

RENEWABLE ENERGY

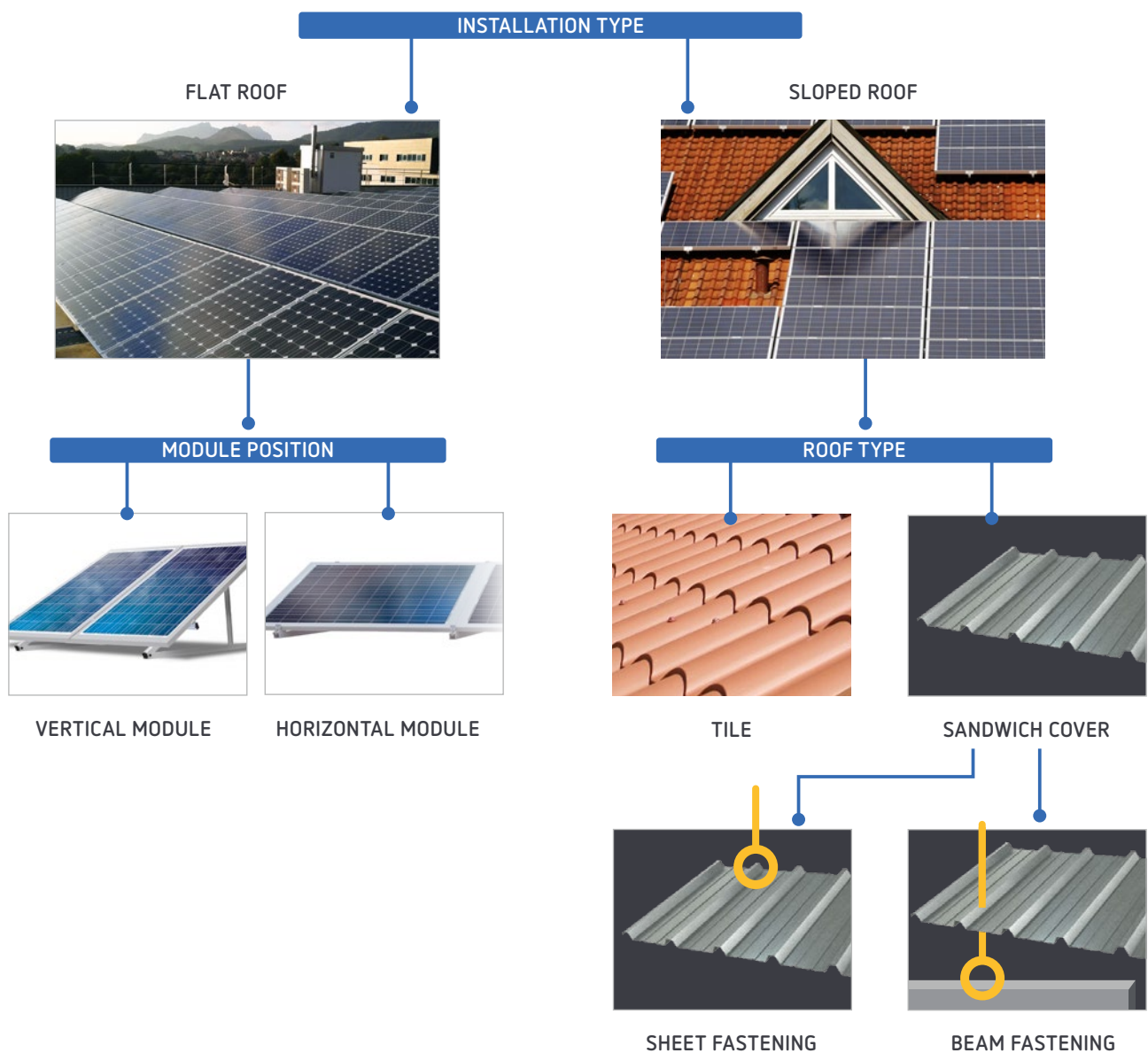
Structures and support profiles for photovoltaic modules

INTRODUCTION

Photovoltaic solar energy is one of the most economical and consolidated renewable sources in the market today. The constant rise in the price of electric energy together with the decrease in the prices of the elements that comprise a photovoltaic installation is generating a direct increase in the implementation of these systems. Future perspectives certify it as taking centre stage in order to accelerate the energy transition on a global scale.

