



# Building Standards and Codes

New York State  
Department of State  
Division of Building  
Standards and Codes  
One Commerce Plaza  
99 Washington Avenue, Suite 1160  
Albany, NY 12231-0001  
(518) 474-4073  
Fax: (518) 474-5788  
www.dos.ny.gov

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## TECHNICAL BULLETIN

<b>Code Effective Date:</b>	<b>October 31, 2017<sup>1</sup></b>
<b>Source Document:</b>	<b>19NYCRR 1210 – Manufactured Housing<sup>2</sup> 19NYCRR 1220 – Residential Construction<sup>3</sup> 24 CFR Part 3285 – Model Manufactured Home Installation Standards<sup>4</sup></b>
<b>Topic:</b>	<b>Foundation Systems for Manufactured Housing Installations</b>

This document is intended to assist the code users with the requirements applicable to foundation systems for Manufactured Homes.

“Manufactured home” means “a structure, transportable in one or more sections, which, in the traveling mode, is eight body feet or more in width or forty body feet or more in length, or, when erected on site, is three hundred twenty or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained therein. The term shall include any structure that meets all of the requirements of this subdivision except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the United States secretary of housing and urban development and complies with the standards established under Title 42 of the United States code; and except that such term shall not include any self-propelled recreational vehicle.” See Executive Law §601(7); 10 NYCRR §1210.2(ad)(6).

The scope of this document is limited to Manufactured Homes which are not located in flood hazard areas as established by Table R301.2(1) of the 2015 International Residential Code (2015 IRC), as amended by the 2017 Uniform Code Supplement (the Supplement). When a manufactured home is proposed for installation within a flood hazard area, the installation must comply with Section R322 of the 2015 IRC.

### Approved Foundation Systems

Foundations for manufactured home installations are subject to Appendix E of the 2015 IRC titled “*Manufactured Housing Used as Dwellings*”, which is amended in its entirety by the Supplement. Section AE401.1 requires the installation of a manufactured home “on a foundation system designed and constructed to” comply with the Uniform Code, “and the installation instructions provided by the manufacturer.” The U.S. Department of Housing and Urban Development (HUD) standards requires that the manufacturer’s installation instructions, as approved by the manufacturer’s Design Approval Primary Inspection Agency (DAPIA), be provided with each new manufactured home.

<sup>1</sup> The “Code Effective Date” for this Technical Bulletin is October 31, 2017, which is the effective date of the current version of the New York State Uniform Fire Prevention and Building Code (the Uniform Code).

<sup>2</sup> Part 1210 of Title 19 of the New York Codes Rules and Regulations (NYCRR) implements the provisions of Article 21-B of the Executive Law.

<sup>3</sup> The 2015 International Residential Code (2015 IRC) is a publication incorporated by reference in 19 NYCRR Part 1220. The 2017 Uniform Code Supplement is a publication incorporated by reference in 19 NYCRR Parts 1219 through 1228. The 2015 IRC, as amended by the 2017 Uniform Code Supplement, is part of the Uniform Code.

<sup>4</sup> U.S. Department of Housing and Urban Development 24 Code of Federal Regulations Title 24 Subtitle B, Chapter XX, Part 3285. The document published in 2008 with 2016 updates is incorporated by reference in Chapter 10 of the 2017 Uniform Code Supplement.

These installation instructions include specific foundation system designs for the manufactured home and are typically included in the consumer manual provided. Installing manufactured homes on foundation systems included in the installation instructions ensures the homes will be supported and anchored to meet or exceed the design loads required by the HUD standards.

Section AE402.3 of the Supplement requires that the footings and foundations for manufactured homes “*extend below the frost line as specified on Table R301.2(1).*”

### **The Use of Shallow Foundation Systems**

There is an exception to Section AE402.3 of the Supplement for foundation systems protected from the effects of frost as designed by “*a registered design professional in accordance with the design requirements of the Manufactured Home Standards and the*” Uniform Code. Several manufacturers have DAPIA-approved shallow foundation system designs included in the installation instructions, as an addendum to installation instructions, or readily available upon request. These foundation systems are acceptable for use within the conditions specified in the design. It is the responsibility of the certified installer to obtain and provide such foundation designs to the Code Enforcement Official (CEO) prior to their installation, per Section 3285.2(c) of 24 CFR Part 3285.

