
ENGINEERED TO LAST

Solar mounting systems.

Three omega rails with a common width of 41.3 mm, two coatings and a single accessory system, from steel deck roofs to shade structures.



05

SOLAR MOUNTING SYSTEMS

Solar mounting systems.

Three omega rails with a common width of 41.3 mm, two coatings and a single accessory system, from steel deck roofs to shade structures.

IN THIS SECTION

The profile range	03
G and M coatings	04
Which coating for which site	05
Roofs	06
Carports and shade structures	07

Ground-mounted systems	08
Module fixing	09
Fixing and joints	10
Accessory range	11

SYSTEMS

Roofs, carports and shade structures, ground-mounted installations.

A single accessory system for the whole range: same module clamps, same bolts.

OMEGA SECTIONS FOR SOLAR STRUCTURES

The profile range

Cold-formed omega sections, common width 41.3 mm, in S350GD steel. Three heights to cover steel deck roofing, universal installation and the long spans of carports and shade structures.



PS-21×41



PS-41×41



PS-61×41

PROPERTIES S350GD steel · EN 10346 · thickness t in mm · weight in kg/m · indicative rail span between two supports in m

REFERENCE	THICKNESS t	WEIGHT	MAX. SPAN rail between supports	PERFORATION	LENGTH
PS-21×41 · LIGHT RAIL, STEEL DECK ROOFS					
PS-21×41-15	1.50	1.08	2.00	1 face · 60 mm pitch	≤ 6 m
PS-21×41-20	2.00	1.44	2.50	1 face · 60 mm pitch	≤ 6 m
PS-41×41 · UNIVERSAL PROFILE, EQUAL STRENGTH IN BOTH DIRECTIONS					
PS-41×41-15	1.50	1.62	2.50	1 face · 60 mm pitch	≤ 6 m
PS-41×41-20	2.00	2.16	3.00	1 or 3 faces	≤ 6 m
PS-41×41-25	2.50	2.70	3.50	1 or 3 faces	≤ 6 m
PS-61×41 · LONG SPAN, CARPORTS AND SHADE STRUCTURES					
PS-61×41-20	2.00	2.81	4.50	3 faces · 60 mm pitch	≤ 6 m
PS-61×41-25	2.50	3.52	5.50	3 faces · 60 mm pitch	≤ 6 m

Maximum span: distance between two supports of the module mounting rail (purlins, cross members, hooks or pile heads). Known assumptions: 72-cell modules in portrait orientation, wind zone 2 to EN 1991-1-4. Static system (single or continuous span), rail spacing, loads carried (snow, local wind, module weight) and allowable deflection not specified: indicative values, **to be confirmed by a project-specific calculation note**. These values do not apply to the main structure (columns, beams) of carports: see page 07.

S350GD steel to EN 10346, tolerances EN 10143. Length to order, up to 6 m.

STEEL GRADE
S350GD

COMMON WIDTH
41.3 mm

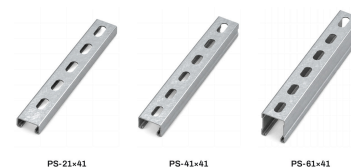
LENGTH
Up to 6 m

COATINGS
Z200 or ZM250

CORROSION PROTECTION · THE KEY CRITERION

G and M coatings

Same profile, same S350GD steel: two coatings depending on site aggressiveness. This choice determines the service life of the whole installation.



G RANGE

Z200 galvanized

Zinc 200 g/m² both sides, for low to moderate exposure.

M RANGE

Magnelis® ZM250

Zinc-aluminium-magnesium 250 g/m², for moderate to high exposure.

G RANGE · Z200 GALVANIZED

PROPERTY	VALUE
Coating	zinc 200 g/m ² both sides
Zinc thickness	14 µm per face
Indicative exposure	low to moderate
Specification	to be confirmed according to the site and target life
Use	roof and ground · dry environment

M RANGE · MAGNELIS® ZM250

PROPERTY	VALUE
Composition	Zn 93.5 · Al 3.5 · Mg 3 %
Mass and thickness	250 g/m ² both sides · 20 µm per face
Indicative exposure	moderate to high
Specification	to be confirmed according to the site and target life
Cut edges	behaviour to be checked against manufacturer data

Same profile, same steel

The PS-21×41, PS-41×41 and PS-61×41 rails exist in both ranges, with the same dimensions, the same S350GD steel and the same accessories. Only the coating changes.