On a small scale, it is self-consumption that is contributing to this energy revolution. To be able to generate electricity where it is needed, to be able to consume proximity KMO energy that uses a local, renewable and free resource.

The support structures are the elements that allow the fixing of the modules on the roofs where the photovoltaic installation must be housed, constituting a main element of the solution. Circutor offers a complete range of configurable support structures for any type of installation and roof.



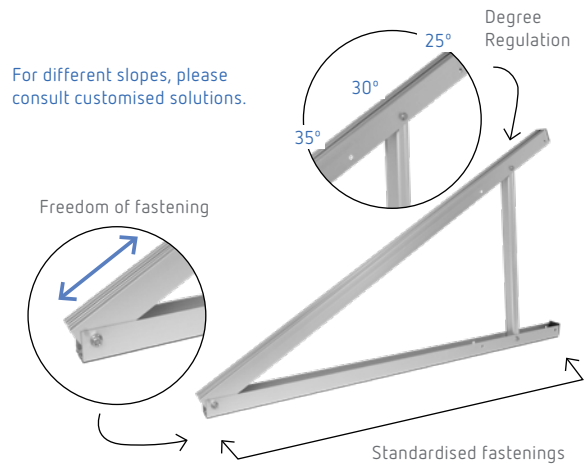
Components

Pre-assembled triangle

The pre-assembled triangle is the main element to create the supports with overhang or flat roof.

It is delivered with pre-assembled and mechanised parts to modify their angle of inclination.

There are two types of pre-assembly: for modules mounted vertically and for modules mounted horizontally.



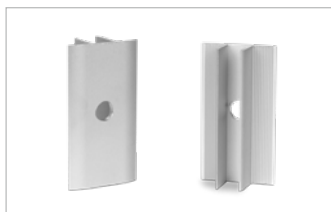
C40 Profiles

The C40 profile is the basic profile onto which photovoltaic modules are supported.

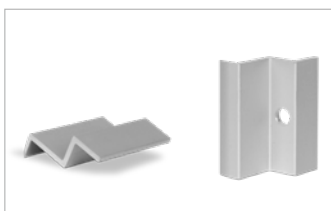
It is available in 3 sizes to generate batteries with both vertical and horizontal modules.



