

Tesla to launch solar roofs

Amid planned merger with SolarCity, Tesla founder Musk thinks attractive panels will break open the market

By *Alexander H. Tullo*



For its announcement, Tesla outfitted houses on a set at Universal Studios with new solar roofs.

Credit: Tesla

Tesla makes cars. It makes batteries. Now Tesla wants to sell solar roofs that homeowners can use to charge those cars and batteries.

Tesla Chairman Elon Musk launched the solar shingles recently before a raucous gathering at Universal Studios in Los Angeles. The shingles are a collaboration between Tesla and SolarCity, a solar panel firm that Musk chairs. He has been trying to sell skeptical shareholders on a merger between Tesla and SolarCity.

Musk's main selling point for the new shingles is style. The shingles are solar cells embedded in tempered glass that incorporates a color louver film. From the ground, the shingles are opaque and look like ordinary roofing shingles. But viewed from above, the shingles are

transparent, revealing the photovoltaic electronics inside. “The goal is to have solar roofs that look better than a normal roof,” Musk said.

Tesla will wade into a tough market. **Dow Chemical discontinued production** <http://cen.acs.org/articles/94/i28/Dow-shut-down-solar-shingle.html> of its solar shingles earlier this year. Based on thin-film copper indium gallium selenide, they were less conspicuous, though less efficient, than normal polysilicon photovoltaic panels.

Other than showing off the styles and dropping kettle balls on them to demonstrate how tough they are, Musk disclosed little about the shingles. On cost, Tesla is only saying the system is cheaper than a conventional roof when the elimination of future energy bills is considered.

Tesla also didn't disclose the solar technology underpinning the new photovoltaics. In 2014, SolarCity bought Silevo, which was developing cells incorporating a tunneling oxide layer, thin film passivation, and an n-type crystalline substrate. And Tesla recently agreed to collaborate on solar cells with Panasonic, which offers cells with a crystalline silicon substrate and amorphous silicon layers.

Critics point out that the shingles announcement came suspiciously close to the Nov. 17 shareholder vote for the merger between Tesla and SolarCity. On Seekingalpha.com, Enertuition, an anonymous blogger who calls himself a semiconductor veteran and consultant, predicted the new shingles will be a “complete dud” for technical reasons such as the effects the louver films may have on performance.

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