

complies with additional requirements for water penetration resistance, air infiltration resistance and thermal performance. The space is nonhabitable and conditioned.

Category V: A *sunroom* with enclosed walls. The sunroom is designed to be heated or cooled and is open to the main structure. The *sunroom* fenestration complies with additional requirements for water penetration resistance, air infiltration resistance and thermal performance. The space is habitable and conditioned.

R301.2.1.2 Protection of openings. Exterior glazing in buildings located in windborne debris regions shall be protected from windborne debris. Glazed opening protection for windborne debris shall meet the requirements of the Large Missile Test of ASTM E1996 and ASTM E1886 as modified in Section 301.2.1.2.1. Garage door glazed opening protection for windborne debris shall meet the requirements of an *approved* impact-resisting standard or ANSI/DASMA 115.

Exception: Wood structural panels with a thickness of not less than $\frac{7}{16}$ inch (11 mm) and a span of not more than 8 feet (2438 mm) shall be permitted for opening protection. Panels shall be precut and attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be predrilled as required for the anchorage method and shall be secured with the attachment hardware provided. Attachments shall be designed to resist the component and cladding loads determined in accordance with either Table R301.2(2) or ASCE 7, with the permanent corrosion-resistant attachment hardware provided and anchors permanently installed on the building. Attachment in accordance with Table R301.2.1.2 is permitted for buildings with a *mean roof height* of 45 feet (13 728 mm) or less where the ultimate design wind speed, V_{ult} , is 180 mph (290 kph) or less.

R301.2.1.2.1 Application of ASTM E1996. The text of Section 2.2 of ASTM E1996 shall be substituted as follows:

2.2 ASCE Standard:

ASCE 7-10 American Society of Civil Engineers *Minimum Design Loads for Buildings and Other Structures*

The text of Section 6.2.2 of ASTM E1996 shall be substituted as follows:

6.2.2 Unless otherwise specified, select the wind zone based on the ultimate design wind speed, V_{ult} , as follows:

6.2.2.1 Wind Zone 1–130 mph \leq ultimate design wind speed, $V_{ult} < 140$ mph.

6.2.2.2 Wind Zone 2–140 mph \leq ultimate design wind speed, $V_{ult} < 150$ mph at greater than 1 mile (1.6 km) from the coastline. The coastline shall be measured from the mean high-water mark.

6.2.2.3 Wind Zone 3–150 mph (58 m/s) \leq ultimate design wind speed, $V_{ult} \leq 170$ mph (76 m/s), or 140 mph (54 m/s) \leq ultimate design wind speed, $V_{ult} \leq 170$ mph (76 m/s) and within 1 mile (1.6 km) of the coastline. The coastline shall be measured from the mean high-water mark.

6.2.2.4 Wind Zone 4–ultimate design wind speed, $V_{ult} > 170$ mph (76 m/s).

**TABLE R301.2.1.2
WINDBORNE DEBRIS PROTECTION FASTENING
SCHEDULE FOR WOOD STRUCTURAL PANELS^{a, b, c, d}**

FASTENER TYPE	FASTENER SPACING (inches) ^{a, b}		
	Panel span \leq 4 feet	4 feet < panel span \leq 6 feet	6 feet < panel span \leq 8 feet
No. 8 wood-screw-based anchor with 2-inch embedment length	16	10	8
No. 10 wood-screw-based anchor with 2-inch embedment length	16	12	9
$\frac{1}{4}$ -inch lag-screw-based anchor with 2-inch embedment length	16	16	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 4.448 N, 1 mile per hour = 0.447 m/s.

- a. This table is based on 180 mph ultimate design wind speeds, V_{ult} , and a 45-foot mean roof height.
- b. Fasteners shall be installed at opposing ends of the wood structural panel. Fasteners shall be located not less than 1 inch from the edge of the panel.
- c. Anchors shall penetrate through the exterior wall covering with an embedment length of not less than 2 inches into the building frame. Fasteners shall be located not less than $2\frac{1}{2}$ inches from the edge of concrete block or concrete.
- d. Panels attached to masonry or masonry/stucco shall be attached using vibration-resistant anchors having an ultimate withdrawal capacity of not less than 1,500 pounds.