Fastening Kit



Fastening kit Module "T"
Fastening between modules



Fastening kit Module "Z"
Fastening end modules

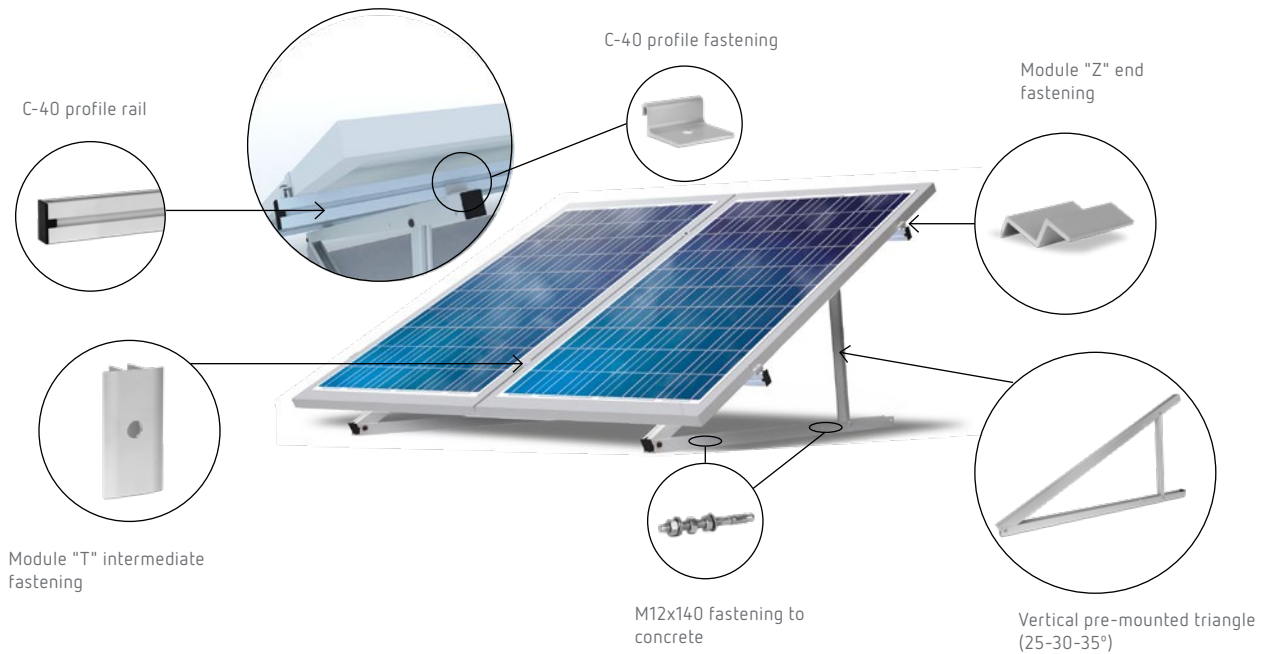


C40 Fastening kit
C40 fastening profile



C40 Fastening kit
Connector between C40 profiles

Flat roof support, vertical module



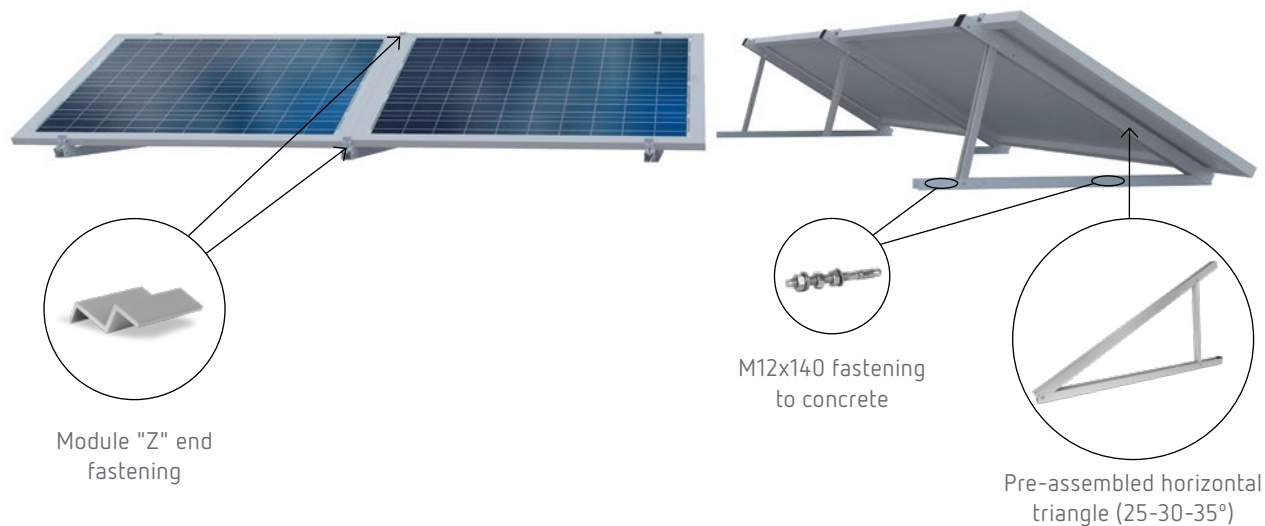
CPV

Structures for flat roof, vertical module

Type	Code	Number of Modules	C40 rail 2.08 m	C40 rail 3.10 m	End fastening (Z)	Intermediate fastening (T)	Pre-assembled triangle	Concrete fastening
CPV-2	[2] EEV202.	2	2	0	4	2	2	4
CPV-3	[2] EEV203.	3	0	2	4	4	3	6
CPV-4	[2] EEV204.	4	4	0	4	6	3	6
CPV-5	[2] EEV205.	5	2	2	4	8	4	8
CPV-6	[2] EEV206.	6	0	4	4	10	4	8
CPV-7	[2] EEV207.	7	4	2	4	12	5	10
CPV-8	[2] EEV208.	8	2	4	4	14	5	10
