested and maintained in accordance with the *International Fire Code*.

Added new standard to Chapter 35 as follows:

NFPA 750-14 Standard on Water Mist Fire Protection Systems

**SECTION 907
FIRE ALARM AND DETECTION SYSTEMS**

907.2.11 Single- and multiple-station smoke alarms. *Listed* single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.6 and NFPA 72.

* * *

[F] **907.2.11.3 Installation near cooking appliances.** Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section 907.2.11.1 or 907.2.11.2:

1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.
2. Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.
3. Photoelectric smoke alarms shall not be installed less than 6 feet (1829 mm) horizontally from a permanently installed cooking appliance.

[F] **907.2.11.4 Installation near bathrooms.** Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section 907.2.11.1 or 907.2.11.2.

**SECTION 2902
MINIMUM PLUMBING FACILITIES**

[P] **2902.3 Employee and public toilet facilities.** Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 2902.1 for all users. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

Exception: Public toilet facilities shall not be required in:

1. Open or enclosed parking garages where there are no parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet (28 m²).

INTERNATIONAL MECHANICAL CODE

**SECTION 507
COMMERCIAL KITCHEN HOODS**

(Modified from 2009 as follows)

507.2.1 Type I hoods. Type I hoods shall be installed where cooking appliances produce grease or smoke. Type I hoods shall be installed over medium-duty, heavy-duty and extra-heavy-duty cooking appliances. ~~Type I hoods shall be installed over light duty cooking appliances that produce grease or smoke.~~

INTERNATIONAL RESIDENTIAL CODE

**CHAPTER 11 [RE]
ENERGY EFFICIENCY
SECTION N1101
GENERAL**

N1101.6 (R202) Defined terms. The following words and terms shall, for the purposes of this chapter, have the meanings shown herein.

* * *

INSULATED SIDING. A type of continuous insulation with manufacturer-installed insulating material as an integral part of the cladding product having a minimum R-value of R-2.

**SECTION N1102 (R402)
BUILDING THERMAL ENVELOPE**

N1102.2.4 (R402.2.4) Access hatches and doors. Access doors from conditioned spaces to unconditioned spaces such as 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 that 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.

Exception: Vertical doors that provide access from conditioned to unconditioned spaces shall be permitted to meet the fenestration requirements of Table R1102.1.2 based on the applicable climate zone specified in Chapter 3.

* * *

N1102.2.8 (R402.2.8) Floors. Floor framing-cavity insulation shall be installed to maintain permanent contact with the underside of the subfloor decking.

Exception: The floor framing-cavity insulation shall be permitted to be in contact with the topside of sheathing or continuous insulation installed on the bottom side of floor framing where combined with insulation that meets or exceeds the minimum wood frame wall R-value in Table 1102.1.2 and that extends from the bottom to the top of all perimeter floor framing members.

* * *

TABLE N1102.4.1.1 (402.4.1.1)
AIR BARRIER AND INSULATION INSTALLATION
 (Only the “Floor” section revised)

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.

* * *

N1102.1.3 (R402.1.3) R-value computation. Insulation material used in layers, such as framing cavity insulation, or continuous insulation shall be summed to compute the corresponding component *R*-value. The manufacturer’s settled *R*-value shall be used for blown insulation. Computed *R*-values shall not include an *R*-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table N1102.1.2, the manufacturer’s labeled *R*-value for insulated siding shall be reduced by R-0.6.

* * *

TABLE R302.1(1)
EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E 119 or UL 263 with exposure from both sides	< 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Not allowed	N/A	< 2 feet
	Fire-resistance rated	1 hour on the underside ^{a, b}	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings in walls	Not allowed	N/A	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet

For SI: 1 foot = 304.8 mm.

N/A = Not Applicable.

a. Roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

b. Roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave provided that gable vent openings are not installed.

SECTION R316
FOAM PLASTIC

R316.5.11 Sill plates and headers. Foam plastic shall be permitted to be spray applied to sill plates and headers or installed in the perimeter joist space without the thermal barrier specified in Section R316.4 subject to all of the following:

1. The thickness of the foam plastic shall be not more than 3/4 inches (83 mm).
2. The density of the foam plastic shall be in the range of 0.5 to 2.0 pounds per cubic foot (8 to 32 kg/m³).
3. The foam plastic shall have a flame spread index of 25 or less and an accompanying smoke-developed index of 450 or less when tested in accordance with ASTM E 84 or UL 723.

