

THE GEAR OF THE YEAR AWARDS
Gear GUIDE

PRODUCT TEST



POWERFILM SOLAR PANEL

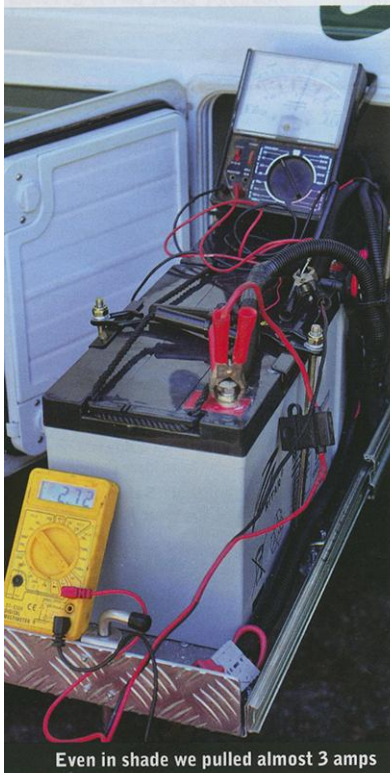
PRICE

RRP\$1599

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WORDS AND PHOTOS BY RON MOON



Even in shade we pulled almost 3 amps

Solar Flare

Advanced solar panel technology is now available in Australia. Ron Moon tries out the latest folding panel

Engel Australia has just released a range of solar panels manufactured by PowerFilm Solar, a US-based company that has been making solar products for the US military and NASA for more than 20 years.

The latest range available through Engel includes five rollable panels rated from seven watts to 60 watts, and six foldable panels from five watts to 90 watts. The smaller units are designed to charge small battery or USB devices, while the bigger units can charge automotive batteries or even run an Engel fridge/freezer.

About 12 years ago I had my first encounter with a rollable solar panel and it scarred me for a long time. It worked, but not very well.

Initially, I was sceptical about these new panels, but that was quickly allayed once

panels are recommended for wet conditions.

Being in Australia – and not planning to put my solar panel out in the rain on a regular basis – we opted for the biggest, most powerful foldable panel available. The FM16-5400 is a 90W panel with a rated output of 5.4 amps at 15.4 volts.

The unit comes standard with a SunSaver-10 control regulator and a plug-in lead with a cigarette-lighter socket. Other leads and connections are available as options, and many people would need or want these, depending on their final set-up. All connections from the panel to the regulator/lighter socket lead are via first-class waterproof plugs and sockets.

Unfolded, the sheer size of the panel can be an issue when trying to aim it at the sun. We found it was best to spread it on the ground, hang it from the side of the vehicle,

“Is the extra cost worth it for the convenience of the smaller size and improved output?”

I saw the panel running an Engel 40-litre fridge without a battery anywhere in the system. I knew I just had to revisit this technology and see how good it was.

These panels are made from amorphous silicon with the actual solar cells being flexible and shatterproof. These are fitted to a durable, flexible plastic backing – the whole package is designed for reliability. On PowerFilm’s website (powerfilmsolar.com) it shows a panel being punctured by bullets and still working well.

One thing I did pick up from PowerFilm’s product brochure is that the foldable panels are “designed to be used primarily in dry environments. Although the panel can get wet, prolonged exposure to moisture can affect performance and the panel should be fully dry prior to use after exposure to wet conditions”. The waterproof rollable

or drape it across the bonnet. Mind you, current output increased from 3.4 amps to 4 amps by shifting it from lying on the ground to being at right-angles to the sun.

I have three solar panels that I have been using regularly over the last few years; one on my T-van, one on my Trackmaster Gibson van and a free-standing unit, the latter rated at 60W, the other two at 80W.

For my test we rigged up the panel connected to the batteries of my Trakmaster. No other power supplies to the battery were connected. The batteries were running an Engel 90-litre upright fridge/freezer and some lights – total draw with the fridge compressor running was in excess of four amps; much less than this when the compressor wasn’t running. We had a multi-meter measuring battery voltage and another measuring input current from