CPV-9	[2] EEV209.	9	0	6	4	16	6	12
CPV-10	[2] EEV20A.	10	4	4	4	18	6	12
CPV-11	[2] EEV20B.	11	2	6	4	20	7	14
CPV-12	[2] EEV20C.	12	0	8	4	22	7	14
CPV-13	[2] EEV20D.	13	4	6	4	24	8	16
CPV-14	[2] EEV20E.	14	2	8	4	26	8	16
CPV-15	[2] EEV20F.	15	0	10	4	28	9	18
CPV-16	[2] EEV20G.	0	4	8	4	30	9	18
CPV-17	[2] EEV20H.	17	2	10	4	32	10	20
CPV-18	[2] EEV20I.	18	0	12	4	34	10	20
CPV-19	[2] EEV20J.	19	4	10	4	36	11	22
CPV-20	[2] EEV20K.	20	2	12	4	38	11	22
CPV-21	[2] EEV20L.	21	0	14	4	40	12	24
CPV-22	[2] EEV20M.	22	4	12	4	42	12	24

Compatible for 60 cell PV modules (approximate measurements 1640 x 992 x 40 mm). Includes M12x140 fastening model for fastening in concrete. Adjustable to an inclination of 25-30-35°. For other layouts or types of PV module / fixings, please consult.