* * *

**SECTION R317
PROTECTION OF WOOD AND WOOD-BASED PRODUCTS AGAINST DECAY**

R317.1.4 Wood columns. Wood columns shall be *approved* wood of natural decay resistance or *approved* pressure-preservative-treated wood.

Exceptions:

1. Columns exposed to the weather or in *basements* where supported by concrete piers or metal pedestals projecting 1 inch (25 mm) above a concrete floor or 6 inches (152 mm) above exposed earth and the earth is covered by an *approved* impervious moisture barrier.
2. Columns in enclosed crawl spaces or unexcavated areas located within the periphery of the building when supported by a concrete pier or metal pedestal at a height more than 8 inches (203 mm) from exposed earth and the earth is covered by an impervious moisture barrier.
3. Deck posts supported by concrete piers or metal pedestals projecting not less than 1 inch (25 mm) above a concrete floor or 6 inches (152 mm) above exposed earth.

* * *

**SECTION R507
EXTERIOR DECKS**

R507.1 Decks. Wood-framed decks shall be in accordance with this section or Section R301 for materials and conditions not prescribed herein. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members connections to exterior walls or other framing members shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.5 acting on the cantilevered portion of the deck.

* * *

R507.2.4 Deck lateral load connection. The lateral load connection required by Section R507.1 shall be permitted to be in accordance with Figure R507.2.3(1) or R507.2.3(2). Where the lateral load connection is provided in accordance with Figure R507.2.3(1), hold-down tension devices shall be installed in not less than two locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 pounds (6672 N). Where the lateral load connections are provided in accordance with Figure R507.2.3(2), the hold-down tension devices shall be installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds (3336 N).

