Photovoltaic Noise Barrier

Payoff in 7 years*

Photovoltaic Noise Barriers (PVNBs) are technologies designed to reduce noise levels, protect noise-sensitive areas from road traffic noise and generate clean energy. Their design consists of a noise barrier system with a photovoltaic (PV) device that converts sunlight into electricity.

- Load-bearing ALU frame
- Enables different module layouts
- Inserts into HEA/HEB columns
- Fits with conventional acoustic modules
- Can fit to spans up to 5 m (2-5 m)
- Creates sound insulation

600 kW
Power per 1 km

570 MWh
Generation per km/year**

142 k Eur
Revenue per km/year***

*Payoff of additional investment comparing to conventional noise barrier** South Italy location. *** When price – 0.25 Eur/kWh.

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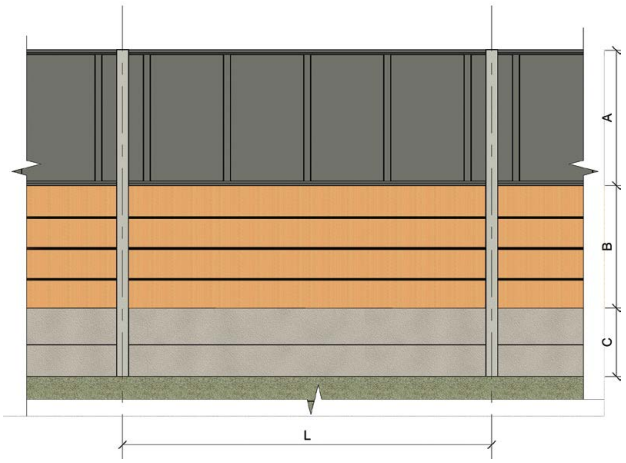
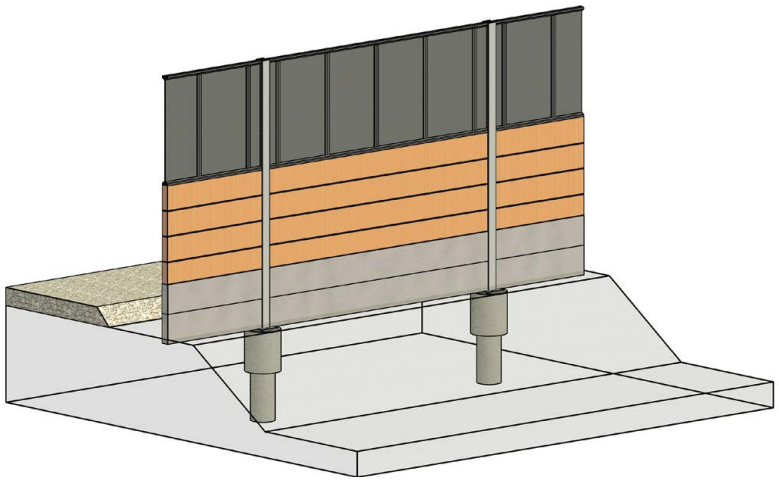
PVNB scheme



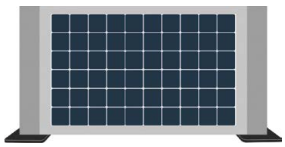
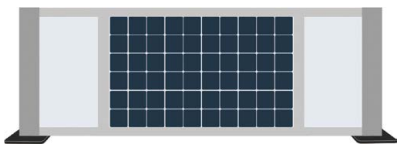
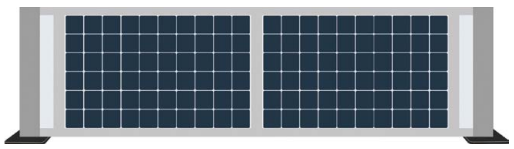
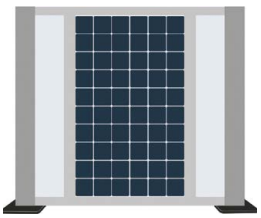
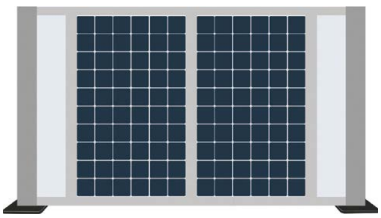
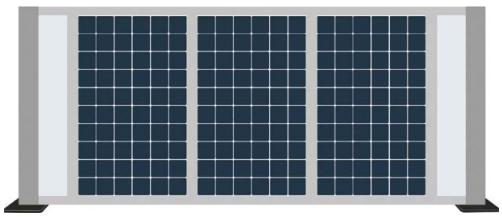


