

**Building Mounted Photovoltaic Systems,
One-and-Two Family Dwellings and
Townhomes****Topsham Code Enforcement Office**

This Tip Sheet reflects code requirements of the 2015 International Residential Code (IRC)

Solar electrical systems installed in private homes generate power that helps offset a portion of power supplied by the utility company, Photo-Voltaic (PV) solar panels are a way to generate power. This tip sheet provides information on the requirements for installing PV systems in single- family homes, two-family homes, and townhomes as defined by the IRC.

2015 INTERNATIONAL RESIDENTIAL CODE R324, R907, R909**SECTION 324
SOLAR ENERGY SYSTEMS****R324.1 General.**

Solar energy systems shall comply with the provisions of this section.

R324.2 Solar thermal systems.

Solar thermal systems shall be designed and installed in accordance with [Chapter 23](#) and the International Fire Code

R324.3 Photovoltaic systems.

Photovoltaic systems shall be designed and installed in accordance with [Sections R324.3.1](#) through [R324.6.1](#) and [NFPA 70](#). Inverters shall be *listed* and *labeled* in accordance with [UL 1741](#). Systems connected to the utility grid shall use inverters listed for utility interaction.

R324.3.1 Equipment listings.

Photovoltaic panels and modules shall be listed and labeled in accordance with [UL 1703](#).

R324.4 Rooftop-mounted photovoltaic systems.

Rooftop-mounted photovoltaic panel systems installed on or above the roof covering shall be designed and installed in accordance with [Section R909](#).

R324.4.1 Roof live load.

Roof structures that provide support for photovoltaic panel systems shall be designed for applicable roof live load. The design of roof structures need not include roof live load in the areas covered by photovoltaic panel systems. Portions of roof structures not covered by photovoltaic panels shall be designed for roof live load. Roof structures that provide support for photovoltaic panel systems shall be designed for live load, L_R , for the load case where the photovoltaic panel system is not present.

R324.5 Building-integrated photovoltaic systems.

Building-integrated photovoltaic systems that serve as roof coverings shall be designed and installed in accordance with [Section R905](#).

R324.5.1 Photovoltaic shingles.

Photovoltaic shingles shall comply with [Section R905.16](#).

R324.6 Ground-mounted photovoltaic systems.

Ground-mounted photovoltaic systems shall be designed and installed in accordance with [Section R301](#).

R324.6.1 Fire separation distances.

Ground-mounted photovoltaic systems shall be subject to the *fire separation distance* requirements determined by the local *jurisdiction*.

SECTION R907

ROOFTOP-MOUNTED PHOTOVOLTAIC SYSTEMS

R907.1 Rooftop-mounted photovoltaic systems.

Rooftop-mounted photovoltaic panels or modules shall be installed in accordance with this section, [Section R324](#) and [NFPA 70](#).

R907.2 Wind resistance.

Rooftop-mounted photovoltaic panel or modules systems shall be installed to resist the component and cladding loads specified in [Table R301.2\(2\)](#), adjusted for height and exposure in accordance with [Table R301.2\(3\)](#).

R907.3 Fire classification.

Rooftop-mounted photovoltaic panels or modules shall have the same fire classification as the roof assembly required in [Section R902](#).

R907.4 Installation.

Rooftop-mounted photovoltaic panels or modules shall be installed in accordance with the manufacturer's instructions.

R907.5 Photovoltaic panels and modules.

Rooftop-mounted photovoltaic panels and modules shall be listed and labeled in accordance with [UL 1703](#) and shall be installed in accordance with the manufacturer's printed instructions.

SECTION R909

ROOFTOP-MOUNTED PHOTOVOLTAIC PANEL SYSTEMS

R909.1 General.

The installation of photovoltaic panel systems that are mounted on or above the roof covering shall comply with this section, [Section R324](#) and [NFPA 70](#).

R909.2 Structural requirements.

Rooftop-mounted photovoltaic panel systems shall be designed to structurally support the system and withstand applicable gravity loads in accordance with [Chapter 3](#). The roof upon which these systems are installed shall be designed and constructed to support the loads imposed by such systems in accordance with [Chapter 8](#).

R909.3 Installation.

Rooftop-mounted photovoltaic systems shall be installed in accordance with the manufacturer's instructions. Roof penetrations shall be flashed and sealed in accordance with this chapter

2017 NATIONAL ELECTRICAL CODE NFPA-70

NFPA-70 edition 2017 article 690: Subject to 690.4-C, a Photovoltaic System may only be installed by a person who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved.

GENERAL INFORMATION:

- The intent of this Tip Sheet is to provide a general understanding of the code requirements and does not address the subject in great detail.
- Additional information can be obtained from your local participating jurisdiction.