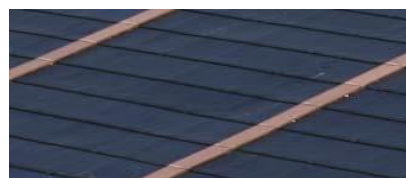


TEGOSOLAR E 136 e 144
PHOTOVOLTAIC SHINGLE, 22 SOLAR CELLS,
TRIPLE JUNCTION, FULLY INTEGRATED TO
BITUMINOUS BASE



Nominal output power	P _{nom}	W _p	136	144	+/-5%
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DIMENSIONS

length		mm	5442	5442	+/-2
width		mm	422	422	+/-2
thickness		mm	7,5	7,5	+/-0.5
exposed part width		mm	363	363	-

PHYSICAL CHARACTERISTICS

weight	-	kg/m ²	11,4	11,4	+/-12,5%
pv module weight	-	kg/m ²	3,5	3,5	+/-10%
bituminous base weight		kg/m ²	7,1	7,1	+/-10%
mechanical strenght (MD/CMD)	EN 544	N/ 5 cm	1500/1500	1500/1500	+/-15%

FIRE REACTION

UNI 9177	classificazione	classe 1
EN 13501-5	classificazione	B roof t1

ELECTRICAL PROPERTIES

		STC		NOCT	
		(standard test conditions: 1000 W/m ² AM1,5 T _{cella} =25°C)		(nominal operating cell conditions: 800 W/m ² , AM1.5, vento 1m/s, T=46°C)	
		TEG. E 136	TEG. E 144	TEG. E 136	TEG. E 144
Maxiumum output power (P _{max})	W _p	136	144	105	111
Voltage@P _{max} (V _{mp})	V	33	33	30,8	30,8
Current @ P _{max} (I _{mp})	A	4,1	4,4	3,4	3,6
Short circuit current (I _{sc})	A	5,1	5,3	4,1	4,3
Open circuit voltage (V _{oc})	V	46,2	46,2	42,2	42,2
Allowed current per fuse	A	10	10	-	-

TECNICAL DATA

Electric connection	Top junction box 2,5 mm² x 560 mm MC4 connectors
Bypass diodes	In parallel between each PV cell
Encapsulation	ETFE POLYMER
Adhesive	CO-POLYMER ETHYLEN-PROPYLENE (BUTIL TYPE SEALANT)
Cell type	Triple junction in a-Si cell 356x239 mm

NOTE:

- 1) In the first 8-10 weeks of use electrical values are over the nominal values; extrapower can be around 15% or more, extra-voltage around 11% and current 4%.
- 2) electrical values (±5%) refer to STC conditions after stabilization
- 3) At low temperatures, spectral influences, power can be different up to 10% of nominal power. Protection class II, TUV Rheinland verified, empty voltage can't be over 1000 VDC, acc.to UL standard no more than 600 VDC.
- 4) Tegosolar does not suffer the effects of corrosion of the TCO films for which there is no need to connect one ground the negative pole to prevent damage.
- 5) For installations on wood and concrete (not metal), no inverter with internal transformer is required
- 6) Specifics can be revised at any time.

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SECURITY CERTIFICATIONS

UL certifications

On PV module alone, UL certification on PV module alone for applications up to 600 VDC (electrical safety) and class A fire resistance, max slope 2/12, class B for max slope 3/12, classe C unlimited slope.

TUV certifications:

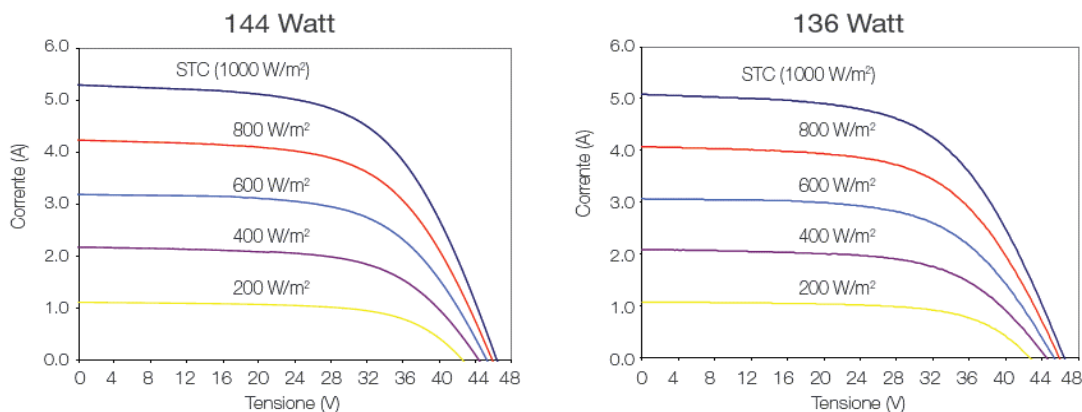
IEC 61646 ed2 and IEC 61730, protection class II up to 1000 VDC.

Temperature coefficient, AM1,5 e radiance power 1000 W/m²

Temperature coeff. I _{sc}	0,10 %/°C
Temperature coeff. V _{oc}	-0,38 %/°C
Temperature coeff. P _{max}	-0,21 %/°C
Temperature coeff. I _{mp}	0,10 %/°C
Temperature coeff. V _{mp}	-0,31 %/°C

U-I CURVES

AM=1,5 + cell temperature 25°C, different radiance



For further information on the company, the product and the installation, consult the website www.tegosolar.com

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Company with ISO 9001 quality system certification and ISO14001 environmental certification