



May 31, 2017

Enable Energy
2543 Warren Dr.
Rocklin, CA 95667
TEL: (916) 824-3008

Attn.: Engineering Department

Re: Engineering Certification for the Sustainable Technologies Facet Anchor

Sustainable Technologies Facet Anchor

The Facet Anchor is a 7" diameter Aluminum Die Cast (ADC 10) plate. The plate has sixteen (16) equally spaced holes around the perimeter of the plate for attachment of fasteners to the existing substrate. A 3/8" diameter, 16 threads per inch receiver is oriented vertically at the top of the plate for attachment of racking system components to the Facet Anchor using a 3/8" 16TPI stud, bolt or set screw.

PZSE, Inc. – Structural Engineers has reviewed the Sustainable Technologies Facet Anchor and specifically the Martin Testing Laboratories Facet Anchor Tensile and Shear tests. This letter certifies the Sustainable Technologies Facet Anchor and all information, data and analysis within follows the structural requirements of the following Reference Documents:

1. Minimum Design Loads for Buildings and other Structures, ASCE/SEI 7-05/7-10
2. 2009/2012/2015 International Building Code, by International Code Council, Inc
3. 2010/2013/2016 California Building Code, by the California Building Standards Commission
4. 2010/2015 Aluminum Design Manual, by The Aluminum Association

The Ultimate Load Values based on the above testing and adjusted per the Reference Documents are as follows:

Ultimate Tensile Load = 10,474 lbs

Ultimate Shear Load = 6,167 lbs

Designer Responsibility

The Sustainable Technologies Facet Anchor is intended to be used under the responsible charge of a registered design professional where required by the authority having jurisdiction. In all cases, the Ultimate Values shall be reduced by an appropriate Factor of Safety under the direction of a design professional with sufficient structural engineering knowledge and experience to be able to:

- Evaluate whether the Facet Anchor is applicable to the project, based on the characteristics of the project, and
- Understand and determine the appropriate environmental loading conditions.

The user or design professional in responsible charge assumes full design responsibility.

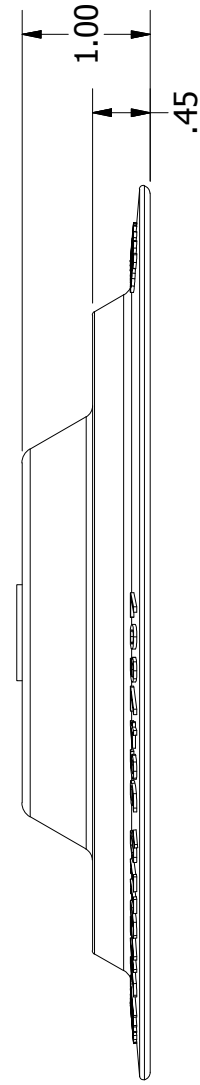
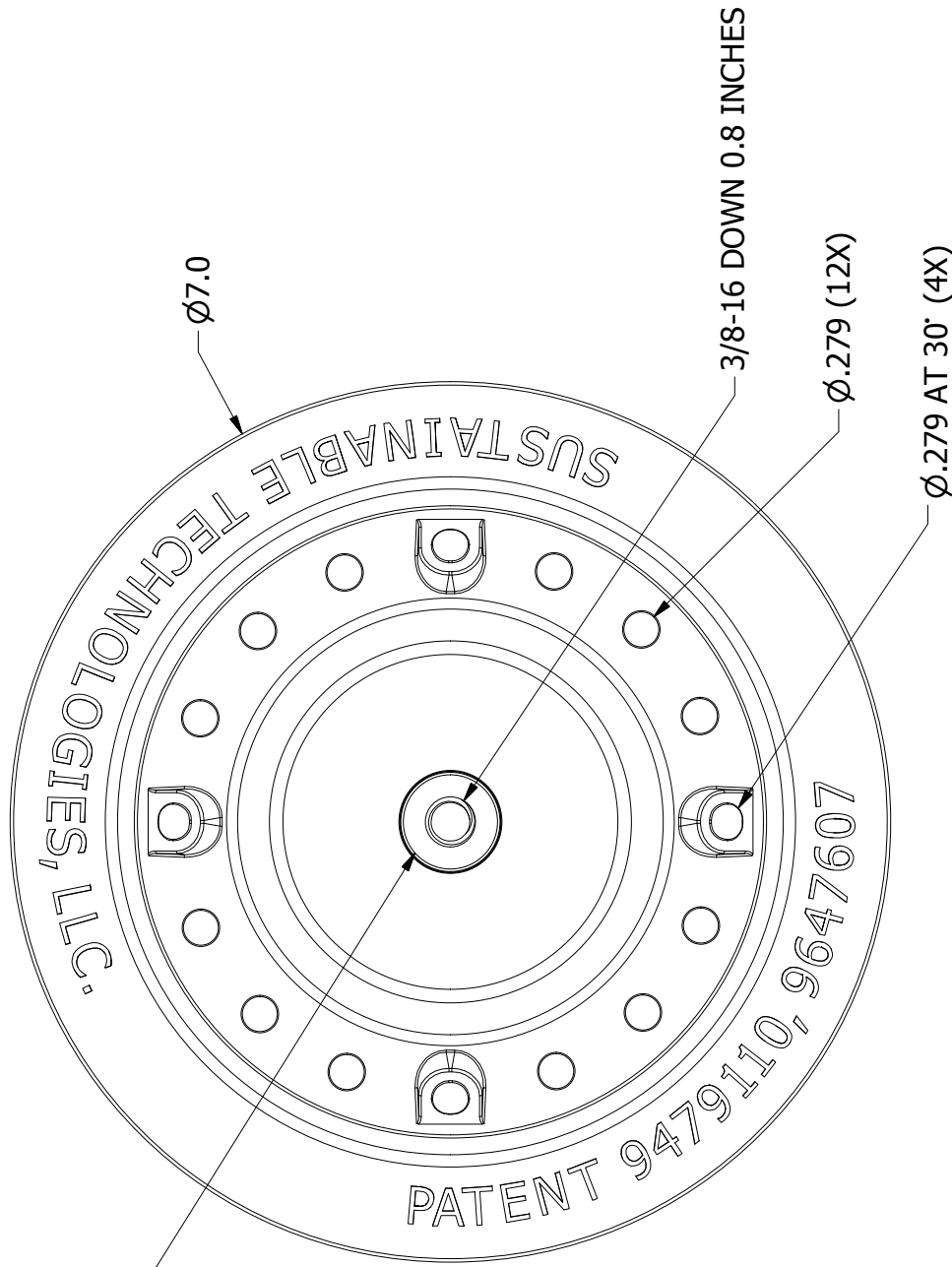