The choice between G range and M range depends on the site corrosivity category: see page 05.

Indicative values, to be confirmed by the design office. Thickness per face = mass per face ÷ coating density: Z200, 100 g/m² ÷ 7.14 g/cm³ 14 µm; ZM250, 125 g/m² ÷ 6.2 g/cm³ 20 µm, value given by ArcelorMittal data sheet E35 (Magnelis®). Magnelis® is a registered trademark of ArcelorMittal.

STEEL

S350GD

G RANGE

Z200

M RANGE

Magnelis® ZM250

STANDARD

EN 10346

CORROSION PROTECTION · SELECTION AID

Which coating for which site

The site corrosivity category governs the profile coating and the fixing material. The two go together: a Magnelis® profile held by galvanized screws deteriorates through its fasteners.

WHICH COATING FOR WHICH ENVIRONMENT ISO 9223 categories

SITE ENVIRONMENT	CLASS	SECTIONS	FIXINGS
Dry interior, rural area	C1 - C2	G range · Z200	compatible corrosion-resistant fixing
Standard urban or industrial	C3	G or M range	to be confirmed according to the system
Heavy industrial / marine atmosphere	C4	M range · ZM250	stainless to be studied depending on exposure
Very high corrosivity	C5 / CX	coating on request	A4 / 316L stainless on request

Preselection guide only: the corrosivity category describes the atmosphere but does not by itself set the service life of the coating. Confirm the choice according to actual exposure, intended life, fixings and manufacturer data. Magnelis® is a registered trademark of ArcelorMittal.

SENSITIVE SITES

01

Seaside

Chlorides and the actual distance from the coast require a site assessment; coating and fixings are validated together.

02

Livestock and greenhouses

Humidity, ammonia and cleaning products may accelerate corrosion; an enhanced selection should be studied.

03

Saline desert

Surface salts, abrasion and condensation can increase aggressiveness; the final choice depends on actual exposure.

Corrosion protection specification

For aggressive environments, validate the solution based on the corrosivity category, the target service life, fastener compatibility and the performance data of the chosen coating.

CLASS C1 - C2

G range

CLASS C3

G or M range

CLASS C4

M range

CLASS C5 / CX

On request

SYSTEMS BY APPLICATION

Roofs

The PV rail is fixed to the roof structure with the FIX-EQ-150 bracket or the FIX-SUP support. It then takes the same module clamps and the same bolts, whatever the roof type.

PITCHED STEEL DECK

Bracket on purlin

Rail fixed to the purlins with the FIX-EQ-150 bracket and the M8 × 60 bolt.

FLAT ROOF

Mounting support

Rail fitted on the FIX-SUP support, connection to the flat substrate to be validated for each roof.

ALL ROOFS

Same clamps

PC-INT-60 and PC-EXT-60 clamps tightened on the rail with an M10 spring nut.

PITCHED STEEL DECK ROOF bracket on purlin

PROPERTY	VALUE
Rail span between purlins	1.25 m → PS-41×41-20 · 1.50 to 2.00 m → PS-41×41-25
Recommended inclination	15° to 20° depending on latitude
Rail fixing	FIX-EQ-150 bracket and BLT-M8-60 bolt
Module fixing	PC-INT-60 and PC-EXT-60 clamps, ECR-M10-RES spring nut

Uplift resistance of the deck and its fixings to the purlins must be checked for each project. Rail spans: static system, module configuration and loads not specified, **to be confirmed by a project-specific calculation note**.

Flat roof

Rail fitted on the FIX-SUP mounting support. Its compatibility with the roof build-up, the method of connection to the substrate and any ballast are validated with the specifier and the applicable warranty conditions. The calculation note is prepared according to the project scope.

ADVISED INCLINATION

15° to 20°

STEEL DECK

FIX-EQ-150 bracket

FLAT ROOF

FIX-SUP support

CLAMPS

Common

SYSTEMS BY APPLICATION

Carports and shade structures

Main structure in rolled sections, designed on request; PS-61×41 rails carrying the modules between beams, up to 5.50 m. Fully functional car park, charging point cabling housed in the rail perforations.



