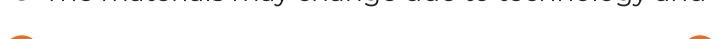
## WHY PAILS SOLAR





Description	Pahal Solar Module		Other Module Manufacturer		Impact/Effect
Cell	≥25.4	Coll officions / > 25 /0/	24.9 or 25.2%	Cell efficiency <b>24.9% to 25.2%.</b>	Usage of <b>high-quality A-grade</b> cells improves generation.
					Longer module lifespan against UV, high temperature, and weathering.
Aluminium Frame	- F - 40 - 1	<b>40mm</b> frame height.		<b>28-35mm</b> frame height.	Lower height reduces mechanical strength.
	Anodizing ≥ 15 mm.	Anodizing thickness ≥ <b>15µm.</b>	Anodizing ≥ 8 to12  Thickness µm.  ↓	Anodizing ≤ <b>8-12µm.</b>	<b>Less anodizing</b> increases <b>rust risk</b> over time period.
	≥ 3kg	Frame set weight ≥ <b>3kg.</b> *	2.0 to 2.7kg	Frame set weight <b>2.0-2.7kg.</b>	Lower weight reduces module strength—micro-cracks due to bending, resulting in decreasing generation.
	1.5mm	Frame thickness <b>1.5mm</b> ( <b>±0.2mm)</b> .	1.0mm	Thickness <b>1.0-1.2mm (±0.2mm).</b>	Thinner frame reduces structural strength against wind load.
Encapsulant (EPE)	GSM EPE	<b>Higher GSM EPE</b> used.	GSM EPE	<b>Lower GSM</b> used.	Lower GSM increases hotspot risk over time period.
	520 GSM EPE	Front: <b>520 GSM.</b>	420 GSM	420 GSM EPE front and 390 GSM EPE back.	Moisture penetration causes de-lamination.
	480 GSM EPE	Back: <b>480 GSM.</b>	390 GSM 390GSM	390 GSM EPE front and 390 GSM EVA back.	Lower GSM leads to faster de-gradation.
Solar Glass		<b>HTAR</b> (High Transmission Anti-Reflective) coated glass.		<b>ARC</b> (Anti-Reflective Coated) glass.	HTAR glass lets <b>0.4-0.5</b> % more <b>photons through, resulting in improving generation.</b>
	2.0mm	Front: <b>2.0mm</b> thick.	2.0mm	Front: <b>2.0mm</b> thick.	HTAR coating is <b>stronger</b> and more <b>UV resistant.</b>
	2.0mm	Back: <b>2.0mm</b> thick.	1.8mm	Back: <b>1.8mm</b> thick.	
		Back side <b>white grid</b> <b>printed glass.</b>		No grid printing.	White grid <b>returns photons</b> to the cell, <b>boosting generation</b> .
Ribbon		High quality PV Ribbon Ø 0.26mm.		Ribbon <b>Ø 0.24mm.</b>	Thinner ribbon increases resistance and voltage drop, reducing power output.
Production Line		100% AI-based latest advanced technology.		Al technology is generally not used in the manufacturing process.	Al technology based manufacturing improve solar panel quality.
Research & Development (R&D)	State of the art in-house R&D laboratory.  Thange due to technology and other reasons as required.			<b>Limited R &amp; D</b> Infrastructure.	Ongoing research enables top-quality module supply in the market.
				Strict testing ensures <b>long-term module quality.</b>	



<sup>•</sup> The materials may change due to technology and other reasons as required . \* Depands on Frame thickness 1.5mm (±0.2mm).



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