



INTEGRATION GLASS/GLASS M60

MONOCRYSTALLINE 275-290 WP



Exquisitly designed in-roof panel

2 x 2 mm strong, scratch-resistant thermally hardened solar glass

Glass-Glass composite technology minimizes impact of environmental factors

cells in neutral phase are especially protected against tensile and pressure loads

In-roof panels with Solrif frame

Easy to install, reliable operation

Tested system structure and rain-proof

Optimized for performance

PID-free monocrystalline high performance solar cells

Antireflective coated and light-transmitting solar glass

Best low-light behavior

Positively classified -0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured in accordance with
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016¹

PV-module safety qualification according to IEC 61730:2016¹

Performance guarantee degradation below industry standard *

30 years linear performance guarantee

20 years product guarantee

Optional extension of product guarantee to 30 years

Optional Total Care for the entire system

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

¹ Subject to recertification

INTEGRATION GLASS/GLASS 275 | 280 | 285 | 290 M60

Performance STC

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

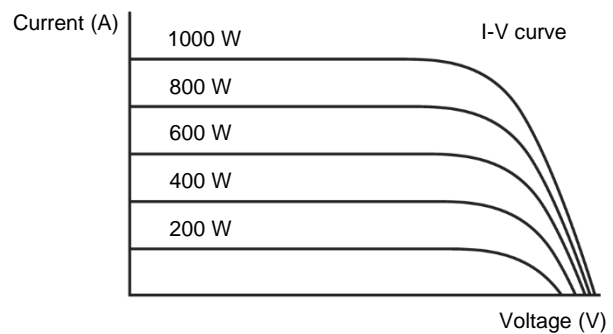
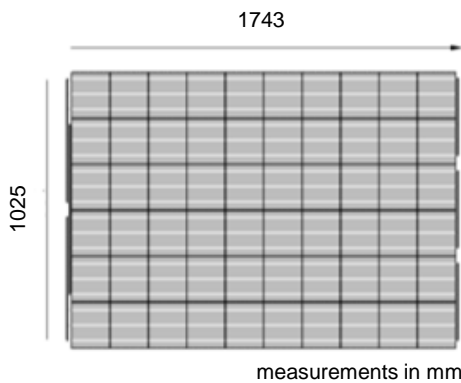
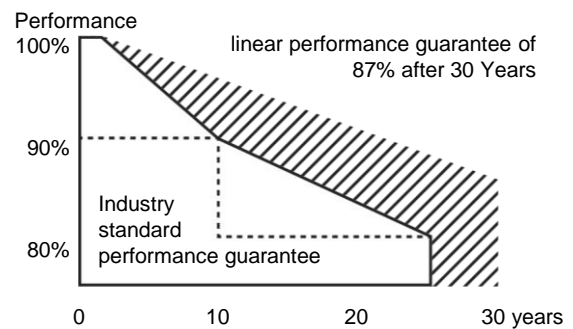
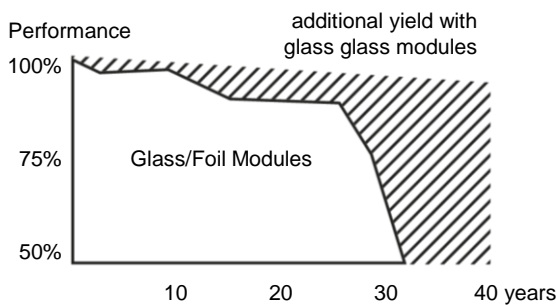
Nominal Power P _{mpp} (Wp)	275	280	285	290
Open Circuit Voltage U _{oc} (V)	38,99	39,16	39,33	39,48
Voltage U _{mpp} (V)	31,27	31,64	32,01	32,37
Short Circuit Current I _{sc} (A)	9,37	9,46	9,54	9,63
Current I _{mpp} (A)	8,80	8,87	8,90	8,95
Efficiency η (%)	15,4	15,7	16,0	16,2

Reduction of module efficiency at reduction from 1000 W/m² to 200 W/m²: 1,4% ± 0,8% (relative)

Performance NMOT

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

Nominal Power P _{mpp} (Wp)	215	219	222	226
Open Circuit Voltage U _{oc} (V)	36,21	36,36	36,52	36,66
Voltage U _{mpp} (V)	30,58	30,91	31,23	31,55
Short Circuit Current I _{sc} (A)	7,58	7,65	7,72	7,79
Current I _{mpp} (A)	7,03	7,09	7,11	7,15



Other Technical Specification

Max. system voltage	1000 V
Weight	22.0 ± 0.5 kg
Reverse Current Load I _R	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

Thermal Properties

TC P _{mpp}	-0.41 %/K
TC U _{oc}	-0.31 %/K
TC I _{sc}	0.045 %/K
NMOT	45 +/- 2 °C

Material Used

No. of cells	60 cells
Type of cells	monocrystalline
Front	hardened solar glass
Frame	Solrif frame
Frame height	16 mm
Module height	35 mm

* safety factor 1.5

