



STRUCTURAL CRITERIA CHECKLIST 4A FOR RESIDENTIAL FLUSH-MOUNTED SOLAR ARRAYS

1. ROOF CHECKS

A. Visual Review/Contractor's Site Audit of Existing Conditions:

- 1) Is the roof a single roof without a reroof overlay?
2) Does the roof structure appear structurally sound, without signs of alterations or significant structural deterioration or sagging, as illustrated in Figure 1?

B. Roof Structure Data:

- 1) Measured roof slope (e.g. 6:12):
2) Measured rafter spacing (center-to-center):
3) Type of roof framing (rafter or manufactured truss):
4) Measured rafter size (e.g. 13/4 x 33/4, not 2x4):
5) Measured rafter horizontal span (see Figure 4):
6) Horizontal rafter span per Table 2:
7) Is measured horizontal rafter span less than Table 2 span?

2. SOLAR ARRAY CHECKS

A. Flush-mounted Solar Array:

- 1) Is the plane of the modules (panels) parallel to the plane of the roof?
2) Is there a 2" to 10" gap between underside of module and the roof surface?
3) Modules do not overhang any roof edges (ridges, hips, gable ends, eaves)?

B. Do the modules plus support components weigh no more than: 4 psf for photovoltaic arrays or 5 psf for solar thermal arrays?

C. Does the array cover no more than half of the total roof area (all roof planes)?

D. Are solar support component manufacturer's project-specific completed worksheets, tables with relevant cells circled, or web-based calculator results attached?

E. Is a roof plan of the module and anchor layout attached? (see Figure 2)

F. Downward Load Check (Anchor Layout Check):

- 1) Proposed anchor horizontal spacing (see Figure 2):
2) Horizontal anchor spacing per Table 1:

3) Is proposed anchor horizontal spacing equal to or less than Table 1 spacing?

G. Wind Uplift Check (Anchor Fastener Check):

- 1) Anchor fastener data (see Figure 3):
a. Diameter of lag screw, hanger bolt or self-drilling screw:
b. Embedment depth of rafter:
c. Number of screws per anchor (typically one):
d. Are 5/16" diameter lag screws with 2.5" embedment into the rafter

used, OR does the anchor fastener meet the manufacturer's guidelines?

3. SUMMARY

- A. All items above are checked YES. No additional calculations are required.
B. One or more items are checked NO. Attach project-specific drawings and calculations stamped and signed by a California-licensed civil or structural engineer.

Job Address: Permit #:
Contractor/Installer: License # & Class:
Signature: Date: Phone #:

