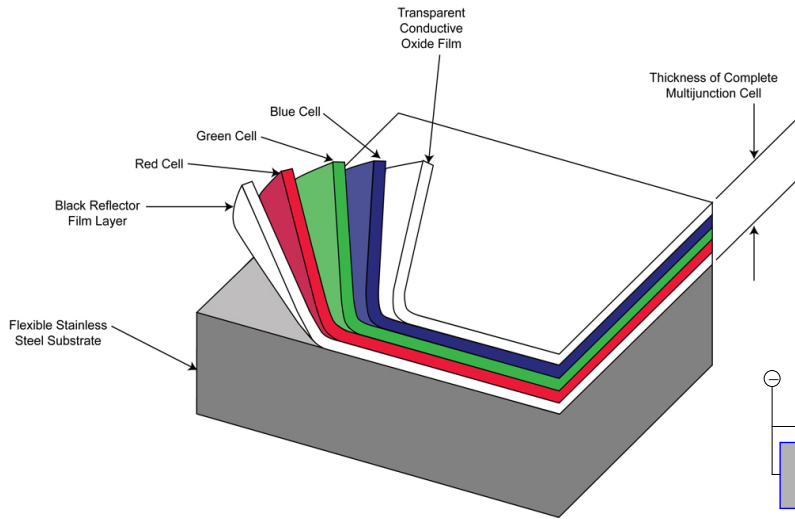
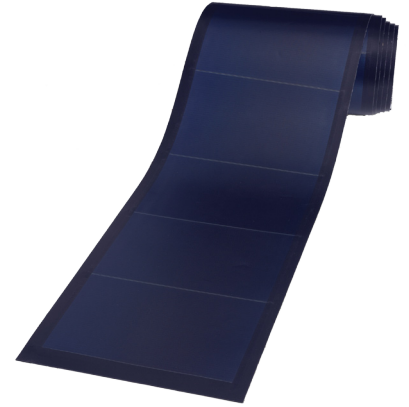


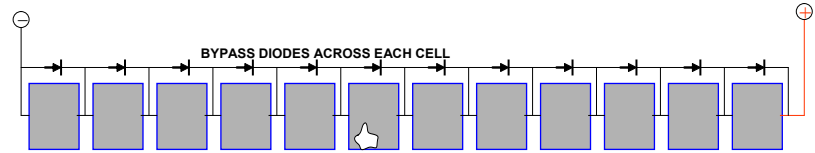
In the solar business today, system purchases are made on a dollar-per-watt or Euro-per-watt basis. But, the return on investment (ROI) or payback period is determined by the amount of electricity, in kWh, the system produces. Third party testing, in real world conditions, shows that UNI-SOLAR produces more energy for your purchased watt, and, therefore, provides the best return on investment.

This third party testing, conducted over a number of years, shows the long-term reliability and performance of the UNI-SOLAR product. This type of proof is something no other flexible thin-film manufacturer can provide.



Each UNI-SOLAR® laminate utilizes the unique Triple-Junction thin-film silicon solar cells, where the blue, green and red light of the sun is absorbed in different layers of the cell. This technology results in better performance in low and diffuse light conditions.

By-pass diodes are connected across each cell, allowing the modules to produce power even when partially shaded or soiled.



UNI-SOLAR PV MODULE CELL CONNECTIONS

Shade/Soil any one cell = Output loss of <4.5% (22-cell Laminate)
 Area of shade/soiling required to cover one cell = 9" x 14" (126 sq in)