Flat roof support, horizontal module



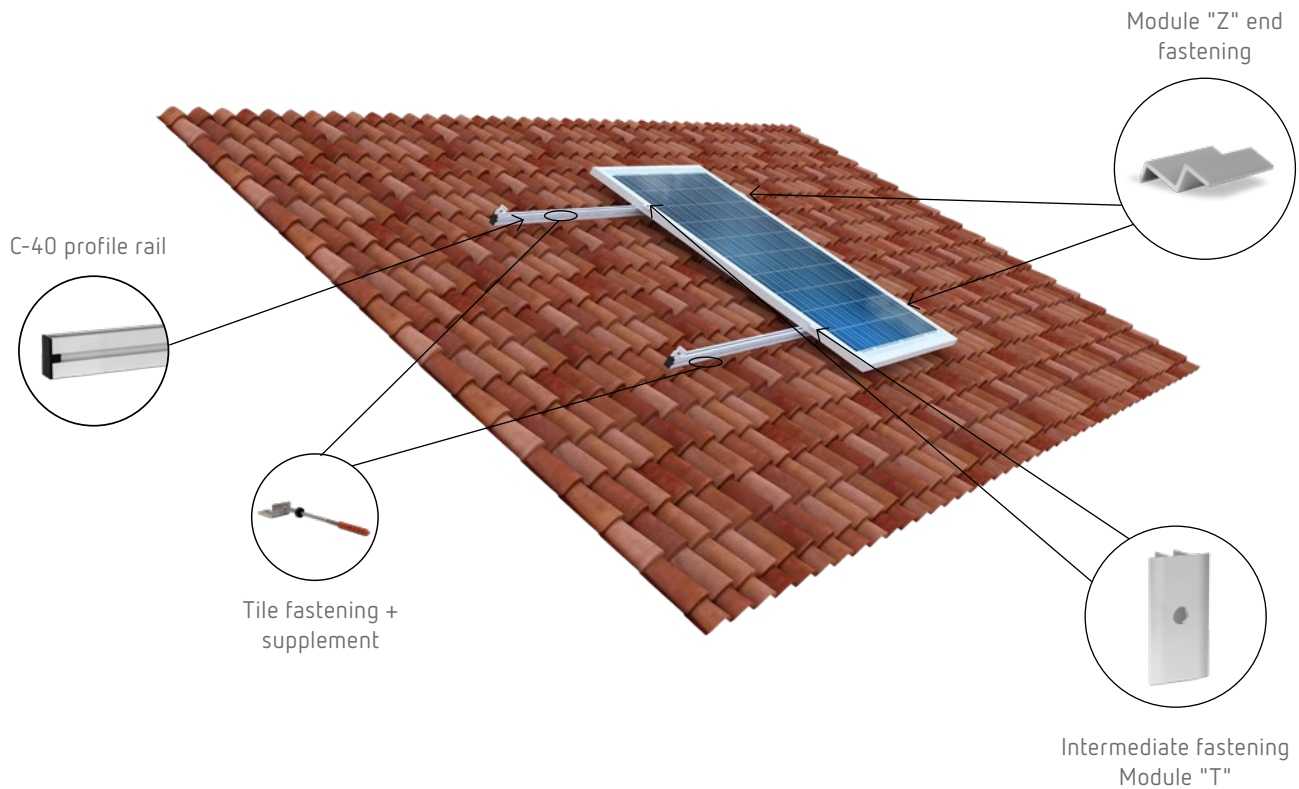
CPH

Flat roof structures, horizontal module

Type	Code	Number of Modules	End fastening (Z)	Pre-assembled triangle	Concrete fastening
CPH-2	[2] EEH202.	2	6	3	6
CPH-3	[2] EEH203.	3	8	4	8
CPH-4	[2] EEH204.	4	10	5	10
CPH-5	[2] EEH205.	5	12	6	12
CPH-6	[2] EEH206.	6	14	7	14
CPH-7	[2] EEH207.	7	16	8	16
CPH-8	[2] EEH208.	8	18	9	18
CPH-9	[2] EEH209.	9	20	10	20
CPH-10	[2] EEH20A.	10	22	11	22
CPH-11	[2] EEH20B.	11	24	12	24
CPH-12	[2] EEH20C.	12	26	13	26
CPH-13	[2] EEH20D.	13	28	14	28
CPH-14	[2] EEH20E.	14	30	15	30
CPH-15	[2] EEH20F.	15	32	16	32
CPH-16	[2] EEH20G.	16	34	17	34
CPH-17	[2] EEH20H.	17	36	18	36
CPH-18	[2] EEH20I.	18	38	19	38
CPH-19	[2] EEH20J.	19	40	20	40
CPH-20	[2] EEH20K.	20	42	21	42
CPH-21	[2] EEH20L.	21	44	22	44
CPH-22	[2] EEH20M.	22	46	23	46

Compatible for 60 cell PV modules (approximate measurements 1640 x 992 x 40 mm). Includes M12x140 fastening model for fastening in concrete. Adjustable to an inclination of 25-30-35°. For other layouts or types of PV module/fixings, please consult.

Sloped roof support



CI

Structures for sloped roof

Type	Code	Number of Modules	C40 Rail 2.08 m	C40 rail 3.10 m	End fastening (Z)	Intermediate fastening (T)	Tile fastening + supplement
CI-2	[2] EEI212.	2	2	0	4	2	4
CI-3	[2] EEI213.	3	0	2	4	4	6
CI-4	[2] EEI214.	4	4	0	4	6	6
CI-5	[2] EEI215.	5	2	2	4	8	8
CI-6	[2] EEI216.	6	0	4	4	10	8
CI-7	[2] EEI217.	7	4	2	4	12	10
CI-8	[2] EEI218.	8	2	4	4	14	10
CI-9	[2] EEI219.	9	0	6	4	16	12
CI-10	[2] EEI21A.	10	4	4	4	18	12
CI-11	[2] EEI21B.	11	2	6	4	20	14
CI-12	[2] EEI21C.	12	0	8	4	22	14
CI-13	[2] EEI21D.	13	4	6	4	24	16
CI-14	[2] EEI21E.	14	2	8	4	26	16
CI-15	[2] EEI21F.	15	0	10	4	28	18
CI-16	[2] EEI21G.	16	4	8	4	30	18
CI-17	[2] EEI21H.	17	2	10	4	32	20
CI-18	[2] EEI21I.	18	0	12	4	34	20
CI-19	[2] EEI21J.	19	4	10	4	36	22
CI-20	[2] EEI21K.	20	2	12	4	38	22
CI-21	[2] EEI21L.	21	0	14	4	40	24
CI-22	[2] EEI21M.	22	4	12	4	42	24

Compatible for 60 and 72-cell PV modules (measures approximately 1640 x 992 x 40 mm and 2000 x 992 x 40 mm). Includes fastenings for tile roofing type M12x250. For other types of roofing or fastenings, please consult.