01

Rail PS-61×41-20 · 4.50 m

maximum span of the module fixing rail between two beams of the main structure.

02

Clear height 2.10 m

to be defined according to vehicles, site use and applicable regulations.

03

Rail PS-61×41-25 · 5.50 m

maximum rail span between beams, for the widest frame spacings.

04

EV cable passage Ø 20 to 32 mm

in the rail's 3-face perforations: no additional rail drilling for charging point cabling.

TYPICAL CONFIGURATION

PROPERTY	VALUE
Main structure	columns and beams in rolled sections · designed on request
Module fixing rail	PS-61×41 (2.00 or 2.50 mm) · perforated on 3 faces · fitted between beams
Rail span between beams	4.00 to 4.50 m in PS-61×41-20 · up to 5.50 m in PS-61×41-25
Allowable load	150 kg/m ² · tilt 15° to 25° · assumptions to be specified
Column base	on request

Spans: module fixing rail between two beams (page 03), not columns or beams of the main structure. Load taken (snow, wind, module weight), static scheme and module configuration not specified: indicative values, **to be confirmed by a project-specific calculation note.**

Foundations and calculation note

Foundations, piles or concrete blocks, are not part of the supply. However, each carport quotation comes with the characteristic forces at column base, directly usable by the design office to size the foundations.

SECTION

PS-61×41

RAIL SPAN

Up to 5.50 m

CLEAR HEIGHT

2.10 m

ALLOWABLE LOAD

150 kg/m²

SYSTEMS BY APPLICATION

Ground-mounted installations

Fixed structures, tilt 0° to 45°: two variants depending on pile spacing and site constraints.

VARIANT A · DIRECT STRUCTURE

PROPERTY	VALUE
Sequence	pile → FIX-SUP support → rail
Rail span between piles	up to 3.50 m · PS-41×41-25
Ground required	uniform bearing capacity
Levels	3 (pile, support, rail)

VARIANT B · C+ / Z RAIL BEAMS

PROPERTY	VALUE
Sequence	pile → C+ / Z → FIX-EQ-150 bracket → rail
Rail beam span	3 to 5 m between piles · C+ / Z 200 or 250
Advantage	up to -40 % piles
Levels	4 (+ C+ / Z rail beam)

Ground difficult to drill or aim to reduce the number of foundations: the horizontal C+ or Z rail beam spans between two piles up to 5 m apart, and the rail is fixed to it with the FIX-EQ-150 bracket. The increased spacing directly reduces earthworks cost. Variant B uses the C+ and Z purlins of section 02 (the brochure C+ and Z purlins): same sections, same traceability, same contact as for the building roof.

Spans between piles: indicative values (rail in variant A, rail beam in variant B); static system and loads (wind, snow, module weight) not specified, **to be confirmed by a project-specific calculation note**. C+ rail beams in single span only.

Design point, variant B

The rail fixed on the flange of the C+ or Z creates an eccentric load on the rail beam, i.e. partial torsion. This is taken into account in the design provided by the technical department: do not build this variant without a project-specific calculation note.



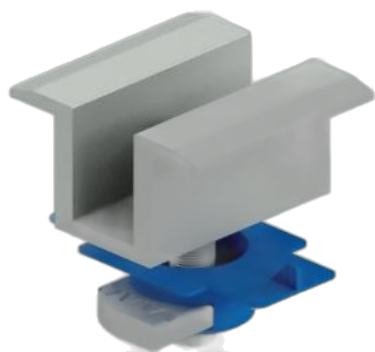
PV rails on C+ / Z rail beams · variant B

SYSTEM ACCESSORIES

Module fixing

Module clamps and clamping parts on the rail: the clamp is fixed by a spring nut or a hammer-head bolt engaged in the rail. The same accessories for all three rail sections and both coatings.

