

## FIXED STRUCTURE

We design, calculate and produce **FIXED STRUCTURES** according to the particular conditions of each project. Our structures have an easy and quick assembly and an optimum adaptability on each ground.

We develop new solutions and innovative products, respecting the rules and the technical normative of each country.

### SPAIN

Head quarters

Travesía de la Industria N° 5  
 Polígono de las Arobias  
 33401 Avilés, Asturias  
 Tel. +34 985 525 755  
 Fax. +34 985 525 130

Paseo de la Castellana  
 N° 74 - 2ª Planta  
 CP 28046 Madrid

### CONTACT

[www.asturmadireneergy.com](http://www.asturmadireneergy.com)  
[info@asturmadireneergy.com](mailto:info@asturmadireneergy.com)  
 +34 985 525 755

### EXPERIENCE



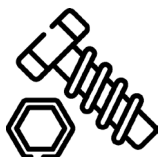
- More than 15 years in the photovoltaic sector.
- More than 4 GW.
- Experience in more than 33 countries.

### DESIGN AND STRUCTURAL ANALYSIS



- Our structures fulfill the requirements of the client and the standards of each country.
- Best foundation method tailored made for each project.

### PRODUCTION



- We product structural profiles according to UNE-EN 10162, with different qualities of steel.
- Different coating treatments to guarantee the durability of the elements (ZM, Hot dip Galvanized or similar treatments).

### ASSEMBLY AND MAINTENANCE



- Different types of foundation.
- Easy assembly with screws, without cuts or welds.
- Easy accesibility to modules.
- We recommend robotic cleaning.

### QUALITY



- Structures produced according to the European Standard UNE-EN 1090 (CE).
- Hot dip Galvanized and ZM coating according to UNE-EN ISO 1461 and UNE-EN 10346 (Posmac, Magnelis, ZAM or similar).
- Technical Information (Due Diligence) for Astrom Technical Advisors (ATA).
- Wind tunnel test (Wester University Ontario, Canada).

### WARRANTY



- Structures with 10 years of warranty (depending on the project).
- Coating treatment complying with UNE-EN ISO 14713 and ISO 9223 and 9509224.
- Design warranty 25 years.

## FIXED STRUCTURE

### GENERAL CHARACTERISTICS

|                     |                                                                                     |
|---------------------|-------------------------------------------------------------------------------------|
| Fixed Structure     | Single / Double Pillar                                                              |
| Solar Modules       | Monofacial / Bifacial                                                               |
| Maximum Slope       | We adapt the structures                                                             |
| Material            | Cold-formed steel with elastic limit greater than 275 N/mm <sup>2</sup>             |
| Finishing Treat (*) | Hot Dip Galvanized according to UNE - EN - ISO 1461 or ZM según UNE - EN 10346      |
| Type of Foundations | Sink Pillars, Screw, Concrete Foundation (Micro Pile, Shallow Concrete Foundation ) |
| Maximum Wind        | Tailored to local codes or specific conditions up                                   |

### TYPES OF STRUCTURES

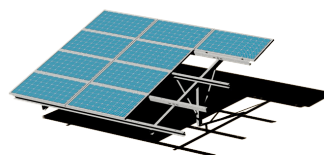
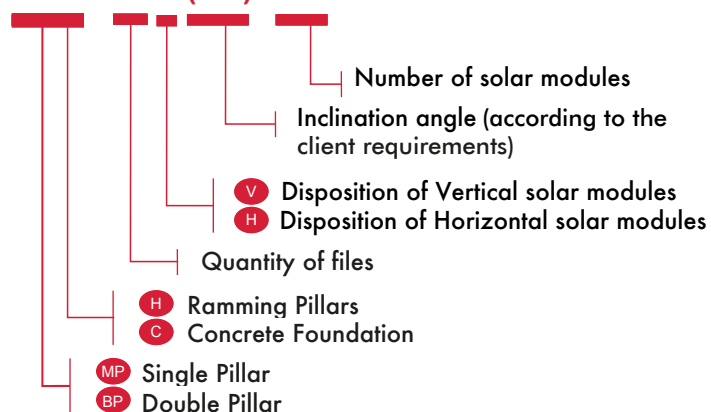


**SINGLE PILLAR**



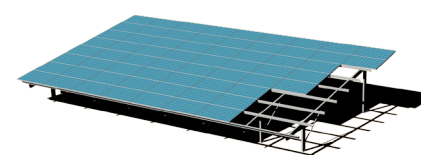
**DOUBLE PILLAR**

### MPH - 2P V (25°) / 40P



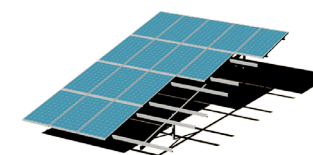
### MPH - 4PH (25°)/12P

Single pillar fixed structure with 4 files of horizontal solar modules with 25° of inclination, having 12 solar modules.



### BPH - 8PH (15°)/72P

Double pillar fixed structure with 8 files of horizontal solar modules with 15° of inclination, having 72 solar modules.



### BPH - 4PV (30°)/20P

Double pillar fixed structure with 4 files of vertical solar modules with 30°, having 20 solar modules.





## RENEERGY STRUCTURES