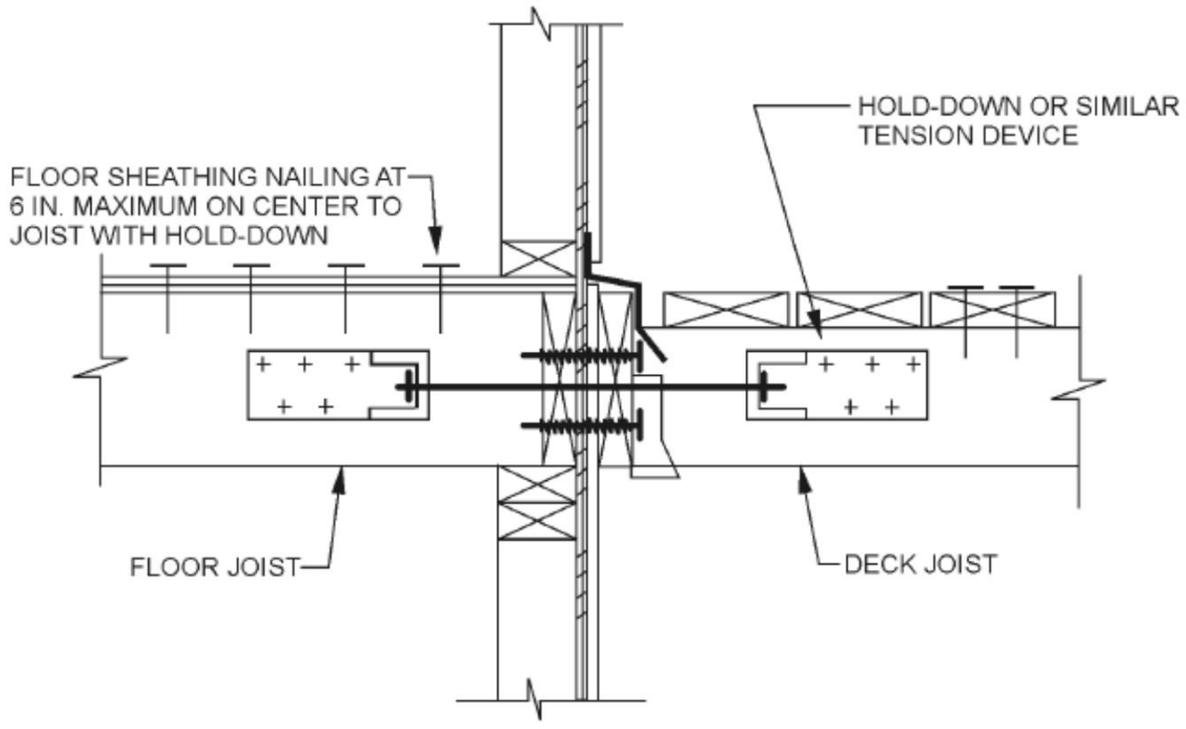
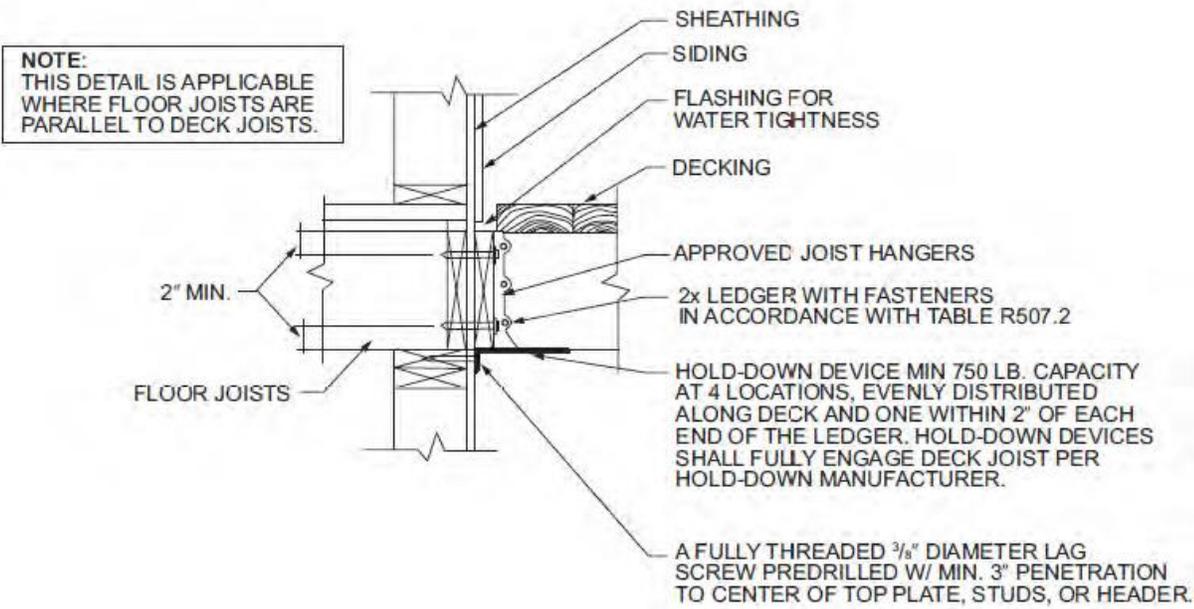


FIGURE R507.2.3(1)
(Not adopted – provided for reference only)



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE R507.2.3(2)

* * *

R507.4 Decking. Maximum allowable spacing for joists supporting decking shall be in accordance with Table R507.4. Wood decking shall be attached to each supporting member with not less than (2) 8d threaded nails or (2) No. 8 wood screws.

**TABLE R507.4
MAXIMUM JOIST SPACING**

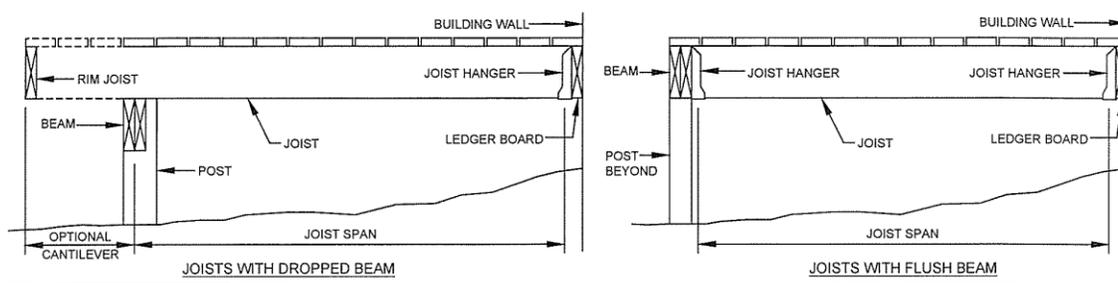
Material type and nominal size	Maximum on-center joist spacing	
	Perpendicular to joist	Diagonal to joist ^a
5/4-inch thick wood	16 inches	12 inches
2-inch thick wood	24 inches	16 inches
Plastic composite	Per R507.3	Per R507.3