Figure 1. Triple-Junction Technology

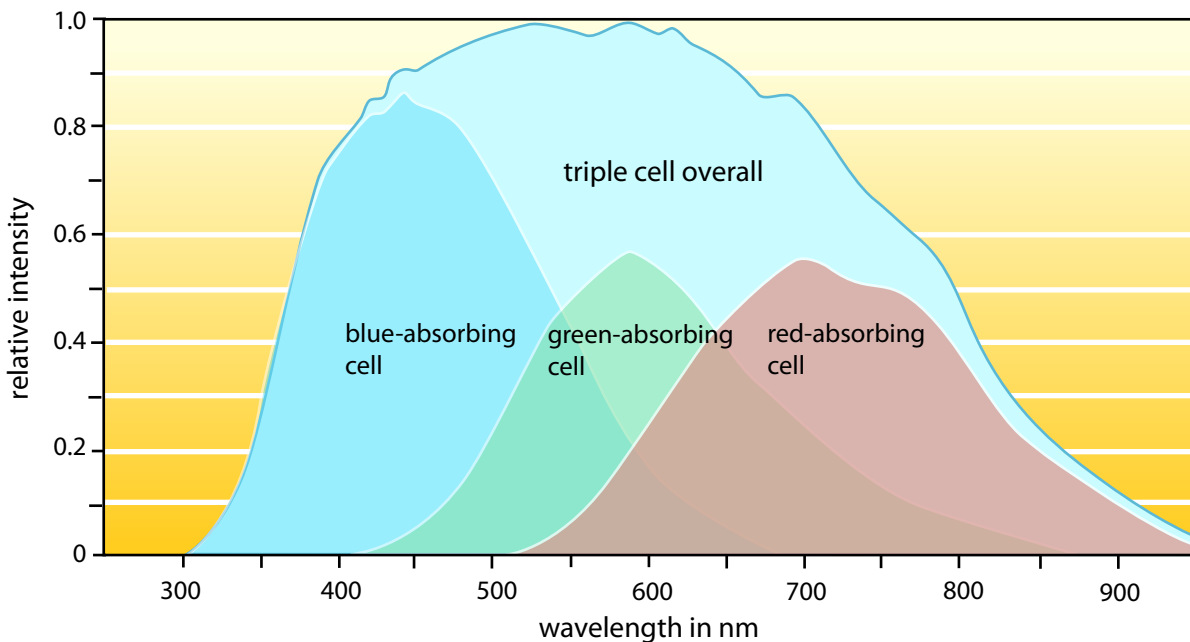
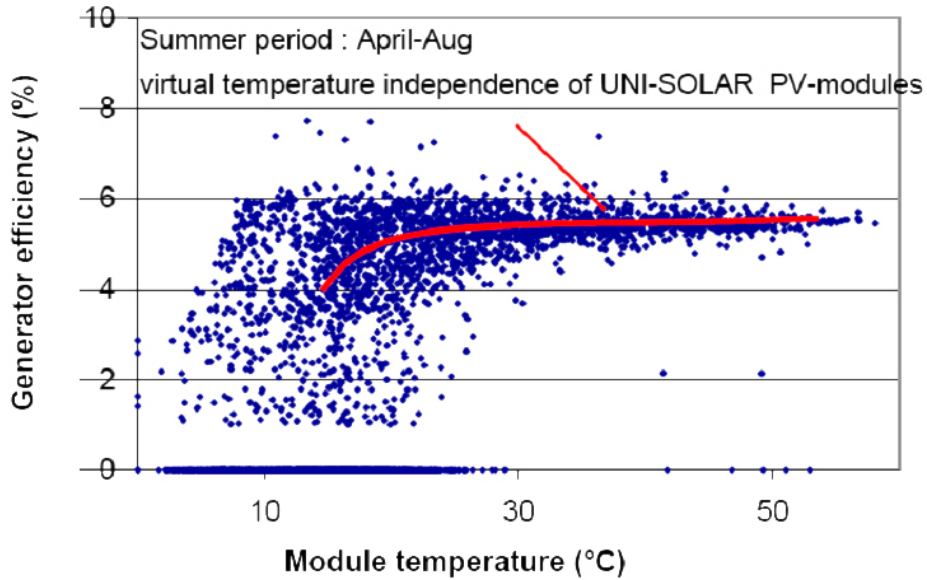


