

SOLAR PANEL COMPARISON

	Standard	High performance	High performance
Brand	Axitec Energy GmbH	REC	SunPower (by Maxeon Solar)
Series	AXIpremium	Alpha Pure	Maxeon
Power output (wattage)	370	400-405	400
Years in business	21	25	35
Panels Made In	China	Singapore	Mexico
Durability Warranty	15	25	25-40 (conditions apply)
Performance Warranty	Linear 85% at year 25	Linear 92% at year 25	Linear 92% at year 25
Cell Technology	P-type Mono-PERC	N-type HIT	N-type Back-contact
			Cells also mounted on a solid copper foundation for increased durability
Light Induced Degradation	Yes	No	No
Potential Induced Degradation	Yes	No	No
Shade handling	low	High	high
Appearance	*	*****	***
Corrosion Resistance	**	*****	*****
Frame Colour	silver	black	black

UNDERSTANDING THE JARGON

P-type cells: Low purity silicon wafer doped with Boron to make electrical junction. Boron partially breaks down when exposed to UV light (LID)

N-type cells: Extremely highly purified silicon wafer doped with Phosphorous to make electrical junction

Mono-PERC: Passive Emitter Rear Contact - otherwise known as a back-side mirror to reflect photons back into the cell improves cell efficiency by 3-4% compared to cells without PERC

HIT: Heterojunction cells - a combination of high quality N-type silicon cells, coated with Thin-Film Amorphous silicon thin-film Amorphous is excellent in low light (indirect sunlight) conditions and holds voltage better in high heat conditions

Back-contact: All the front gridlines (wires) are removed and relocated to the rear of the cell - this allows more light to reach the silicon and produce electricity

Light Induced Degradation (LID): The cell's electrical junction breaks down slightly (reducing the ability to convert photons to electrons) during the first 5-6 weeks of exposure to UV, this results in permanent reduction of power output by 3-5%

Potential Induced Degradation (PID): when part of a panel is shaded (and less current is flowing) a hot spot is created (also known as a choke point). Short term power loss, long term cell breakdown and failure