When a shallow foundation system designed by a registered design professional is to be used, Section AE402.3 requires the approval of both the manufacturer’s DAPIA and the CEO prior to the issuance of a building permit. This is because deviations from the installation instructions may inadvertently make manufactured homes noncompliant with the HUD standard to which they were constructed. All manufacturer’s installation instructions are required to include an explanation of how manufactured home installers must handle variations from those instructions, including foundation systems designed by registered design professionals.

### **Alternate Foundation Systems**

Section AE 402.4 of the Supplement states that:

*When a design is provided that is an alternative to the installation instructions provided by the manufacturer, such design shall be in accordance with the applicable structural provisions of this code and shall be designed to minimize differential settlement. Where a design is not provided, the minimum foundation requirements shall be as set forth in this code.*

*Any alternative foundation shall be designed and constructed to conform to the applicable provisions of the “Model Manufactured Home Installation Standards” (24 CFR 3285)*

Section 3285.301(a) of 24 CFR 3285, requires foundations to “*be designed and constructed in accordance with this subpart and must be based on site conditions.*” The New York Department of State, Division of Building Standards and Codes (the Division) considers “site conditions” to include all the applicable provisions of the Uniform Code, including the air freezing index, positive site drainage requirements, and soil type identification.

The Division recently became aware that DAPIA -approved alternative foundation designs incorrectly referencing the 2010 Uniform Code of New York State are being provided to installers and CEO’s for use in manufactured housing installations. Both sets of regulations: 24 CFR 3285 and Appendix AE of the 2017 Supplement, require that all NY-specific DAPIA-approved designs intended to remain part of a manufacturer’s installation manual be modified to reflect the local conditions, as specified by the current Uniform Code in effect at the time a building permit application is submitted.

### **Summary**

Manufactured homes must be placed on foundations that comply with the current version of the Uniform Code, as well as the specific foundation system design requirements included in the manufacturer’s installation instructions manual(s). While the code requires the footings and foundation systems to extend below the frost line, there is an exception for foundation systems protected from the effects of frost designed by registered design professionals. Variations from the foundation system designs found in the installation instructions – such as a foundation system protected from the effects of frost designed by registered design professional – require the approval of the home manufacturer and their DAPIA. Shallow foundation systems are acceptable when:

- Included in the installation instructions,
- Offered by the manufacturer and approved by their DAPIA, or

- Designed by a registered design professional and approved by the manufacturer and their DAPIA

Be reminded that the installation standards contained in 24 CFR 3285 are in addition to, and not in lieu of, the Uniform Code requirements. Accordingly, any installation design must meet or exceed not only the federal standard but also the 2015 IRC as amended by the 2017 Uniform Code Supplement.

### **Definitions**

[24 CFR Part 3285] **Design Approval Primary Inspection Agency (DAPIA).** A state or private organization that has been accepted by the Secretary in accordance with the requirements of Part 3282, Subpart H of this chapter, which evaluates and approves or disapproves manufactured home designs and quality control procedures.

[24 CFR Part 3285] **Foundation system.** A system of support that is capable of transferring all design loads to the ground, including elements of the support system, as defined in this section, or a site-built permanent foundation that meets the requirements of 24 CFR 3282.12.

[24 CFR Part 3285] **Installation instructions.** DAPIA-approved instructions provided by the home manufacturer that accompany each new manufactured home and detail the home manufacturer requirements for support and anchoring systems, and other work completed at the installation site to comply with these Model Installation Standards and the Manufactured Home Construction and Safety Standards in 24 CFR part 3280.

[24 CFR Part 3285] **Support system.** Pilings, columns, footings, piers, foundation walls, shims, and any combination thereof that, when properly installed, support the manufactured home.

**John R. Addario, PE, Director  
Division of Building Standards and Codes**