

PREMIUM

BISOL Laminate

Monocrystalline PV Laminates / BDO 400-420 Wp



Designed & manufactured in EU



Strictly positive output power tolerances



PID free



Ideal for integration



Module presorting for higher profitability



Supremely low degradation



Module efficiency up to 21.5 %

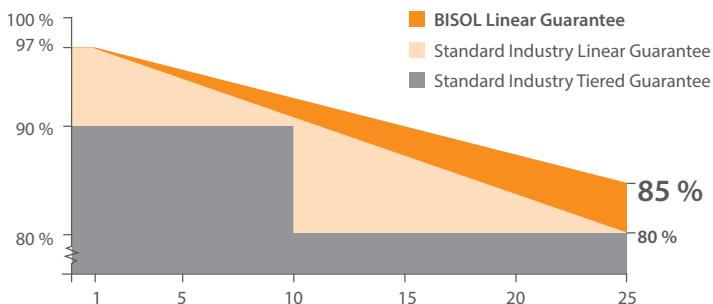


Up to 13 % higher real-life performance



Excellent low light performance

Guarantees:



Linear Guarantee
85 % power output in 25th year



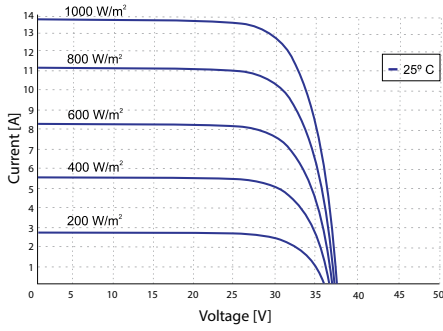
Product Guarantee
15 years

In compliance with:

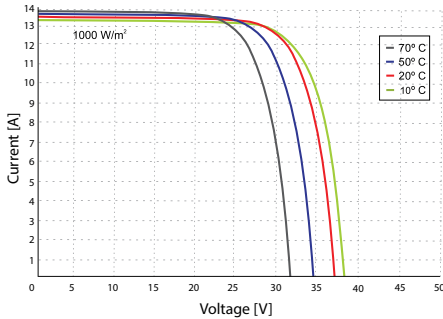


Certificates available upon request. Additional charges may apply. Laminates are manufactured according to IEC 61730 Ed.1 and IEC 61215 Ed.2 standards, but require a certification together with each specific frame or mounting system that the customer decides to use.

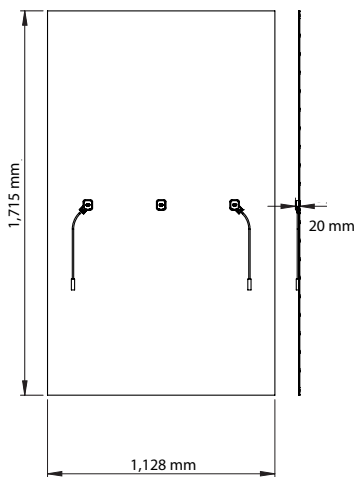
I-V Curve at Various Irradiation Levels



I-V Curve at Various Cell Temperatures



Dimensions



Electrical Specifications @ STC (1,000 W/m², AM 1.5, 25 °C):

Module Type	BDO	400	410	420
Nominal Power	P_{MPP} [W]	400	410	420
Short Circuit Current	I_{SC} [A]	13.74	13.90	14.06
Open Circuit Voltage	V_{OC} [V]	37.0	37.2	37.4
MPP Current	I_{MPP} [A]	12.95	13.19	13.42
MPP Voltage	V_{MPP} [V]	30.9	31.1	31.3
Module Efficiency	η_M [%]	20.5	21.0	21.5
Power Output Tolerance			0/+5 W	
Maximum System Voltage			1,500 V	
Maximum Reverse Current			25 A	
Protection Class			Class II	

Additional power classes available upon request. | Efficiency at irradiation 200 W/m²: 99.3 % of STC efficiency or higher. | Tolerances for V_{OC} and I_{SC} and other electrical parameters are ± 3 %.

Electrical Specifications @ NOCT (800 W/m², AM 1.5, 43 °C, Wind 1 m/s):

Module Type	BDO	400	410	420
Nominal Power	P_{MPP} [W]	303	311	318
Short Circuit Current	I_{SC} [A]	11.09	11.22	11.35
Open Circuit Voltage	V_{OC} [V]	35.3	35.5	35.6
MPP Current	I_{MPP} [A]	10.45	10.65	10.83
MPP Voltage	V_{MPP} [V]	29.0	29.3	29.4

Thermal Specifications:

Current Temperature Coefficient	α	+ 0.05 %/°C
Voltage Temperature Coefficient	β	- 0.26 %/°C
Power Temperature Coefficient	γ	- 0.34 %/°C
NOCT		43 \pm 2 °C
Temperature Range		- 40 °C to + 85 °C

Mechanical Specifications:

Length x Width x Thickness	1,715 x 1,128 x 20 mm
Weight	20 kg
Solar Cells	108 Half-Cut mono PERC c-Si / 182 x 91 mm
Junction Box / Connectors	3 bypass diodes / MC4 compatible / IP 68
Cable Length	Default: 1,200 mm On demand (for portrait orientation): 300 mm
Glass	3.2 mm AR coating tempered glass / high-transparency / low-iron content
Certified Test Load (Snow / Wind)	Depending on Laminate fixation system*
Impact Resistance	Hailstone / Φ 25 mm / 83 km/h (51 mph)

*Certification process can be provided by BISOL upon special request. Additional charges may apply. Tolerances of values are ± 5 %. Unspecified product properties remain under full discretion of BISOL Production.

Packaging Information:

Modules per Pallet	Packing Dimension: Length/Width/Height	Stackable	Packing Weight	Tot. Nr. of Pallets/Load
30	191 x 120 x 136 cm	2 pallets	640 kg	28*

*Loading of laminates requires the use of truck with loading opening higher than 272 cm.