Figure 2. Light absorption effect of triple-junction technology

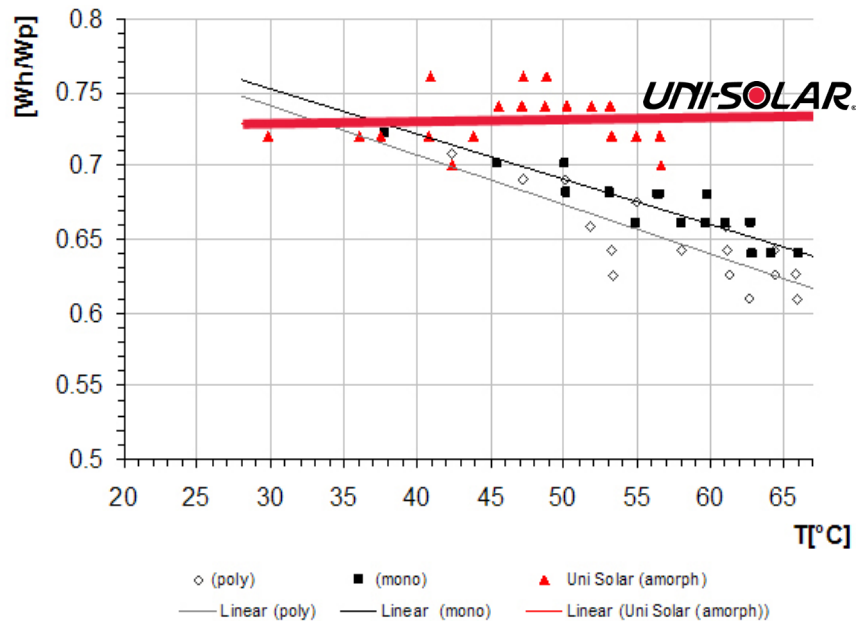
UNI-SOLAR laminates provide better energy yield at high temperatures. Today, all solar products are rated based on standard test conditions. In real outdoor conditions, cell temperatures increase with increased solar irradiation, reaching levels much higher than standard test conditions. Crystalline silicon modules experience a significant decline in kWh output at high temperature, while UNI-SOLAR laminates do not. As a result, UNI-SOLAR laminates produce more energy when you need it most.

Measured Temperature Influence - Germany



Source: ISE Freiburg, Germany

Yield in function of module temperature, Urbino, Central Italy (2003-2004)

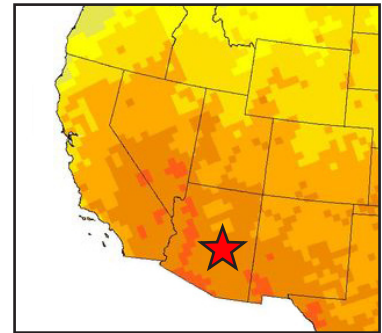
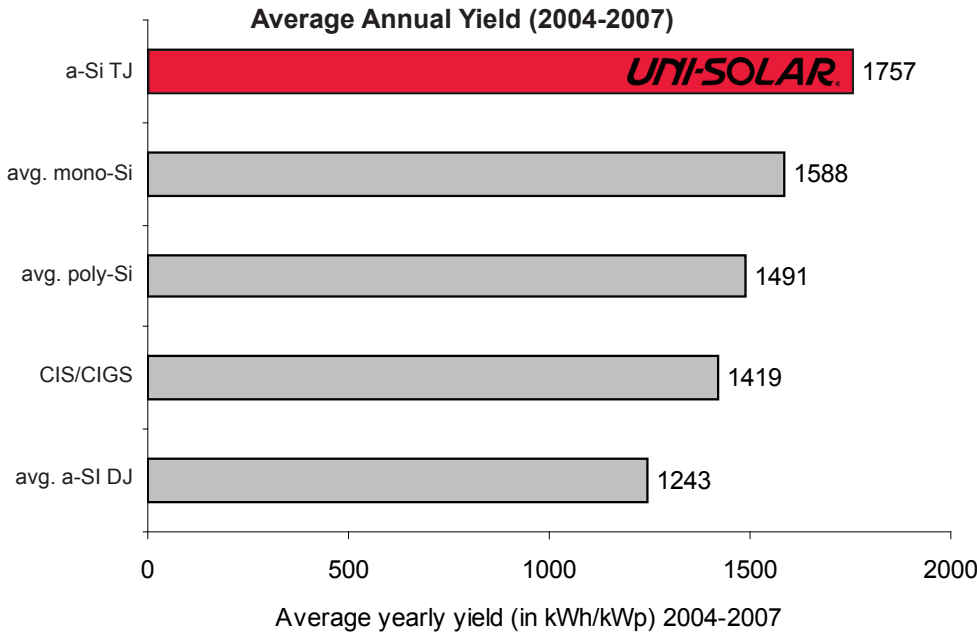


