



Stand: Hall 4, D36

### Flexible modules made in Switzerland

■ VHF-Technologies SA (Flexcell) is introducing two new modules: the FLX-MO135 and FLX-TO200. The Yverdon-les-Bains, Swiss-based company, in which Q-Cells AG holds a 51-percent stake, is a manufacturer of flexible amorphous silicon thin-film modules. Its technology was developed at the University of Neuchâtel, where Oerlikon's micro-morph silicon tandem technology was also invented. According to Flexcell's product development director Sjef de Bruijn, the amorphous silicon is deposited at 80 MHz, exactly twice that of Oerlikon's deposition frequency.

The bigger of the two models, the FLX-TO200 has a thermoplastic polyolefin (TPO) substrate, on which the a-Si layer is deposited. Actually, the TPO foil is a standard roofing membrane. As the number in the name indicates, the 6.2 m<sup>2</sup> module's rated power is 200 W. This corresponds to a rather low module efficiency of 3.2 percent. For example, the new amorphous silicon module S1-340 A1 from Signet Solar GmbH, which is only slightly smaller at 5.7 m<sup>2</sup> and uses a



VHF-Technologies SA (7)

glass substrate instead of membranes, has a 340 W power rating, resulting in a 5.9-percent module efficiency. On the other hand, the FLX-TO200 weighs just 12.4 kg, while Signet's module is 100 kg.

Flexcell's smaller model, the FLX-MO135, is deposited onto a metal laminated, corrosion-treated roofing membrane. The rated power of the 32 kg module is 135 W with a 4.5 m<sup>2</sup> module area, corresponding to an efficiency of 3 percent. According to Flexcell, its major focus is building integration. Such modules can be integrated onto lightweight corrugated-metal sheeting structures to cover agricultural sheds, for example.

In the data sheets for both modules, it is stated that the electrical output exceeds the specified ratings during the

Light and flexible: Flexcell's new FLX-TO200 amorphous silicon module is deposited on roofing membranes.



first 2 to 4 weeks of operation. In fact, the initial output is said to be up to 25 percent higher. This degradation, which brings the power down to the rating, is due to the so-called Staebler-Wronski effect all a-Si modules have to cope with.

Both the FLX-TO200 and FLX-MO135 are produced in Flexcell's new 25 MW factory, which is currently in a ramp-up phase. The modules are expected to be available in the fourth quarter of 2008 or the first quarter of 2009 and their sales prices are not yet set. *op*

#### VHF-Technologies SA (Flexcell)

Av. des Sports 26  
1400 Yverdon-les-Bains, Switzerland  
phone +41/24/423049-0, fax -9  
marketing@flexcell.com  
www.flexcell.com