



A Guide to Residential Rooftop Photovoltaic Panel Systems

This handout is designed to provide guidance when applying for a residential rooftop installation of Photovoltaic (PV) Panels on a dwelling, garage, shop, or any other residential structure. It is not intended to address all aspects or requirements for a project and should serve as a starting point for your project.

General Information

1. The PV system shall be designed and installed in accordance with the [2021 IRC, Section R324 as amended by Washington State](#), the NFPA 70, UL 1741 and the [International Fire Code, Section 1205](#).
2. The PV system shall be designed for the wind speed of the local area and installed per the manufacturer's installation specifications.
3. Supports for solar panels shall spread the dead load across as many roof-framing members as needed to ensure that no point loads greater than 50 lbs. are created.
4. Panels shall be mounted no higher than 18" above the surface of the roofing they are affixed to.
5. Solar panels may not cover existing plumbing vents without review and approval by Skamania County. A plumbing alteration permit may be necessary.
6. A minimum 36" unobstructed pathway from roof edge to ridge shall be provided in accordance with [IFC 1205.2.1.1](#).
7. For PV arrays occupying 33% **or less** of the total roof area, a setback of not less than 18" wide is required on both sides of a horizontal ridge. For PV arrays occupying **more than** 33% of the total roof area, a setback of not less than 36" wide is required on both sides of a horizontal ridge.
8. Buildings with rapid shutdown solar photovoltaic systems shall have permanent labels in accordance with [IFC Section 1205.4.1](#).
9. Panels and modules installed on dwellings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway not less than 36" wide shall be provided to the emergency escape and rescue opening.

Permits Required

A building permit is required through Skamania County and a separate electrical permit is required from [Washington State Department of Labor and Industries](#).

Submittal Requirements

To process your building permit application, the following information must be submitted:

1. Apply online through [Cloud Permit](#).
2. Construction Plans shall include:
 - a. Roof PV panel layout with solar AC disconnect panel shown and applicable details all dimensioned and drawn to scale.
 - b. Information showing the total dead load of panels, supports, mountings, raceways, and all other accessories weigh no more than 3lbs. per square foot and no point loads greater than 50lbs are created.
 - c. Manufactures specifications and listing information for all photovoltaic panels and for attachment and racking of all mounting hardware shall be provided.
 - d. PV systems connected to the utility grid shall use inverters listed for utility interaction, manufactures specifications and listing information will be required.
 - e. Installation procedures with details demonstrating protection from moisture intrusion and a positive connection to the roof of the structure.

When is Engineering Required?

- The deadload of the system exceeds 3lbs. per square foot or a point load greater than 50 lbs. is created.