Source: University of Urbino, Urbino, Italy

In many locations worldwide, independent third party businesses and institutions collect data on several different photovoltaic systems. This real world data demonstrates the superior energy production of *UNI-SOLAR* laminates in high temperatures, low light levels, and shading. Below are three examples of this data from locations in Tucson, Arizona, USA; Frankenberg, Bolzano, Northern Italy; and Santa Cruz, California, USA. In each location, *UNI-SOLAR* out-performs competitive products by producing more kilowatt-hours of energy per kilowatt installed.

Site: Tucson, Arizona, USA

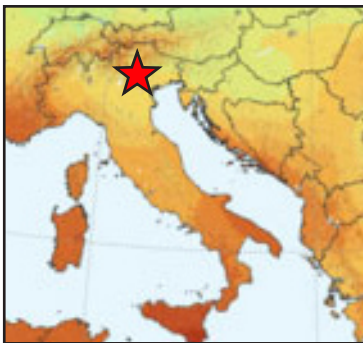
Source: Tucson Electric Power, Arizona, USA



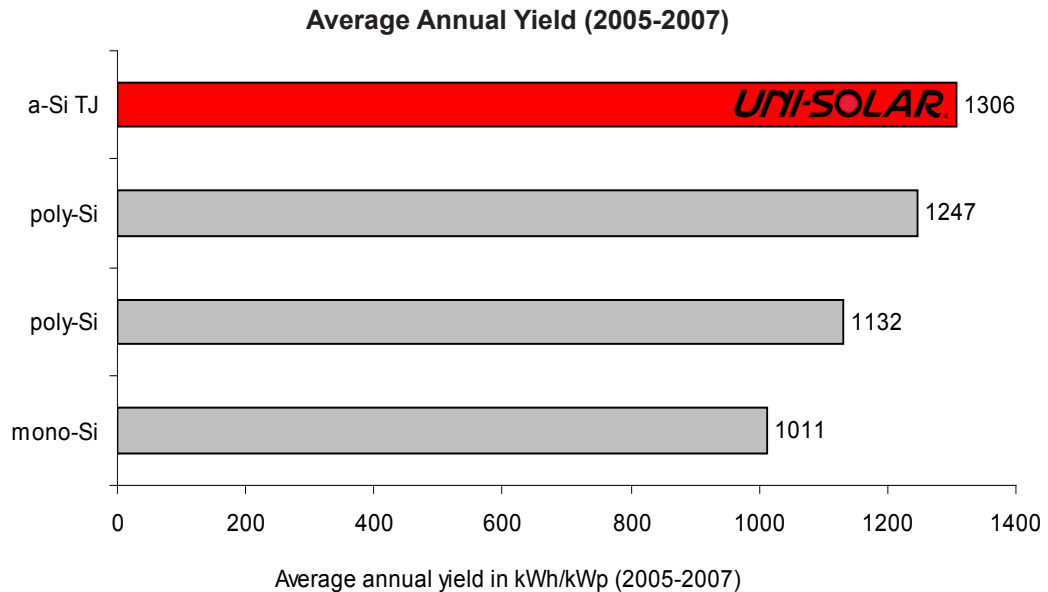
USO Surplus versus:
 Avg. mono-Si: +11%
 Avg. poly-Si: +18%
 CIS/CIGS: +24%
 Avg. a-Si: +41%

