



# SOLID series

# Black Framed

455 W

Made in the EU

3.2+3.2 mm glass



Fire class A



10 500 Pa  
Extreme load resistance



NH<sub>3</sub>  
Ammonia resistance



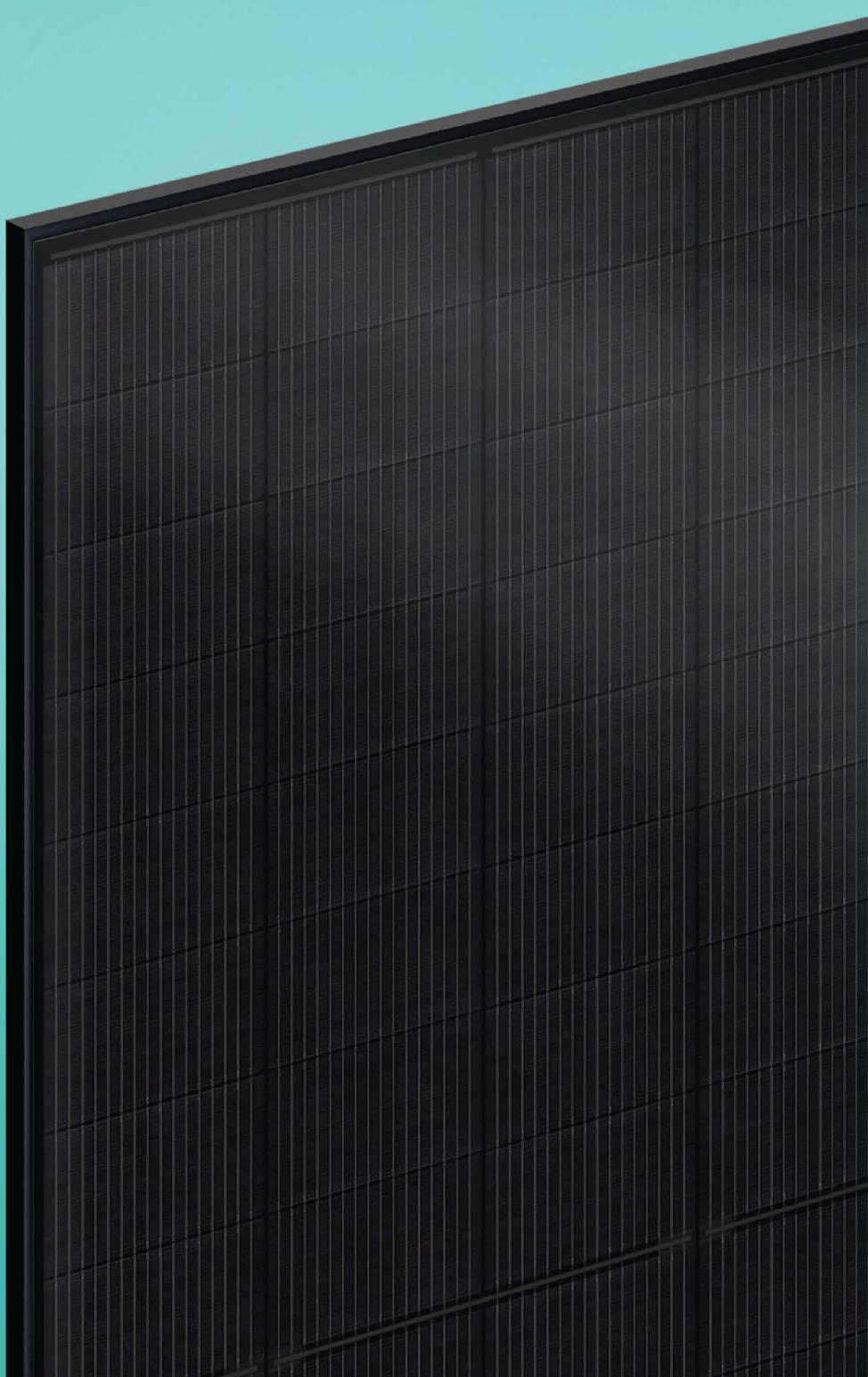
50 mm  
Hail resistance class 5



98 %  
recyclable



35 %  
of recycled glass content



**30** Product & Efficiency Guarantee  
YEAR

**90%** POWER WARRANTY



THE FIRST AND ONLY IN THE WORLD



ONE OF A FEW IN THE WORLD

## Electrical data (STC\*)

Maximum power (W)	455
Cell technology	N type, TOPCon - bifacial
Open circuit voltage ( $V_{oc}/V$ )	34,82
Short circuit current ( $I_{sc}/A$ )	15,97
Max power voltage ( $V_{mpp}/V$ )	29,71
Max power current ( $I_{mp}/A$ )	15,31
Module efficiency ( $\eta$ )	22,77 %
Max system voltage (V)	1500
Max current (A)	30
Power tolerance	0/+5W

