July 16, 2013

ANCHOR ENGINEERING, INC.
www.anchoreng.com

Sol Attach, LLC
Attn: Kevin Stapleton
16238 Bear Run
San Antonio, TX 78247

Re: Solar Mounting System for Pitched Rooftops with Sol Attach and Sol Attach Max Roof Mounting System in **Louisiana**

To Whom It May Concern:

Anchor Engineering, Inc. has reviewed the Sol Attach Roof Mounting System for the design assumptions outlined below and we have concluded that the Sol Attach Roof Mounting System is in compliance with the following codes/standards.

1. ASCE 7-05 – Minimum Design Loads for Buildings and Other Structures, by ASCE/SEI, 2005.
2. ASCE 7-10 – Minimum Design Loads for Buildings and Other Structures, by ASCE/SEI, 2010.
3. 2009 IBC, by International Code Council, 2009.
4. 2012 IBC, by International Code Council, 2012.

Design Assumptions:

- Maximum mean roof height of no more than 30'-0" as defined by ASCE 7-10/ASCE 7-05.
- Importance Factor of no more than 1.0 as defined by ASCE 7-10/ASCE 7-05.
- Dry service conditions.
- Array may be located within roof zones 1, 2, or 3.
- Analysis of the mount is based upon the maximum effects of either the largest gravity loads or wind uplift loads. The point loads (either positive or negative) can act in either direction depending upon the type of loading (i.e. wind, snow…etc.).
- Fasteners installed per manufacturer specifications.
- When using the Sol Attach, four PV mounts per PV module such that adjacent modules share two PV mounts.
- When required to use three Sol Attach mounts on each side for a total of six PV mounts per PV module so that adjacent modules share three PV mounts. Mounts must be placed 1'-0" from top and bottom of the module with one mount placed at mid span.
- Use two Sol Attach per side unless noted otherwise (See charts below).
- Snow load = 5 psf.

Product Specifications:

- Aluminum alloy is 6061-T6.
- Kwikseal II Woodbinder Screws. The screws must penetrate the sheathing fully and have a minimum of three threads exposed.

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Roof Pitch: 7-27°				
Wind Speed, (V_{ult})	Wind Speed, (V_{asd})	Exposure	Fastener Req'd per Sol Attach w/ 7/16" OSB	Fastener Req'd per Sol Attach w/ 5/8" PLY.
193 mph ≥ x > 168 mph	150 mph ≥ x > 130 mph	D	(3) Sol Attach Max per side w/ (8) Screws ea.	(6) Screws
168 mph ≥ x > 154 mph	130 mph ≥ x > 120 mph	D	(3) Sol Attach per side w/ (6) screws ea.	(6) Screws
154 mph ≥ x > 142 mph	120 mph ≥ x > 110 mph	D	(8) Screws w/ Sol Attach Max	(4) Screws
142 mph ≥ x	110 mph ≥ x	D	(6) Screws	(4) Screws
193 mph ≥ x > 180 mph	150 mph ≥ x > 140 mph	C	(3) Sol Attach Max per side w/ (8) Screws ea.	(6) Screws
180 mph ≥ x > 168 mph	140 mph ≥ x > 130 mph	C	(8) Screws w/ Sol Attach Max	(6) Screws
168 mph ≥ x > 154 mph	130 mph ≥ x > 120 mph	C	(8) w/ Sol Attach Max	(4) Screws
154 mph ≥ x	120 mph ≥ x	C	(6) Screws	(4) Screws
193 mph ≥ x > 180 mph	150 mph ≥ x > 140 mph	B	(8) Screws w/ Sol Attach Max	(4) Screws
180 mph ≥ x > 142 mph	140 mph ≥ x > 110 mph	B	(6) Screws	(4) Screws
142 mph ≥ x	110 mph ≥ x	B	(4) Screws	(4) Screws

Roof Pitch: 27-45°				
Wind Speed, (V_{ult})	Wind Speed, (V_{asd})	Exposure	Fastener Req'd per Sol Attach w/ 7/16" OSB	Fastener Req'd per Sol Attach w/ 5/8" PLY.
180 mph ≥ x > 168 mph	140 mph ≥ x > 130 mph	D	(6) Screws	(4) Screws
168 mph ≥ x	130 mph ≥ x	D	(4) Screws	(4) Screws
193 mph ≥ x > 180 mph	150 mph ≥ x > 140 mph	C	(6) Screws	(4) Screws
180 mph ≥ x	140 mph ≥ x	C	(4) Screws	(4) Screws
180 mph ≥ x	140 mph ≥ x	B	(4) Screws	(4) Screws

Module Specifications:

- Modules may be installed in landscape or portrait orientation.
- Modules may have a maximum short side dimension of 39.1".
- Modules may have a maximum long side dimension of 77.1".
- Modules may be a maximum of 59.5lb.

Please see attached data sheets for the Sol Attach Roof Mounting System specification sheet.

The Sol Attach Roof Mounting System was evaluated for pull-out resistance of the fasteners and punching shear in the OSB. Review of any building structural element is outside the scope of this letter.

Should questions arise, or if further information is required, please contact our office.

Sincerely,
Anchor Engineering, Inc.

Dustin C. Stallings, E.I.
Design Engineer I

Reviewed by:

STATE OF LOUISIANA
COLLEEN H. MERRILL
License No. 0033836
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1/16/13

Colleen Merrill, P.E.
Reviewing Engineer