

# CSA INTERNATIONAL

# SOLAR ENERGY EQUIPMENT

## GLOBAL TESTING AND CERTIFICATION SERVICES

## The Power to Shine

*Inventive solar energy company wins market acceptance with certification by CSA International*

Freely available, sunlight radiates bright promise as a renewable energy source. But converting it into power you can use has typically been a complicated, expensive undertaking.

Applied Solar, Inc. is changing all that. The company's innovative solar products and applications, easy to install and attractively priced, are finding a welcome home at hundreds of residential and commercial projects in North America and beyond.

Using human ingenuity, intense research and painstaking development, San Diego-based Applied Solar is creating next-generation solar products, including Building Integrated Photovoltaic (BIPV) roofing tiles and membranes that make solar power more affordable, convenient and available to anybody who wants it. Recognized for its cutting-edge innovation, Applied Solar has won more than 10 industry awards for design and gained market penetration with seven of the top 10 U.S. home builders.



Crucial to this market acceptance has been product certification by CSA International.

"Before we even start discussions with a potential client, we need to demonstrate that our product has been tested by a third party and complies with relevant safety standards," says Christopher Gopal, Chief Operating Officer, Applied Solar. "You can't just walk into a building department and say you want to put this thing on your roof unless it's been certified by a national recognized testing laboratory."

But as Applied Solar has come to realize, not all testing laboratories are created equal.

*"CSA offered us a completely efficient and transparent process, working with us to develop an appropriate schedule and executing on it"*

**– Chris Frank, Chief Technology Officer, Applied Solar Inc.**

"When we approached other certification organizations we found the wait times were excessive," explains Chris Frank, Applied Solar's Chief Technology Officer. "We simply couldn't afford any delays in getting our BIPV product into the market, so we looked at CSA International."

What won them over to CSA International was a flexible and open schedule, access to an impressive line-up of knowledgeable resources, speedy service and convenience. "With so much on the line for us, we had some trepidations moving forward, but CSA International absolutely came through for us, every step of the way."



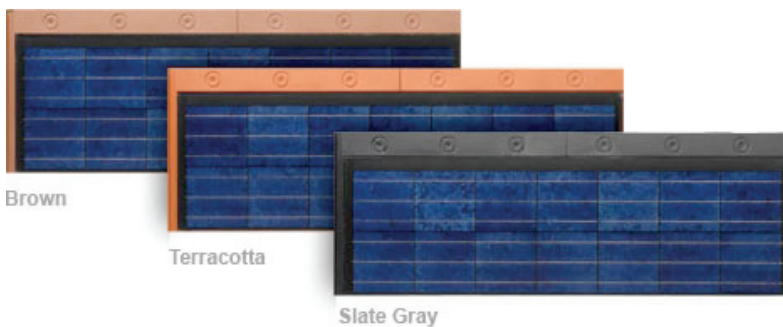
A residential installation of Applied Solar's Building Integrated Photovoltaic (BIPV) roofing tiles.\*

### Certified and credible

In pioneering the new field of solar power, Applied Solar has adopted a push-pull business model. Utilizing a distribution channel through privately held Eagle Roofing Products, one of the largest manufacturers of concrete tiles in North America, gives the company a direct pipeline to market its products to major home builders and roofing contractors. But its prosperity also rests on creating demand and improving understanding of solar products among members of traditional building trades who serve as the installation and service providers.

“Questions always arise about whether the product meets the required standard,” notes Frank. “CSA certification certainly paves the way for us to gain acceptance from customers and inspectors at the time of installation.”

The standard in question, UL 1703 Standard for Flat-Plate Photovoltaic Modules and Panels, calls for test conditions that simulate a generation’s worth of weather within 45 days. CSA International’s engineers put the BIPV tiles through multiple thermal cycles, from -40 degrees C to + 90 degrees Celsius. They also had to verify safety under various humidity levels. All the tests were performed through the CSA International lab in Vancouver, B.C.



Building Integrated Photovoltaic (BIPV) roofing tiles in brown, terracotta and slate gray.\*

### Speed and brain power

The testing process was intricate and had to follow a defined time period – which made it that much more urgent that the rest of the project be handled promptly.

“CSA offered us a completely efficient and transparent process, working with us to develop an appropriate schedule and executing on it,” says Frank.

“Communication was always open and forthcoming, and we rarely waited more than a day for any information we requested.”

\* Pictures courtesy of Applied Solar, Inc.

Applied Solar was especially impressed by the wealth of knowledge they found at CSA International.

“The engineers would point out critical aspects of the standard; if, based on their experience, they thought there may be a pitfall with a design aspect, they would suggest we revisit that to devise a solution,” says Frank. “As a result, we could move smoothly forward, rather than getting a ‘surprise gotcha’ at the end that would reset the timing of the entire project.”

An added convenience was the fact that all this knowledge was so close at hand. “It was a plus to operate in our own time zone,” adds Frank.

### A trusted partner

The positive experience with the BIPV certification has prompted Applied Solar to return to CSA International for testing its tile product, now licensed to an affiliate of Suntech Power Holdings Co., Ltd. for distribution outside of North America. CSA engineers will conduct testing to IEC requirements and then submit reports to a European partner who will issue the certification.

“It’s peace of mind to stick with CSA International to access markets around the world,” adds Frank.

“We have complete confidence in their service – it’s really a partnership that works.”

<b>Industry</b>	Solar energy
<b>Challenge</b>	Win market acceptance for cutting edge product
<b>CSA I Solution</b>	<ul style="list-style-type: none"> <li>• Open and flexible scheduling, carefully monitored</li> <li>• Rigorous testing to UL 1703 Standard</li> <li>• Technical Expertise</li> <li>• Testing to IEC standard and partnership with international certifying agencies</li> </ul>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Faster market entry and acceptance</li> <li>• Expansion of sales and distribution of solar products in North America and beyond</li> </ul>



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