Site: Frankenberg, Bolzano, Northern Italy

Source: Office for Energy Saving, Province of Bolzano, Italy

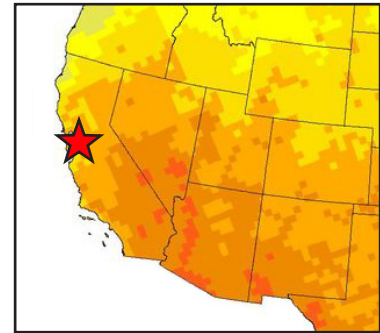
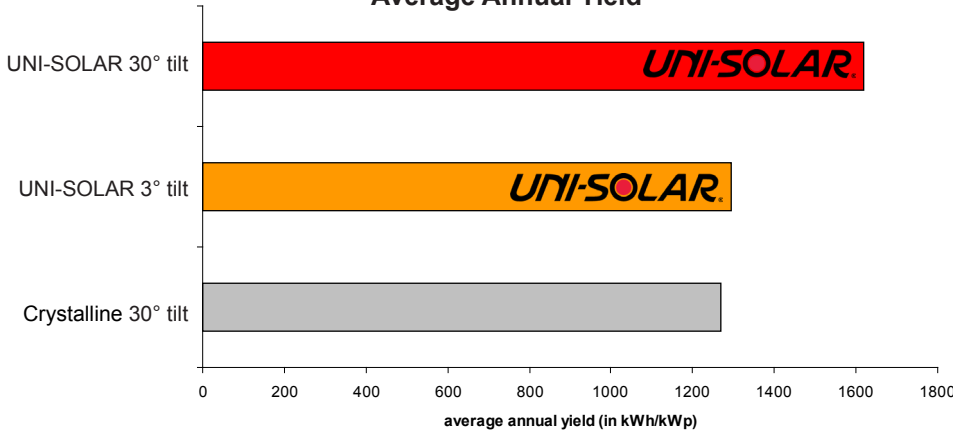


USO Surplus versus:
 Avg. poly-Si: +10%
 mono-Si: +29%



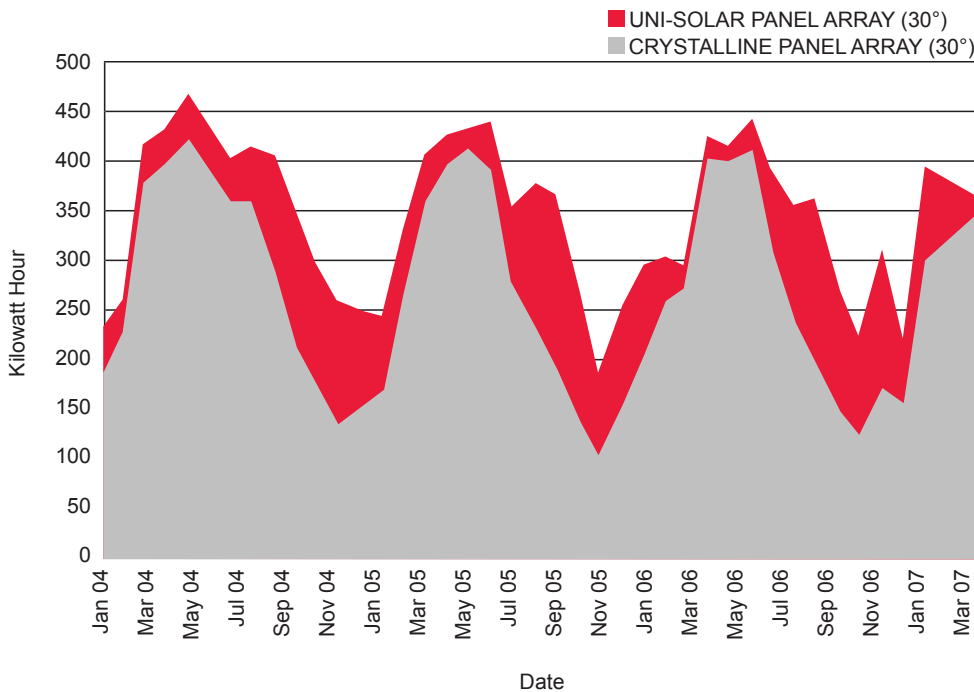
Site: Santa Cruz, California, USA
Source: Solarquest Report

Average Annual Yield



USO 30° Tilt Surplus versus:
USO 3° Tilt: +25%
Crystalline 30° Tilt: 28%

Santa Cruz Test Site Energy Production Performance Summary



Cumulative Power Production November 2003 - March 2007

USO Surplus versus Crystalline: +24%