For SI: 1 inch = 25.4 mm

a. Maximum angle of 45 degrees from perpendicular for wood deck boards

R507.5 Deck joists. Maximum allowable spans for wood deck joists, as shown in Figure R507.5, shall be in accordance with Table R507.5. Deck joists shall be permitted to cantilever not greater than one-fourth of the actual, adjacent joist span.

R507.5.1 Lateral restraint at supports. Joist ends and bearing locations shall be provided with lateral restraint to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth. Where lateral restraint is provided by rim joists, they shall be secured to the end of each joist with not less than (3) 10d (3-inch X 0.128-inch) nails or (3) No. 10 X 3-inch (76mm) long wood screws.



**FIGURE R507.5
TYPICAL DECK JOIST SPANS**

**TABLE R507.5
DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft.-in.)**

SPECIES ^a	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER ^b (in.)			SPACING OF DECK JOISTS WITH CANTILEVERS ^c (in.)		
		12	16	24	12	16	24
Southern pine	2 x 6	10-4	9-5	7-10	7-1	7-1	7-1
	2 x 8	13-8	12-5	10-2	10-9	10-9	10-2
	2 x 10	17-5	15-10	13-1	15-6	15-6	13-1
	2 x 12	18-0	18-0	15-5	18-0	18-0	15-5
Douglas fir-larch ^d , hem-fir ^d , spruce-pine-fir ^d	2 x 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 x 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 x 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 x 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine ^e , red pine ^e	2 x 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 x 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 x 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 x 12	17-5	15-1	12-4	16-5	15-1	12-4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. No. 2 grade with wet service factor.
- b. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.
- c. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220 pound point load applied to end.
- d. Includes incising factor.
- e. Northern species with no incising factor.

* * *

R507.6 Deck Beams. Maximum allowable spans for wood deck beams, as shown in Figure R507.6, shall be in accordance with Table R507.6. Beam plies shall be fastened with two rows of 10d (3-inch X 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the actual beam span. Splices of multispan beams shall be located at interior post locations.

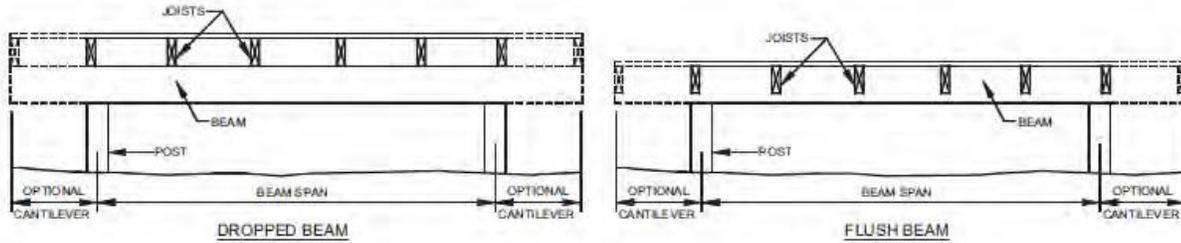


FIGURE R507.6
TYPICAL DECK BEAM SPANS

The following Table R507.6 was not adopted under PA UCC Regulations, but is provided here for reference.