Types of roof and fixing

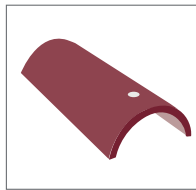
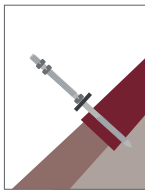
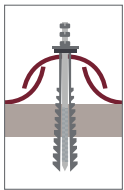
TILE FASTENINGS



ARABIC TILE SCREW

Features:

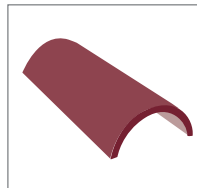
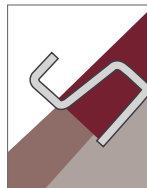
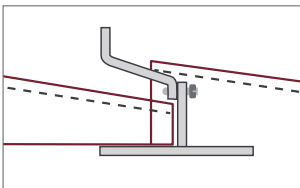
- › Screw for fixing brackets on roofs with Arabic tile. It is supplied with a supplementary bed-plate that provides the possibility of regulation.
- › All elements are delivered in stainless steel.
- › Other finishings upon request. This can be fixed to concrete and wood.



ADJUSTABLE 4 POINT TILE PROTECTOR

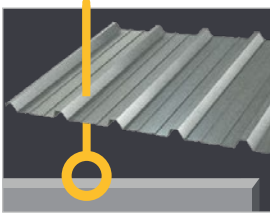
Features:

- › Height-adjustable tile protector with 5 fixing points.
- › Designed to be fastened to concrete. Covers 70 to 97mm.



Types of roof and fixing

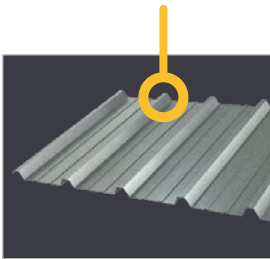
SANDWICH PANEL OR GRIPED PANEL ROOF FASTENINGS



FASTENING ON METAL BELT

Features:

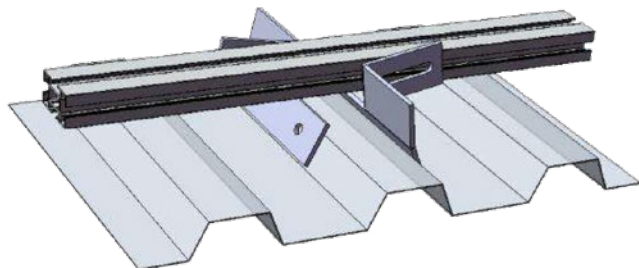
- › Stainless steel screws for fastening to plant roofs.
- Direct fastening to the belt.



SHEET FASTENING

Features:

- › Fastening in stainless steel sheet to fix directly on the undulations of "sandwich" model roofing.
- › Different models are available depending on the type of roofing.
- › Tailor-made layouts.



Types of roof and fixing

CONCRETE FASTENINGS



ANCHOR BOLT, FASTENING FOR CONCRETE

Features:

- › This element allows to fasten any support to a concrete surface. It requires drilling.



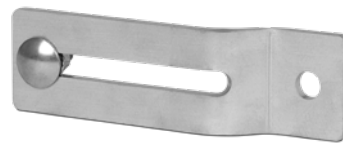
BED-PLATES AND SUPPLEMENTS



ANGLE

Features:

- › The fastening angle will allow us to move from a fixing point in the horizontal plane to a fixing in the vertical plane.
- › This also allows for a minor height adjustment.



BED-PLATES

Features:

- › The bed-plates will allow us to regulate in the horizontal plane.
- › Available as flat and with height supplement.







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