

# MORE PERMANENTLY MORE

## ECO LINE N-TYPE HJT TECHNOLOGY



## N-TYPE HETEROJUNCTION TECHNOLOGY



With its proven N-type heterojunction cell technology, Luxor Solar offers high-class premium solar modules.

The heterojunction technology impresses with several advantages compared to current cell technologies. HJT is more efficient, more durable and guarantees more yield per area, in addition to more yield throughout the lifetime of the modules.

Heterojunction technology is based on an N-doped crystalline silicon wafer, which is coated with very thin amorphous crystalline layers.

This cell structure is responsible for the efficiency advantage over conventional cell technologies.

### HETEROJUNCTION CELL CONSTRUCTION



N-Type solar cells

Photovoltaic cells differ in their layer structure in negatively charged N-type cells and positively charged P-type cells.

If the base-layer is doped with boron, it is a P-type cell. This has one electron less than silicon. This creates an electron hole and the positive charge carriers predominate. With N-type cells, the base layer is doped with phosphorus. This has one more electron than silicon, which creates free electrons.



P-Type solar cells

These free electrons enable the higher efficiency of the N-type cells.

They are responsible for the extremely low power losses and prevent phenomena such as PID and LID.

÷	No PID	(1)
ł	No LID	(2)
+	High ef	ficiency

(1) Potential-induced degradation | (2) Light-Induced Degradation

## HIGHER EFFICIENCY BETTER TEMPERATURE BEHAVIOUR

Heterojunction cells combines the advantages of two technologies. The crystalline N-Type based cell-core allows more direct sunlight to be converted into electricity. The amorphous cell layers also ensure better weak light behaviour and significantly higher resistance to high temperatures.



### HIGHER BIFACIALITY = HIGHER RETURNS

Heterojunction cell achieves optimal bifaciality thanks to its symmetrical structure. Indirect light is absorbed by the solar cell on both sides.

The bifaciality factor of heterojunction solar modules is up to 95%.  $^{\rm (3)}$ 



## PERFORMANCE & GUARANTEES REDUCTION OF BOS COSTS

By using Luxor Solar heterojunction solar modules, you can efficiently reduce your BOS costs. Compared to conventional solar modules, HJT modules generate + 3 percent more power and a further

 $^{\rm +}$  8 percent more yield over a period of 30 years on the same large area.

a period of 30 years

Area requirement with standard modules for the

same performance compared to HJT modules over





- + 8% additional yield over 30 years
- + Less space required
- + Reduced installation effort

#### SECURITY, YIELD & GUARANTEES

The advantages of the Luxor ECO LINE HJT GG BIF series are several. They are high class solar modules with an extra class for safety and environmentally conscious customers, which appreciate outstanding quality.

- + Higher yield
- + Reduction of BOS costs
- + Maximum longevity
- + Combination of the latest technologies
- + Long guarantees, high security
- + Withstands extreme environmental conditions.











1: The specific warranty conditions are given under www.luxor.solar/en/downloads.html

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