

## THIN, FLEXIBLE SOLAR PANELING



There's no doubt solar energy is a compelling alternative to fossil fuels, but implementing it has traditionally meant installing the standard, costly and ungainly solar panel. SRS Energy's **dual-purpose roof tiles** offer one way to get around that requirement; now another comes in the form of thin, flexible solar sheets that can be integrated with architectural building materials. Iowa-based **PowerFilm** makes low-cost foldable and rollable solar panels in which the solar technology is monolithically integrated in a polyimide substrate that's flexible and durable, yet as thin as 0.025mm. With an absorber layer made of amorphous silicon, PowerFilm solar panels use as little as 1 percent of the amount of silicon used in traditional solar panels; they're also cadmium-free. Since 2005 the company has been using its technology to manufacture solar field shelter tarps for military applications, and now it's developed the ability to combine it with standard building materials as well. Standing seam metal roofing, single-ply elastomeric membrane roofing and architectural fabric can all be combined with PowerFilm's flexible paneling for a variety of low-cost, building-integrated solar applications. In such uses, the electricity generated by the solar panels is stored in local batteries and converted to 110 AC for general wall outlet use or—in some cases—used directly for low-voltage lighting systems. The buildings can be either off-grid or grid-connected. PowerFilm recently completed a 10-kilowatt demonstration and evaluation project on metal roofing, and is now in the final stages of developing the technology. PowerFilm also makes a variety of portable solar chargers—one of which won second place in the Mobile CE Fashion & Lifestyle Products competition at CTIA Wireless 2009—and it manufactures for OEM and custom orders as well. The lightweight and durable nature of its thin paneling, meanwhile, seems eminently suitable for use in the developing world. One to get in on early for the application of your choice...? Spotted by: Katherine Noyes

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