TABLE R507.6
DECK BEAM SPAN LENGTHS (ft.-in.)^{a, b}

SPECIES ^e	SIZE ^d	DECK JOIST SPAN (ft.) LESS THAN OR EQUAL TO:							
		6	8	10	12	14	16	18	
Southern pine	2-2x6	7-1	6-2	5-6	5-0	4-8	4-4	4-1	
	2-2x8	9-2	7-11	7-1	6-6	6-0	5-7	5-3	
	2-2x10	11-10	10-3	9-2	8-5	7-9	7-3	6-10	
	2-2x12	13-11	12-0	10-9	9-10	9-1	8-6	8-0	
	3-2x6	8-7	7-8	6-11	6-3	5-10	5-5	5-2	
	3-2x8	11-4	9-11	8-11	8-1	7-6	7-0	6-7	
	3-2x10	14-5	12-10	11-6	10-6	9-9	9-1	8-7	
Douglas fir-larch ^e , hem-fir ^e , spruce- pine-fir ^e , redwood, western cedars, ponderosa pine ^f , red pine ^f	3-2x12	17-5	15-1	13-6	12-4	11-5	10-8	10-1	
	3x6 or 2-2x6	5-5	4-8	4-2	3-10	3-6	3-1	2-9	
	3x8 or 2-2x8	6-10	5-11	5-4	4-10	4-6	4-1	3-8	
	3x10 or 2-2x10	8-4	7-3	6-6	5-11	5-6	5-1	4-8	
	3x12 or 2-2x12	9-8	8-5	7-6	6-10	6-4	5-11	5-7	
	4x6	6-5	5-6	4-11	4-6	4-2	3-11	3-8	
	4x8	8-5	7-3	6-6	5-11	5-6	5-2	4-10	
	4x10	9-11	8-7	7-8	7-0	6-6	6-1	5-8	
	4x12	11-5	9-11	8-10	8-1	7-6	7-0	6-7	
	3-2x6	7-4	6-8	6-0	5-6	5-1	4-9	4-6	
	3-2x8	9-8	8-6	7-7	6-11	6-5	6-0	5-8	
	3-2x10	12-0	10-5	9-4	8-6	7-10	7-4	6-11	
	3-2x12	13-11	12-1	10-9	9-10	9-1	8-6	8-1	

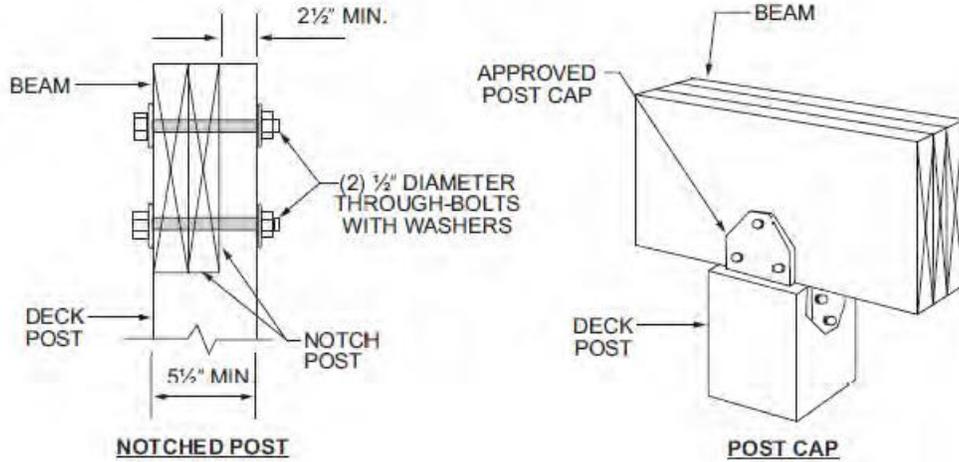
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- Ground snow load, live load = 40 psf, dead load = 10 psf, L/A = 360 at main span, L/A = 180 at cantilever with a 220 pound point load applied at the end.
- Beams supporting deck joists from one side only.
- No 2 grade, wet service factor.
- Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
- Includes incising factor.
- Northern species with no incising factor.

R507.7 Deck joist and deck beam bearing. The ends of each joist and beam shall have not less than 1 1/2 inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) on concrete or masonry for the entire width of the beam. Joist framing into the side of a ledger board or beam shall be supported by approved joist hangers. Joists bearing on a beam shall be connected to the beam to resist lateral displacement.

R507.7.1 Deck post to deck beam. Deck beams shall be attached to deck posts in accordance with Figure R507.7.1 or by other equivalent means capable to resist lateral displacement. Manufactured post-to-beam connectors shall be sized for the post and beam sizes. All bolts shall have washers under the head and nut.