The capacity of the building structure to support the loads imposed on the building by the Facet Anchor including the fasteners, attachment to underlying structure, and the capacity of the underlying members are outside the scope of this certification. This capacity of the building is outside the scope of our review.

If you have any questions on the above, do not hesitate to call.

Prepared By:
PZSE, Inc – Structural Engineers
Roseville, CA





 <p>Sustainable Technologies 2543 Warren Drive, Rocklin, CA 95677 844.717.0194 www.sustainabletechnologiesllc.com</p>	<p>CUT SHEET</p>		<p>MOLDED FACET ASSY</p>	
	<p>REV DATE: 5/23/17</p>	<p>MATERIAL: ADC 10 ALUM.</p>		
<p>PatentS 9479110, 9147607 and Patent Pending</p>		<p>NOT TO SCALE</p>	<p>SHEET 1</p>	<p>OF 1</p>



Sustainable Technologies Facet Anchor

Testing Conducted by Martin Testing Laboratories

Tensile	
Test #	Ultimate Load lbs
1	13,336
2	13,241
3	13,215
4	11,778
5	13,168
6	13,156
7	13,156

Shear	
Test #	Ultimate Load lbs
1	7,506
2	7,661
3	7,221
4	7,432

Average 13007 lbs
Standard Deviation 546 lbs

Average 7455 lbs
Standard Deviation 183 lbs

2015 ADM Appendix 1

Type of Test	# of Tests	Avg. Ult. Load ³ lbs	Std. Deviation lbs	K ¹	Adj. Ult. Load ² lbs
Tensile	7	13,007.22	545.92	4.64	10,473.61
Shear	4	7,455.17	182.91	7.04	6,167.13

1) K is a statistical coefficient based on the number of tests. K values are determined from table 1.3.1 of the 2015 ADM Appendix 1.

2) Avg. Ultimate Load is adjusted per Eq. 1.3-1 of the 2015 ADM Appendix 1

3) Governing failure mechanism is fastener cracking or breaking

Ultimate Tensile Load= 10,474 lbs

Ultimate Shear Load= 6,167 lbs