R301.2.1.3 Wind speed conversion. Where referenced documents are based on nominal design wind speeds and do not provide the means for conversion between ultimate design wind speeds and nominal design wind speeds, the ultimate design wind speeds, V_{ult} , of Figure R301.2(5)A shall be converted to nominal design wind speeds, V_{asd} , using Table R301.2.1.3.

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD ^o	WIND DESIGN			SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^g	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph)	Topographic effects ^k	Special wind region ^l		Windborne debris zone ^m	Weathering ^a	Frost line depth ^b					
See Bulletin 19-1	N/A	N/A	N/A	N/A	Severe	2'6" SNJ; 3'0" NNJ	Moderate to Heavy	13°F	See Bulletin 07-3	LFLPA	1500 or less	See Note j
MANUAL J DESIGN CRITERIAⁿ (see Table 1a from ACCA Manual J; fill in criteria from the closest municipality)												
Elevation		Latitude	Winter heating	Summer cooling	Altitude correction factor	Indoor design temperature	Design temperature cooling	Heating temperature difference				
Cooling temperature difference		Wind velocity heating	Wind velocity cooling	Coincident wet bulb	Daily range	Winter humidity	Summer humidity					

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

N/A = Not applicable.

- a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(4). The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.
- b. New Jersey is divided into two zones: SNJ consists of Monmouth and Burlington Counties and all counties to the south; NNJ consists of Mercer and Middlesex Counties and all counties to the north. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 1/2-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official. [Also see Figure R301.2(1).]
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. See the local floodplain administrator (LFLPA). The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)".
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)".
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(5)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.
- o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R301.2(6).

tem in accordance with Section P2904 shall not be greater than one-half of the floor area of the room, provided that the mezzanine meets all of the following requirements:

1. Except for enclosed closets and bathrooms, the mezzanine is open to the room in which such mezzanine is located.
2. The opening to the room is unobstructed except for walls not more than 42 inches (1067 mm) in height, columns and posts.
3. The exceptions to Section R325.5 are not applied.

R325.4 Means of egress. The means of egress for mezzanines shall comply with the applicable provisions of Section R311.

R325.5 Openness. Mezzanines shall be open and unobstructed to the room in which they are located except for walls not more than 36 inches (914 mm) in height, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which they are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the mezzanine area.
2. In buildings that are not more than two stories above *grade plane* and equipped throughout with an automatic sprinkler system in accordance with Section R313, a mezzanine shall not be required to be open to the room in which the mezzanine is located.

R325.6 Habitable attic. Deleted.

**SECTION R326
SWIMMING POOLS, SPAS AND HOT TUBS**

R326.1 General. The design and construction of pools and spas and enclosures shall comply with the *International Swimming Pool and Spa Code*. Amendments to the ISPSC shall be as follows:

1. Chapter 1, Scope and Administration, shall be deleted in its entirety and “See the administrative provisions of *N.J.A.C. 5:23*.” shall be inserted. In addition, any referenced section of Chapter 1 shall be deleted throughout the code and “the administrative provisions of the Uniform Construction Code (*N.J.A.C. 5:23*)” shall be inserted.
2. Chapter 2, Definitions, shall be amended as follows:
 - 2.1. In Section 201.3, Terms defined in other codes, “*International Plumbing Code*” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
 - 2.2. In Section 202, Definitions:
 - 2.2.1. The definition of “alteration” shall be deleted.
 - 2.2.2. The definition of “code official” shall be deleted and the following shall be inserted: “Construction Official. A qualified person appointed by the

municipal appointing authority or the commissioner pursuant to the act and the regulations to enforce and administer the regulations within the jurisdiction of the enforcing agency.”

- 2.2.3. The definition of “existing pool or spa” shall be deleted.
- 2.2.4. The definition of “owner” shall be deleted and the following shall be inserted: “Owner. The owner or owners in fee of the property of a lesser estate therein, a mortgagee or vendee in possession, an assignee of rents, receiver, executor, trustee, lessee or any other person, firm or corporation, directly or indirectly in control of a building, structure or real property, and shall include any subdivision thereof of the State.”
- 2.2.5. The definitions of “permit” and “repair” shall be deleted.

