

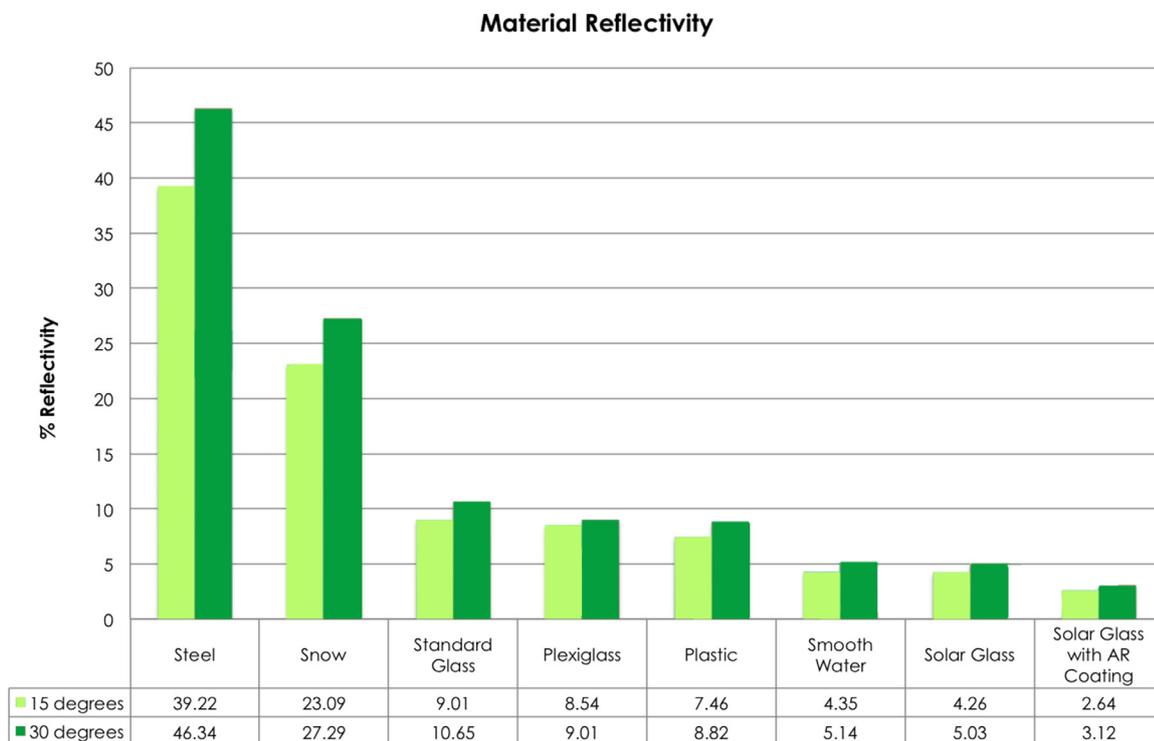
Glint and Glare from Solar PV



Does glint and glare from solar panels pose a hazard?

'Glint and glare' from a solar PV system is often raised as a concern in certain locations, particularly airports. Glint is known as specular reflection and is the result of direct reflection of the sun. Glare is a continuous source of brightness from diffused light; a reflection of the bright sky around the sun that is less intense than glint.

If we look at the typical reflectivity of solar panels compared to other materials the percentage is very low, particularly where the angle is lower and the panel is coated with an anti-reflective material. This is illustrated in the below graph, the figures for which were taken from a technical report produced by SunPower (SunPower Solar Module Glare and Reflectance, 2009).



The reflectivity of solar panels is considerably lower than standard window glass because solar panels use high transmission, low iron glass that absorbs more light, reducing the amount of reflectance and improving the efficiency of the panel.

The amount of glint and glare produced from a solar PV system will vary according to the angle of the panels, with lower angles producing less glint and glare. A study conducted by Solargen Energy of the Panoche Valley Solar Farm found that glint and glare only occurred for half an hour in the summer months each day for those with east and northeastern views in the morning and west and northwestern views in the evening. It was found that the reflectivity levels were decisively lower than standard glass and do not pose any reflectance hazard to viewers.

SunPower has installed several large projects near to or on air force bases. Each has passed FAA or Air Force standards and all projects have been determined as 'No Hazard to Air Navigation'.

Where glint and glare is raised as a concern it is possible to conduct a range of simulations and experiments to check that the proposed installation won't present a hazard. Such glint and glare assessments are typically required for ground-mounted airside installations.

