



Optional: junction  
box 1500 Volt



Optional: 30yrs  
guarantee



Optional: Total-  
Care Insurance



## EXCELLENT GLASS/GLASS M54

Brilliant frameless

MONOCRYSTALLINE 285-295 WP



# Transparency and Performance

The cell matrix is optimized for light transmission and maximum performance

The optimized cell matrix enables a light transparency of 19%

Optimizes electricity production whilst preserving daylight diffusion for agricultural greenhouses and buildings

Perfect architectural integration and control of natural light contribution for verandas, pergolas, awnings and carports

30 years linear performance guarantee  
20 years product guarantee  
Optional Total Care for the entire system

<sup>1</sup> For detailed information please consult the CS Wismar GmbH warranty conditions

<sup>2</sup> See backside for detailed test loads

<sup>3</sup> Subject to recertification

# EXCELLENT GLASS/GLASS 285 | 290 | 295 M54

## brilliant frameless

### Performance STC

Under standard Test Conditions STC:  
1000 W/m<sup>2</sup>; spectrum AM 1.5;  
Cell temperature 25°C  
Measurement tolerance STC:  
P<sub>mpp</sub> ±3%; I<sub>sc</sub> ±10%; U<sub>oc</sub> ±10%

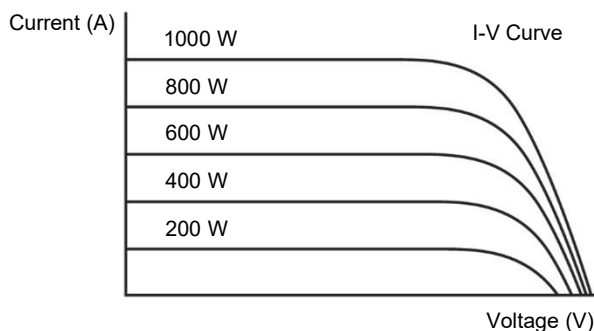
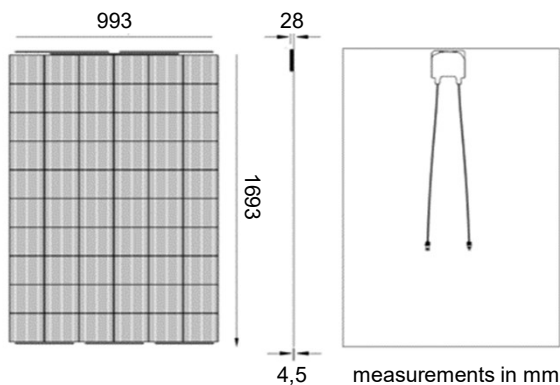
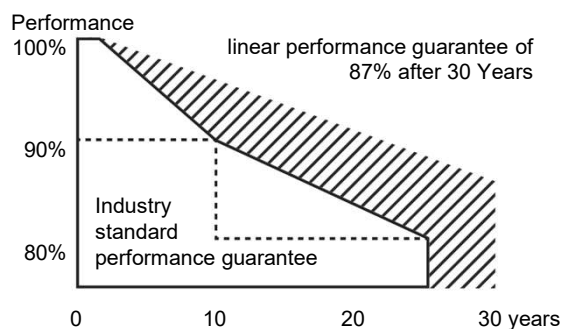
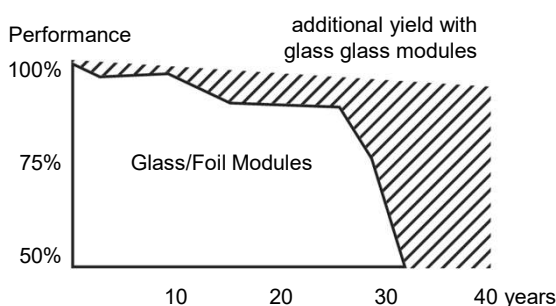
Nominal Power P <sub>mpp</sub> (Wp)	285	290	295
Open Circuit Voltage U <sub>oc</sub> (V)	36,32	36,37	36,42
Voltage U <sub>mpp</sub> (V)	30,07	30,31	30,54
Short Circuit Current I <sub>sc</sub> (A)	10,06	10,17	10,28
Current I <sub>mpp</sub> (A)	9,48	9,57	9,66
Efficiency η (%)	18,4	18,7	19,0

Reduction of module efficiency at reduction from 1000 W/m<sup>2</sup> to 200 W/m<sup>2</sup>: 2,4% ± 0,3% (relative)

### Performance NMOT

Nominal operating temperature of module  
800 W/m<sup>2</sup>, NMOT, AM 1.5

Nominal Power P <sub>mpp</sub> (Wp)	222	226	230
Open Circuit Voltage U <sub>oc</sub> (V)	33,97	34,01	34,06
Voltage U <sub>mpp</sub> (V)	29,37	29,58	29,77
Short Circuit Current I <sub>sc</sub> (A)	8,13	8,22	8,31
Current I <sub>mpp</sub> (A)	7,57	7,64	7,71



### Other Technical Specification

Max. system voltage	1000 V
Weight	ca. 20.0 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 <sub>mpp</sub>	-0.39 %/K
TC U <sub>oc</sub>	-0.28 %/K
TC I <sub>sc</sub>	0.040 %/K
NMOT	45 +/- 2 °C

### Material Used

No. of cells	54 cells
Type of cells	monocrystalline
Front	hardened solar glass
Frame	n/a
Frame height	n/a

