



**EXCELLENT GLASS/GLASS M60
bifacial frameless**

MONOCRYSTALLINE BIFACIAL 295 WP



**Long lifetime even under
extreme conditions**

2 x 2 mm strong, hardened and
scratchresistant solar glass

Protection of cells against
microcracks through double glass
composite

Maximum test load 2.400 Pascal ²

**Optimized for
performance**

PID-free monocrystalline
high performance solar
cells

Antireflective coated
solar glass

Low-light optimized

Positively classified
-0/+4.99 Wp

Industry-leading
NMOT values

**Highest quality
standards**

Manufactured
according to
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module
type approval
according to
IEC 61215:2016 ³

PV-module
safety qualification
according to
IEC 61730:2016 ³

**Guaranteed
performance ¹**

30 years of linear
performance guarantee

20 years product
guarantee, optional
extension to 30 years

Total Care for the entire
system (optional)

¹ For detailed information please consult the CS Wismar GmbH warranty conditions

² See backside for detailed test loads

³ Subject to recertification

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Performance STC

Under standard Test Conditions STC:
1000 W/m²; spectrum AM 1.5;
Cell temperature 25°C
Measurement tolerance STC:
P_{mp} ±3%; I_{sc} ±10%; U_{oc} ±10%

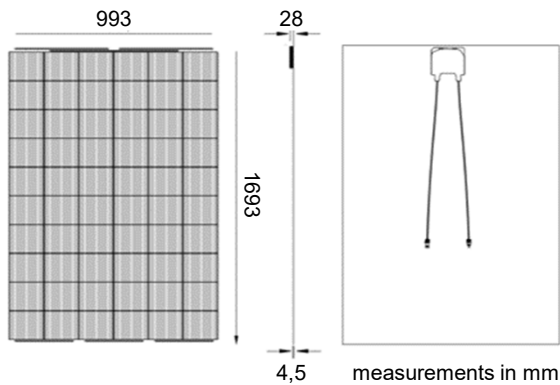
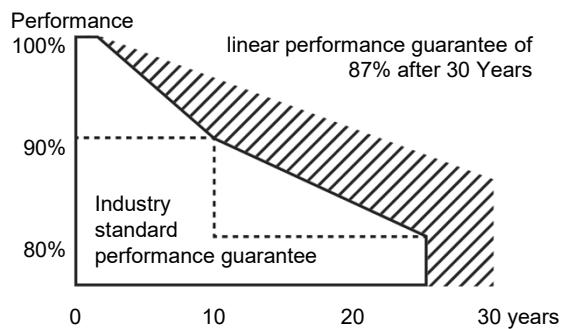
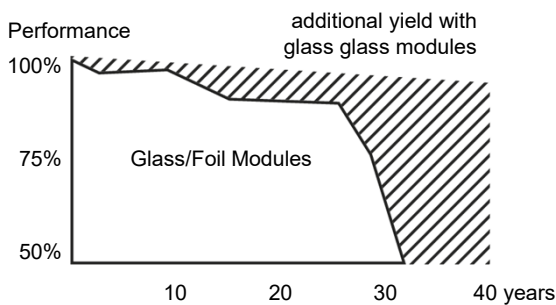
		Rear irradiance % (corresponding Bi-facial gain)			
		15% (12,75%)	20% (17,00%)	25% (21,25%)	30% (25,50%)
Nominal Power P _{mp} (Wp)	295	332,6	345,2	357,7	370,2
Open Circuit Voltage U _{oc} (V)	39,15	39,19	39,23	39,27	39,31
Voltage U _{mp} (V)	32,52	32,59	32,62	32,66	32,70
Short Circuit Current I _{sc} (A)	9,66	10,89	11,30	11,71	12,12
Current I _{mp} (A)	9,07	10,23	10,61	11,00	11,38
Efficiency η (%)	17,6	19,8	20,5	21,3	22,0

Reduction of module efficiency at reduction from 1000 W/m² to 200 W/m²: 2,6% ± 0,1% (relative)

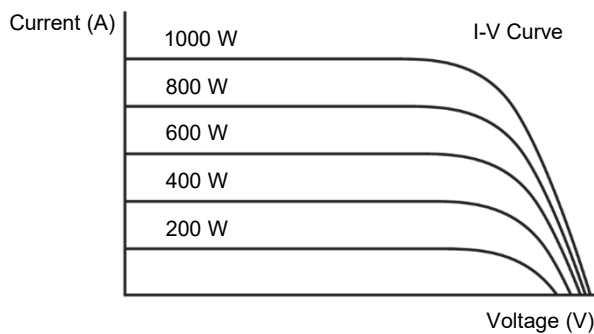
Performance NMOT

Nominal operating temperature of module
800 W/m², NMOT, AM 1.5

Nominal Power P _{mp} (Wp)	231	260,0	269,8	279,6	289,4
Open Circuit Voltage U _{oc} (V)	36,61	36,62	36,63	36,64	36,65
Voltage U _{mp} (V)	31,85	31,86	31,86	31,87	31,87
Short Circuit Current I _{sc} (A)	7,81	8,81	9,14	9,47	9,80
Current I _{mp} (A)	7,24	8,16	8,47	8,78	9,09



measurements in mm



Other Technical Specification

Max. system voltage	1000 V
Weight	20.0 ± 0.5 kg
Reverse Current Load IR	15 A
Junction box	IP 67 with 3 bypass diodes
Connectors	IP 67, MC4
Fire rating	class C
Operating temperature	-40°C ... +85°C
Design load: snow	1.600 Pa *
Max test load	2.400 Pa
Design load: wind	1.600 Pa *
Max test load	2.400 Pa

* safety factor 1.5

Thermal Properties

TC P _{mp}	-0.39 %/K
TC U _{oc}	-0.28 %/K
TC I _{sc}	0.040 %/K
NMOT	45 +/- 2 °C

Material Used

No. of cells	60 cells
Type of cells	monocrystalline bifacial
Front	hardened solar glass
Frame	n/a
Frame height	n/a

