STURBRIDGE FIRE DEPARTMENT

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Massachusetts 527 CMR 1.00 Chapter 11.12 Photovoltaic Systems Applicable Code Requirements

Electrical portions of photovoltaic systems shall be designed and installed in accordance with NFPA 70. 11.12.1.2

Roof-Mounted Photovoltaic System Installations

Installer Information

A label is installed adjacent to the main disconnect with the name and emergency telephone number of the company currently servicing the PV system. 11.12.2.1.5

One- And Two-Family Dwellings and Townhouses

Designation of ridges shall not apply to roofs with 2 in 12 or less pitch (provide roof pitch, if available). 11.12.3.2.2

Access Pathways

Not less than two (2) 36 in. wide access pathways on separate roof planes, from gutter to ridge, shall be provided on all buildings. 11.12.3.2.3.1

One access pathway shall be provided on the street or driveway side of the roof. 11.12.3.2.3.2

For each roof plane with a PV array, a 36 in. wide access pathway from gutter to ridge shall be provided on the same roof plane as the PV array, on an adjacent roof plane, or straddling the same and adjacent roof planes. 11.12.3.2.3.3

Access pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment. 11.12.3.2.3.4

Setbacks at Ridge

PV arrays occupying up to 33 percent of roof area need an 18 in. minimum setback shall on either side of a horizontal ridge. 11.12.3.2.4.1

PV arrays occupying more than 33 percent of the roof area need a 36 in. minimum setback on either side of a horizontal ridge. 11.12.3.2.4.2

One- and two-family dwellings with automatic sprinkler systems- PV arrays occupying up to 66 percent of the roof need an 18 in. minimum setback 11.12.3.2.5.1.

One- and two-family dwellings with automatic sprinkler systems- PV arrays occupying more than 66 percent of the roof need a 36 in. minimum setback 11.12.3.2.5.2

Buildings Other Than One- And Two-Family Dwellings and Townhouses

Roof Access

Where the AHJ determines that the roof configuration is similar to a one- and two-family dwelling or townhouse, the AHJ shall allow the roof access requirements of 11.12.3.2. 11.12.3.3.1.2

Detached, uninhabitable structures, including, but not limited to, parking shade structures, carports, solar trellises, and similar structures, shall not be required to provide roof access. 11.12.3.3.1.3

Perimeter Pathways

A minimum 48 in. wide perimeter pathway shall be provided around the edges of the roof for buildings with a length or width of 250 ft or less along either axis. 11.12.3.3.2.1
A minimum 6 ft wide perimeter pathway shall be provided around the edges of the roof for buildings having length or width greater than 250 ft along either axis. 11.12.3.3.2.2

Access Pathways
Pathways shall be over areas capable of supporting firefighters accessing the roof. 11.12.3.3.3
Pathways shall be provided in a straight line 48 in. or greater in width to all ventilation hatches and roof standpipes. 11.12.3.3.3
Pathways shall be provided 48 in. or greater in width around roof access hatches with at least one 48 in. or greater in width pathway to the parapet or roof edge. 11.12.3.3.3
Pathways shall be provided at intervals no greater than 150 ft throughout the length and width of the roof. 11.12.3.3.3

Smoke Ventilation
A minimum 48 in. wide pathway shall be provided bordering all sides of non-gravity-operated smoke and heat vents and bordering at least one side of gravity-operated smoke and heat vents. 11.12.3.3.4.1
Ventilation options between array sections shall be at least one of the following:
• A pathway 96 in. or greater in width 11.12.3.3.4.2
• A pathway 48 in. or greater in width and bordering on existing roof skylights at intervals no greater than 150 ft throughout the length and width of the roof 11.12.3.3.4.2
• A pathway 48 in. or greater in width and bordering 48 in. by 96 in. with venting cutouts options every 20 ft 11.12.3.3.4.2

Minimizing Obstructions in Pathways
Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment. 11.12.3.3.5

Emergency Escape and Rescue Openings
A minimum 36 in. (914 mm) wide access pathway shall be provided to at least one emergency escape and rescue opening for each sleeping room where rooftop PV systems or BIPV systems installed as the roof covering are installed on a roof plane directly below an emergency escape and rescue opening 11.12.3.4.1
The AHJ shall be permitted to reduce or exempt access pathways at emergency escape and rescue openings for BIPV systems installed as the roof covering when they are listed in accordance with 690.12(B) (2) of NFPA 70. 11.12.3.4.2

Rooftop Access and Ventilation

Access pathways, setbacks, and spacing requirements provide emergency access to the roof, provide pathways to specific areas of the roof, provide areas for smoke ventilation opportunities, and provide egress from the roof. 11.12.3.1.1
The AHJ has the authority to reduce or modify roof access per 11.12.3.1.2, 11.12.3.1.3, nd 690.12 (B)(2) of NFPA 70

Ground-Mounted Photovoltaic System Installations

Clearances

A clear area of 10 ft (3048 mm) around ground-mounted photovoltaic installations shall be provided. 11.12.4.1

Vegetation Management Plan

A vegetation management plan or noncombustible base acceptable to the AHJ shall be approved and maintained under and around the installation where required by the AHJ. 11.12.4.2