# Polysolar

LIGHTWEIGHT SOLAR

Polysolar's lightweight solar panels are designed to enable solar generation where conventional framed systems are impractical or too heavy. Weighing less than 3.5 kg per square metre and only around 3 mm thick, they impose minimal structural load, making them ideal for membrane roofs and buildings with limited load-bearing capacity.

Using high-efficiency monocrystalline PERC cells within a durable polymer encapsulation, they deliver performance comparable to traditional glass-framed panels, with outputs up to 555 W in larger formats. Their ultra-thin, frameless construction allows panels to be bonded or riveted directly to suitable surfaces, reducing the need for heavy mounting systems and enabling discreet integration into both modern and retrofit projects.
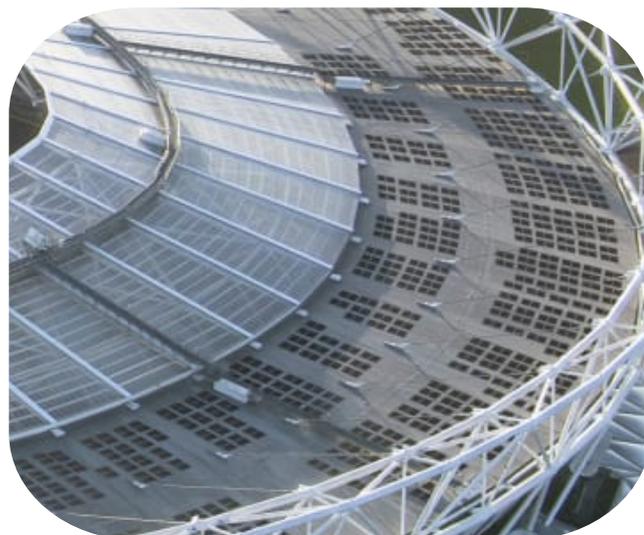
LIGHTWEIGHT APPLICATIONS

- **Membrane roofs requiring waterproof integrity:** thelightweight, frameless panels can be bonded or mechanically fixed with minimal penetrations, helping to preserve roof membranes while enabling on-site solar generation.
- **Low load-bearing roofs:** at under 3.5 kg per square metre, they add very little structural load, making them suitable where conventional glass-framed systems would be too heavy.
- **Curved or uneven surfaces:** with a bend radius of around 0.3 m, they can be installed on gently curved or irregular structures that rigid panels cannot accommodate.
- **Agrivoltaic applications:** well suited to barns and other farm buildings where roof strength is likely to be limited, complementing Polysolar's other agrivoltaic solutions such as flexible solar over polytunnels.

CONVENTIONAL SOLAR	LIGHTWEIGHT SOLAR
Typically 18-25kg per panel and approx. 30-50mm thick	7.7kg per panel (<3kg/m2) and approx. 3mm thick
Installation requires mounting rails, roof fixings, and a structural load assessment	Can be bonded or riveted directly to surfaces with minimal structural impact
Best suited to structurally strong pitched or flat roofs	Designed for low load-bearing roofs, membrane roofs, and weight-restricted structures