



Building Safety Division
307 S. Randolph St.
Champaign, IL 61820
Phone: 217-403-6100
Fax: 217-403-6114

Office Hours:
7:30 – 8:30 A.M.
3:30 - 4:30 P.M

www.champaignil.gov

Solar Energy Systems Information

2015 International Residential Code & 2015 International Fire Code

Building Inspectors: Charles Montgomery -- 403-6115

Patrick Bolger -- 403-6107

PLAN SUBMITTAL:

- Please provide all manufacture's information for photovoltaic panels
- Please provide a roof drawing showing panel location, panel mounting, access paths, roof access points, and all dimensions.
- Please provide the information for the following roof design loads: Rafters follow Table R802.5.1(1), Rafter Spans for Common Species under the 20 psf dead load column. Trusses shall be designed to 20 psf dead load from the truss manufacturer. If not able to provide during a plan review, a licensed design professional is required.
- Please provide design loads, roof framing, roof sheathing thickness, and layers of shingles.
- Will comply with Chapter 23 Solar Thermal Energy Systems if it pertains to your project.

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. Roof-top 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*.

R324.7 Access and pathways. Roof access, pathways and spacing requirements shall be provided in accordance with Sections R324.7.1 through R324.7.2.5.

Exceptions:

1. Detached garages and accessory structures to one-and two-family dwellings and townhouses, such as parking shade structures, carports, solar trellises and similar structures.

2. Roof access, pathways and spacing requirements need to be provided where an alternative ventilation method approved by the code official has been provided or where the code official has determined that vertical ventilation techniques will not be employed.

R324.7.1 Roof access points. Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs.

R324.7.2 Solar photovoltaic systems. Solar photovoltaic systems shall comply with Sections R324.7.2.1 through R324.7.2.5.

R324.7.2.1 Size of solar photovoltaic array. Each photovoltaic array shall be limited to 150 feet by 150 feet. Multiple arrays shall be separated by a clear access pathway not less than 3 feet in width.

T324.7.2.2 Hip roof layouts. Panels and modules installed on dwellings with hip roof layouts shall be located in a manner that provides a clear access pathway not less than 3 feet in width from the eave to the ridge on each roof slope where panels and modules are located. The access pathway shall be located at structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Exception: These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal and less.

R324.7.2.3 Single ridge roofs. Panel and modules installed on dwellings with a single ridge shall be located in a manner that provides two, 3-foot-wide access pathways from the eave to the ridge on each roof slope where panels or modules are located.

Exception: This requirement shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal and less.

R324.7.2.4 Roofs with hips and valleys. Panels and modules installed on dwellings with roof hips and valleys shall not be located less than 18 inches from hip and valley where panels or modules are to be placed on both sides of a hip or valley. Where panels are to be located on one side only of hip or valley that is of equal length, the 18-inch clearance does not apply.

Exception: These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal and less.

R324.7.2.5 Allowance for smoke ventilation operations. Panels and modules installed on dwellings shall not be located less than 3 feet below the roof ridge to allow for fire department smoke ventilation operations.

Exception: Where an alternative ventilation method approved by the code official has been provided or where code official has determined that vertical ventilation techniques will not be employed, clearance from the roof ridge is not required.

Note: Revisions on plan resubmittals should be highlighted or clouded so that the changes are readily found during the plan review process. The items listed above do not comprise an exhaustive list. The presence of the information listed above (when applicable) will expedite plan review and issuance of permits.

Thank you for your cooperation. If there are any questions, or if we can be of assistance, please feel free to contact us.