RABLE

Unlocking the solar energy potential of all roofs

Hotspot impact

SOLARSOLUTIONS INTERNATIONAL
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RABLE has measured the potential hotspot impact of the cable, applying two methods: use of direct temperature measurements and use of a heat camera.
Measurements conditions on summer noon with no clouds on the 1st September 2022 indicated a 0.7 °C temperature difference between panel and panel cable shaded area which is not detrimental to the panel performance on short- or long-term.

In the picture below, thermal imaging pictures of the solar panels including the shade of the steel cable are shown. As can be seen from the pictures, no hotspots are present.

Figure 1: picture of the RABLE test setup including thermal imaging camera

From the pictures below, the difference in temperature between the direct and indirect (shadow) sunlight can be seen. This difference in temperature is 0.7 °C . The measurements have taken place on the 1st September 2022 at 1:00 p.m.

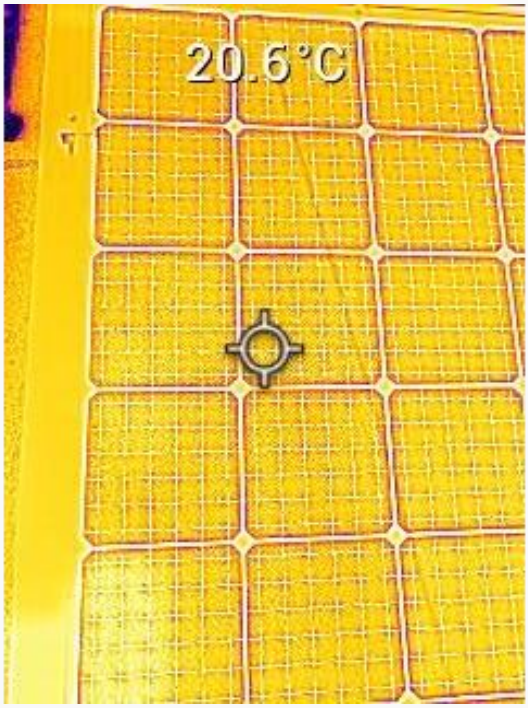

Figure 2: Picture of the thermal imaging camera

Figure 3: Temperature measurement of a section of a PV cell in the shade, using infrared laser thermometer

Figure 4: Temperature measurement of a section of a PV cell in the sun, using a infrared laser thermometer

Figure 5 shows the outside temperature on the 1st September 2022 is depicted and show the temperatures in the Netherlands during the measurements. Figure 6 shows the surrounding roof area exceeding temperatures of 40 degrees during the execution of the measurements.

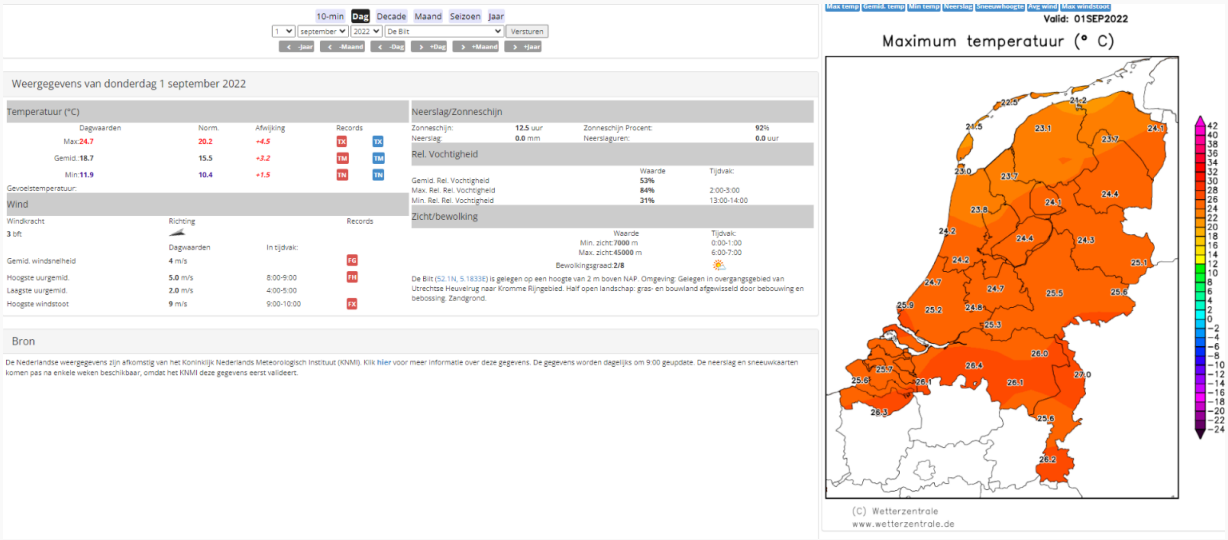

Figure 5: Weather in the Netherlands at day of measurement

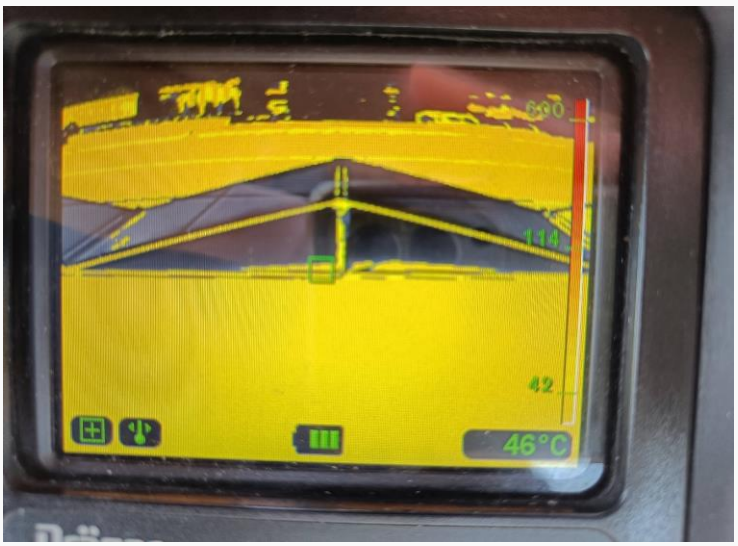

Figure 6: Thermal imaging surrounding roof area 1st September 2022 showing temperatures exceeding 46 °Con surrounding areas

To Conclude, the thermal imaging and temperature measurements of shade caused by the steel cable, **show no detrimental effects** on the panel performance on short or long term.