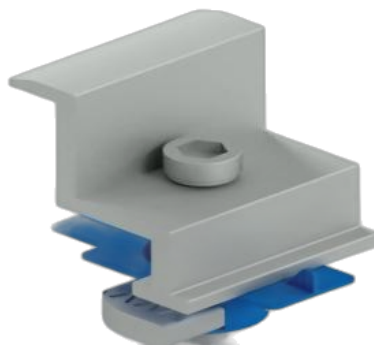
CLAMPS AND RAIL FASTENING



PC-INT-60
Mid clamp

DIMENSIONS
60 × 4.0 mm

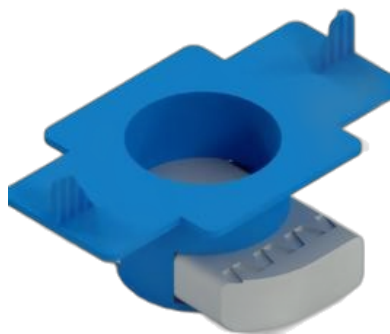
USE
fixing between two
modules, on rail



PC-EXT-60
End clamp

DIMENSIONS
60 × 35 × 4.0 mm

USE
module fixing at the edge,
on rail



ECR-M10-RES
M10 spring nut

DIMENSIONS
M10 × 6 mm

USE
rail channel nut,
positionable



BLT-M8-30-A2
M8 × 30 hammer-head bolt and nut

DIMENSIONS
stainless A2

USE
fixing accessories to the rail

MID CLAMP

60 × 4.0 mm

END CLAMP

60 × 35 × 4.0 mm

SPRING NUT

M10

HAMMER-HEAD BOLT

M8 · stainless A2

SYSTEM ACCESSORIES

Fixing and joints

Connection of the rail to the supporting structure by bracket or mounting support, end-to-end joining of two rails by joint support, assembly with M8 bolt.

FIXING TO THE STRUCTURE AND JOINTS



FIX-EQ-150
Fixing bracket

DIMENSIONS
150 × 65 × 2.5 mm

USE
connects the rail to the supporting structure



FIX-SUP
Mounting support

DIMENSIONS
base plate and U upright

USE
rail foot on a flat support



ACC-JUM
Joint support

DIMENSIONS
perforated plate

USE
joins two rails end to end



BLT-M8-60
M8 × 60 bolt and nut

DIMENSIONS
M8 × 60 mm

USE
fixing the rail to bracket or support

BRACKET

150 × 65 × 2.5 mm

MOUNTING SUPPORT

Plate and U

JOINT SUPPORT

Rails end to end

BOLT

M8 × 60 mm

SYSTEM ACCESSORIES

Accessory range

Eight references to mount the modules on PS-21×41, PS-41×41 and PS-61×41 rails, in the G range as in the M range.

SUMMARY

REFERENCE	DESCRIPTION	DIMENSIONS	USE
 PC-INT-60	Mid clamp	60 × 4.0 mm	fixing between two modules, on rail
 PC-EXT-60	End clamp	60 × 35 × 4.0 mm	module fixing at the edge, on rail
 ECR-M10-RES	M10 spring nut	M10 × 6 mm	rail channel nut, positionable
 BLT-M8-30-A2	M8 × 30 hammer-head bolt and nut	stainless A2	fixing accessories to the rail
 FIX-EQ-150	Fixing bracket	150 × 65 × 2.5 mm	connects the rail to the supporting structure
 FIX-SUP	Mounting support	base plate and U upright	rail foot on a flat support
 ACC-JUM	Joint support	perforated plate	joins two rails end to end
 BLT-M8-60	M8 × 60 bolt and nut	M8 × 60 mm	fixing the rail to bracket or support

Bolted assembly on the rail

No on-site drilling of the rail for rail-accessory connections: the spring nut or hammer-head bolt fits in the rail and in its perforations at 60 mm pitch.

Joint support at each connection between two rails.

REFERENCES

8 accessories

RAILS

PS-21 · 41 · 61

COATINGS

G and M ranges

PERFORATION

60 mm pitch

Let's talk about your project.

THE 2026 COLLECTION

01 Structural steel and rolled sections

02 C+ and Z purlins

03 Building envelope

04 Plasterboard framing

05 **Solar mounting systems**

06 Pallet racking

SALES DEPARTMENT

+212 661 623 623

commercial@atlassteel.ma

HEAD OFFICE

Complexe Industriel Bled Solb n°76

Mohammedia, Morocco

+212 522 070 165

contact@atlassteel.ma

ONLINE

atlassteel.ma

TECHNICAL DEPARTMENT

Calculation notes, installation drawings, non-standard designs: contact the sales department.