SPAIN PHOTOVOLTAIC S.L.

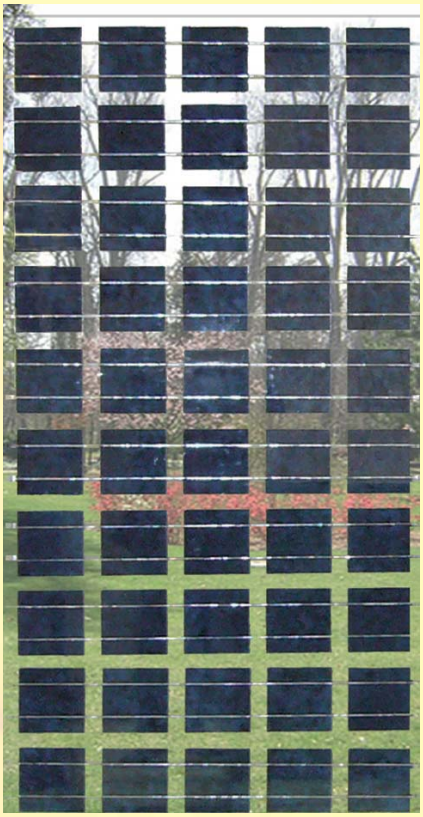
# CRISTALLYNE SILICON PHOTOVOLTAIC MODULES

**VitroPower**® catches the solar light and turns it into electric power thanks to his photovoltaic cells. On having been encased between two glasses, they allow to regulate the step of the light depending on the distance of separation between cells chosen, creating the interior wished environment.

**VitroPower**® is designed specially to integrate itself into buildings, replacing constructive materials so much facades as roofs. All this does that the photovoltaic modules VitroPower® provide the suitable balance between functionality and aesthetics in multitude of applications thanks to their facility to adapt to your constructive necessities, contributing in addition to the sustainable development of the planet.

## GENERAL CHARACTERISTICS

- Available in monocrystalline and multicrystalline silicon cells of high efficiency of conversion
- Double glass encapsulation according to the pluses technical outposts of lamination
- Low iron solar glass with high light transmission index
- Laminated with high quality anti-aging EVA
- Possibility to fit power and transparency to the power necessities
- Great variety of dimensions according to the constructive necessities
- Optionally available with air chanber system
- Manufacture and yield certified under the most demanding methods
- Guarantee in manufacture, assembly and materials during 3 years
- Power guarantee during 25 years



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## TECHNICAL DATA SHEET

### Characteristics

| Model | | VP120MS | VP60MS | VP144PS | VP72PS |
|---|---|---|---|---|---|
| Cell technology | | Monocrystalline | Monocrystalline | Multicrystalline | Multicrystalline |
| Number of cells* | | 50 / 5x10 | 25 / 5x5 | 60 / 6x10 | 30 / 5x6 |
| Cell size | mm | 125x125 | | | |
| Cell efficiency | % | 16,2 | 16,2 | 15,4 | 15,4 |
| Specific power | $W/m^2$ | 94 | 47 | 112,80 | 56,40 |
| Max. power at STC ($P_{max}$) | Wp | 120 | 60 | 144 | 72 |
| Voltage at $P_{max}$ ($V_{mp}$) | V | 24,5 | 15,45 | 29,4 | 14,7 |
| Open-circuit voltage ($V_{oc}$) | V | 30,9 | 12,25 | 37,08 | 18,54 |
| Current at $P_{max}$ ($I_{mp}$) | A | 5,41 | 4,94 | 5,50 | 5,50 |
| Short-circuit current ($I_{sc}$) | A | 4,94 | 5,41 | 5,00 | 5,00 |
| Module performance | % | 9,40 | 4,70 | 11,30 | 5,64 |

### Specifications

| | | | | | |
|---|---|---|---|---|---|
| Transparency* | % | 40,4 | 70,2 | 26,6 | 66,3 |
| Separation between cells* | | 3 to 20 mm | | | |
| Dimensions of module* | mm | 910x880 to 1760x1066 | | | |
| Thickness | | 3.2 mm +5 mm | | | |
| Weight | Kg | 35 | | | |
| Output terminal | | Junction box | | | |
| Cable | | LAPP ($4,0mm^2$) | | | |
| Conexions | | MC4 | | | |

### Limits

| | |
|---|---|
| Operating temperature | -40ºC a 85ºC |
| Realative humidity | 0 a 100% |

### NOTC y Coeficientes de Temperatura

| | |
|---|---|
| NOTC | 47ºC |
| Max. power at STC ($P_{max}$) | -0,5(± 0.05)%/ºC-0,5)%/ºC |
| $I_{sc}$ coefficient | +0,065(± 0.015)%/ºC |
| $V_{oc}$ coefficient | -0,38%/ºC |

**STC:** Irradiance $1000W/m^2$, Module temperature 25ºC, AM = 1,5.
**NOTC:** Nominal Operation Cell Temperature.

*** Variable parameters based on the constructive and power necessities of the building, therefore in the technical data sheet only appears some possible configurations.**

## VITROPOWER®