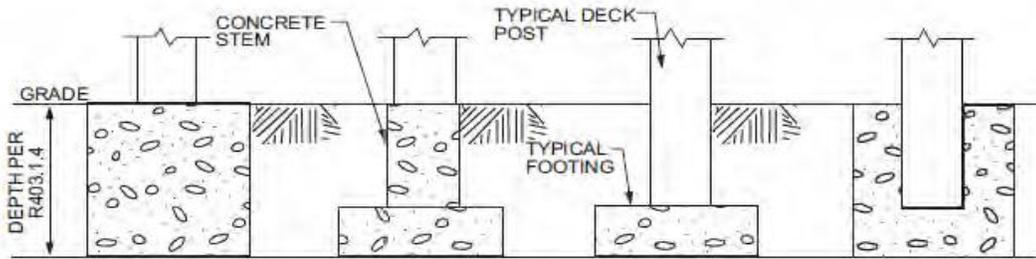
Exception: Where deck beams bear directly on footings in accordance with Section R507.8.1.



**FIGURE R507.7.1
DECK BEAM TO DECK POST**

R507.8 Deck posts. For single-level wood-framed decks with beams sized in accordance with Table R507.6, deck post size shall be in accordance with Table R507.8.

R507.8.1 Deck post to deck footing. Posts shall bear on footings in accordance with Section R403 and Figure R507.8.1. Posts shall be restrained to prevent lateral displacement at the bottom support. Such lateral restraint shall be provided by manufactured connectors installed in accordance with Section R507 and the manufacturers’ instructions or a minimum post embedment of 12 inches(305 mm) in surrounding soils or concrete piers.



**FIGURE R507.8.1
TYPICAL DECK POSTS TO DECK FOOTINGS**

**TABLE R507.8
DECK POST HEIGHT ^a**

DECK POST SIZE	MAXIMUM HEIGHT ^a
4X4	8'
4X6	8'
6X6	14'

For SI: 1 foot = 304.8 mm.

a. Measured to the underside of the beam.

* * *

SECTION M1503 RANGE HOODS

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced.

* * *

SECTION M1601 DUCT CONSTRUCTION

Modified only exception #3 as follows:

M1601.4.1 Joints, seams and connections. Joints of *duct systems* shall be made substantially airtight by means of tapes, mastics, liquid sealants, gasketing or other *approved* closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL181A and shall be marked 181A-P for pressure-sensitive tape, 181A-M for mastic or 181 A-H for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure-sensitive tape or 181B-M for mastic. Duct connections to flanges of air distribution system *equipment* or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1 1/2 inches (38 mm) and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems. For ducts having a static pressure classification of less than 2 inches of water column (500Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams of other than the snap-lock and button-lock types.

INTERNATIONAL ENERGY CONSERVATION CODE

SECTION R202 GENERAL DEFINITIONS

INSULATED SIDING. A type of continuous insulation with manufacturer-installed insulating material as an integral part of the cladding product having a minimum R-value of R-2.

* * *

SECTION R402 BUILDING THERMAL ENVELOPE

R402.1.3 R-value computation. Insulation material used in layers, such as framing cavity insulation, or continuous insulation shall be summed to compute the corresponding component *R*-value. The manufacturer's settled *R*-value shall be used for blown insulation. Computed *R*-values shall not include an *R*-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table R402.1.2, the manufacturer's labeled *R*-value for insulated siding shall be reduced by R-0.6.

* * *

R402.2.4 Access hatches and doors. Access doors from conditioned spaces to unconditioned spaces such as 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 that prevents damaging or compressing the insulation. A woodframed 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.

Exception: Vertical doors that provide access from conditioned to unconditioned spaces shall be permitted to meet the fenestration requirements of Table R402.1.2 based on the applicable climate zone specified in Chapter 3.

* * *

R402.2.8 Floors. Floor framing-cavity insulation shall be installed to maintain permanent contact with the underside of the subfloor decking.

Exception: The floor framing-cavity insulation shall be permitted to be in contact with the topside of sheathing or continuous insulation installed on the bottom side of floor framing where combined with insulation that meets or exceeds the minimum wood frame wall *R*-value in Table 402.1.2 and that extends from the bottom to the top of all perimeter floor framing members.

* * *

**TABLE 402.4.1.1 (N1102.4.1.1)
AIR BARRIER AND INSULATION INSTALLATION**

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.

INTERNATIONAL EXISTING BUILDING CODE

SECTION 406 GLASS REPLACEMENT AND REPLACEMENT WINDOWS

406.3 Replacement window openings. Where windows are required to provide *emergency escape and rescue openings* in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1029.2, 1029.3 and 1029.5 provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.

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END OF DOCUMENT