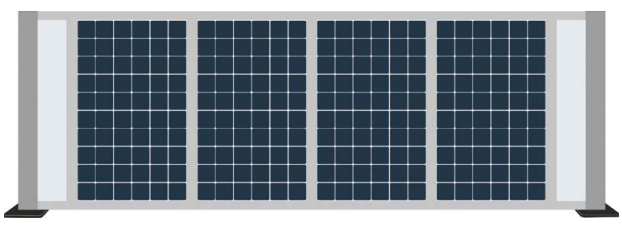
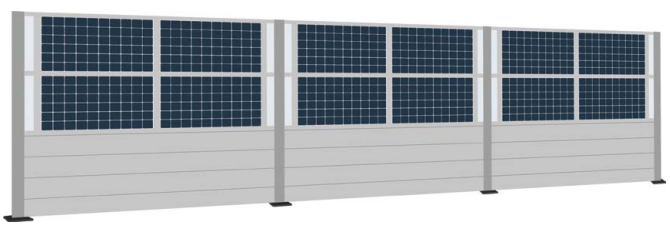
A	1110 mm	C	1200 mm
B	2000 mm	L	5000 mm

PVNB segment‘s standard* sizes and layouts

Height	Spans of H beams	Layout of segments
From 111 mm to 333 mm	2 m, 3 m, 4 m, 5 m	Portrait in line: 1, 2, 3, 4 Landscape in line: 1, 2

* If H beam step might be adjusted to different than standart one, no side inserts needed.

2 m	3 m	4 m
		
		

5 m	Example
	

PVNB segment parameters

Construction data			
Installation:	HEA, HEB or custom profiles	Minimum installation length and height:	1770 x 1049 (Solar module size)
Frame colour:	Bare aluminum or RAL colour	Modularity:	Landscape layout - 3 rows recommended
Compatibility with:	Aluminum, wooden or concrete acoustic segments		Portrait layout - 2 rows recommended

Acoustic parameters

Acoustic parameters of a segment	
Insulation factor from noise	DLR = 30 dB
It conforms to class	B3
PVNBs tests are performed according European noise insulation standards:	EN14388 EN 1793

Segment frame parameters

Construction data			
Wind load:	Acc. EN 1991-1-4	Construction material:	Aluminum frames with rubber gaskets
Snowplowing load:	Acc. EN 1794-1	Coating options:	Not coated or powder coated

Optional

Available additional services and products	
Acoustic segments:	Different material acoustic segments are available as sound absorption material (aluminum, wooden or cement composite)
Inverters:	Type and number will be fitted to particular set of segments
Batteries:	Number of unit and required battery capacity will be fitted to necessary power capasity to keep
Services:	On demand (PV plant / noise barrier)
Design:	On demand

Certificates

Modules	PVNB Segment
CE Cradle to Cradle ISO 9001; ISO 14001; ISO 45001 IEC 62716 (resistance to ammonia) IEC 61701 (resistance to salt) IEC 61215 IES 61730	CE acc. EN 1488 EN 14388 EN 1793 EN 1794

Photovoltaic parameters*

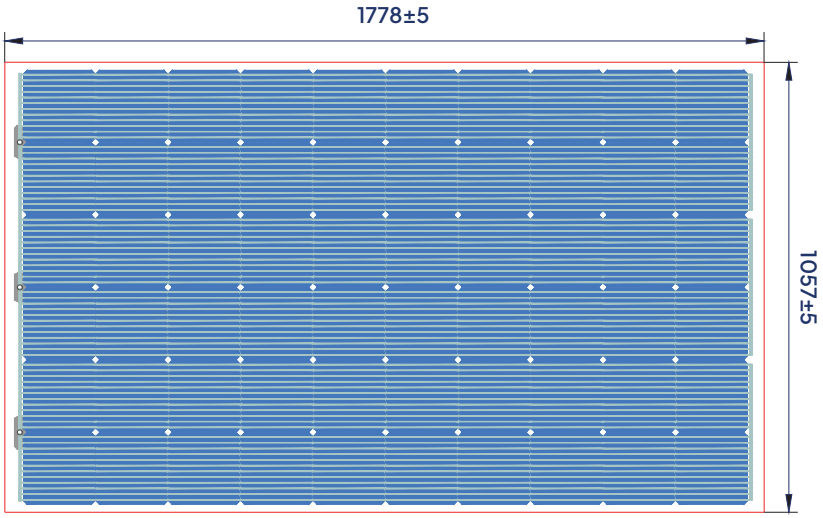
Module mechanical data	
Cells	60
Cell type	Bifacial
Cell configuration	6x10
Weight	30 kg
Dimensions (mm)	1770 x 1049 x 7,1
Glass front/back	3mm/3mm
Frame	Frameless
Junction box	Split junction box / IP68
Transparency %**	10

*For more technical data, please refer to Solid Bifacial module data sheet
**On necessity 40% module transparency might be offered

Module electrical data	
Maximum power	370
Max system voltage (V)	1500
Max current (A)	15
Power tolerance	0/+5W

Inverter	
Efficiency	Max 99%
Protection degree	Max IP66
Communication	Display, USB, MBUS, RS485, (4G)
Nominal Output Voltage	480V / 400V / 380V / 800V

Solar module scheme




Self-cleaning effect

Extreme load resistance


Salt mist resistance

Hail resistance

Ammonia resistance


Fire class A

Guarantee

- Solar modules - **30 years**
- Inverter - **10 years**
- Mounting system - **10 years**
- Segment frame - **10 years**
- Works - **5 years**

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