3. Chapter 3, General Compliance, shall be amended as follows:

- 3.1. In Section 302.1, Electrical, “or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted.
- 3.2. In Section 302.2, Water service drainage, “*International Plumbing Code*” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
- 3.3. In Sections 302.5, Backflow prevention, and 302.6, Waste-water discharge, “*International Plumbing Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
- 3.4. Section 305, Barrier requirements, shall be amended as follows:
 - 3.4.1. In Section 305.1, General, in the second sentence, “and swimming pools are equipped with a powered safety cover that complies with ASTM F1346” shall be deleted. Also in the second sentence, “, hot tubs or pools” shall be replaced with “or hot tubs.”
 - 3.4.2. Section 305.4, Structure wall as a barrier, shall be deleted.
 - 3.4.3. In Section 305.5, On ground residential pool structure as a barrier, in Item 3, “capable of being secured, locked or removed to prevent access except where the ladder or steps are” shall be deleted.

- 3.5. In Section 306.1, General, “in accordance with Section 102.7” shall be deleted.
- 3.6. Sections 306.3, Step risers and treads, and 306.4, Deck steps handrail required, shall be deleted.
- 3.7. In Section 306.9.1, Hose bibbs, “*International Plumbing Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
- 3.8. In Sections 307.1.1, Glazing in hazardous locations, 307.2.2, Materials and structural design, 307.1.3, Roofs or canopies, 316.4, Installation, and 316.6.1, Installation, “in accordance with Section 102.7.1” shall be deleted.
- 3.9. In Section 318.2, Protection of potable water supply, “*International Residential Code* or the *International Plumbing Code* or, as applicable in accordance with Section 102.7.1” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
- 3.10. In Section 321.4, Residential pool and deck illumination, “or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted.
4. Chapter 4, Public swimming pools, shall be amended as follows:
- 4.1. In Section 410.1, Dressing and sanitary facilities, “*International Plumbing Code*” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
5. Amendments to Chapter 6, Aquatic recreation facilities, shall be amended as follows:
- 5.1. In Section 601.1, Scope, the following sentence shall be added to the end of the paragraph, “For purposes of enforcement, Class D-2 and Class D-6 public pools shall be regulated by this chapter and *N.J.A.C. 5:23*; all other Class D public pools shall be regulated by *N.J.A.C. 5:14A*.”
- 5.2. In Section 609.1, General, “Section 609.2 through 609.9” shall be deleted and “the plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
- 5.3. Sections 609.2, Number of fixtures, 609.3, Showers, 609.4, Soap dispensers, 609.5, Toilet tissue holder, 609.6, Lavatory mirror, 609.7, Sanitary napkin receptacles, 609.8, Sanitary napkin dispensers, and 609.9, Infant Care, shall be deleted.

SECTION R327 STATIONARY STORAGE BATTERY SYSTEMS

R327.1 General. *Stationary storage battery system* shall comply with the provisions of this section.

R327.2 Equipment listings. *Stationary storage battery systems* shall be *listed* and *labeled* for residential use in accordance with UL 9540.

Exceptions:

1. Where *approved*, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached sheds located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.
2. *Battery systems* that are an integral part of an electric vehicle are allowed provided that the installation complies with Section 625.48 of NFPA 70.
3. Battery systems less than 1 kWh (3.6 megajoules).

R327.3 Installation. *Stationary storage battery systems* shall be installed in accordance with the manufacturer’s instructions and their *listing*, if applicable, and shall not be installed within the habitable space of a dwelling unit.

R327.4 Electrical installation. *Stationary storage battery systems* shall be installed in accordance with NFPA 70. Inverters shall be *listed* and *labeled* in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters listed for utility interaction.

R327.5 Ventilation. Indoor installations of *stationary storage battery systems* that include batteries that produce hydrogen or other flammable gases during charging shall be provided with ventilation in accordance with Section M1307.4.

R327.6 Protection from impact. *Stationary storage battery systems* installed in a location subject to vehicle damage shall be protected by approved barriers.