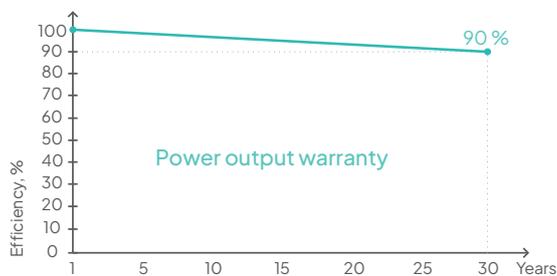
\*Under standard test conditions (STC) of irradiance of 1000W/sq.m., spectrum AM1.5 and cell temperature of 25°C. Flash testing measurement accuracy of +/-5%.

## Warranty

30 years product warranty

30 years efficiency warranty

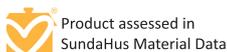
First year degradation (%)	1
Annual degradation (%)	0,31
Power in year 30 (%)	90



## Certifications

IEC 61215:2021; IEC 61730:2023

Cradle to Cradle (C2C)	Gold level
abZ/aBG	National technical approval / General construction permit
EN 13501-1:2019-05	B-s1, d0
IEC 62716:2013	Ammonia corrosion testing
IEC 61701:2020	Salt mist corrosion testing
IEC 61215-2:2021	50 mm hailstone - Hail resistance class 5 (HW5)
ISO 9001:2015	Quality management systems
ISO 14001:2015	Environmental management systems
ISO 45001:2018	Occupational health and safety
SundaHus	A level assessment
Produced using 100% renewable energy	
Membership at Svensk Solenergi	

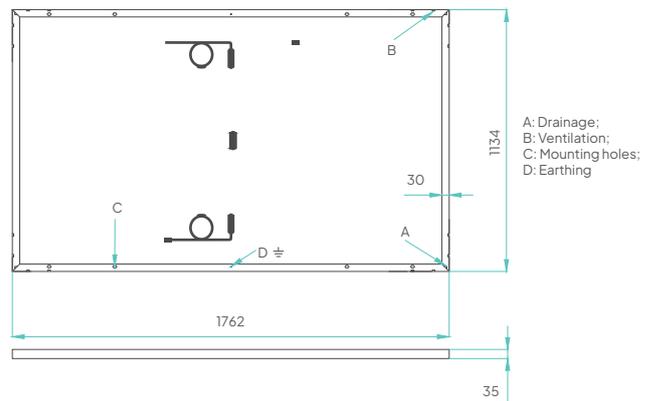


## Temperature ratings

Current temperature coefficient ( $\alpha$ )	+0,045% / °C
Voltage temperature coefficient ( $\beta$ )	-0,250% / °C
Power temperature coefficient ( $\delta$ )	-0,300% / °C
Nominal operating module temperature	46 °C

## Mechanical data

Dimensions (LxWxH) (mm)	1762x1134x35
Weight (kg)	35
Front glass (mm)	3.2, structured, low reflection, with AR coating, TVG
Back glass (mm)	3.2, black, TVG
Cell Size (mm)	182,2x105
Busbars	16
Cell configuration	6x16
Frame	Black anodized aluminium frame
Rated operating altitude (m)	Up to 2000
Operating temperature (°C)	-40 ÷ +85
Maximum test load (wind/snow) (Pa)	5400/10500
Junction box / IP class	Split junction box / IP68
Cable cross section size (mm <sup>2</sup> )	4
Cable length (m)	1,2
Bypass diodes	3
Connector	MC4-EVO2



## Packing information

Modules per pallet (pcs)	24
Dimensions of a pallet (LxWxH) (mm)	1854x1205x1189
Weight of a pallet (gross) (kg)	906
Pallets per 13,6 m truck (pcs)	26
Modules per 13,6 m truck (pcs)	624

