






MOUNTING SYSTEMS FOR SOLAR INSTALLATIONS ON
FLAT ROOFS
INSTALLATION AND MAINTENANCE

INDEX

		Page
A Safety Indications	A1 Classification of the safety indications	3
	A2 Safety indications	4
	A3 Indications for the planning and the sizing	5
	A4 Description of the system	6
B Mounting sequence	B1 Sequence mounting standard	7
	B2 Mounting rear and side bars	8
	B3 Sequence mounting doubling ballast	9
	B4 Sequence mounting additional weights (35Kg and 50Kg)	10
	B5 Mounting Carter	11
	B6 Mounting Carter 10 °	12
	B7 Sequence mounting panels east-west	13
	B8 Mounting plate for cross bars	14
	B9 Mounting plate Junction	15
C Maintenance		16
D Responsibility		17
E Guarantees		19
F Declaration of Conformity		22
G Registry system		23
H Register for planned maintenance		24

A Safety Indications

A1 Classification of the safety indications

	DANGER! Warns of an immediate danger of death
	WARNING! It warns of a possible danger to life and / or serious injury
	CAUTION! Warns of possible injuries
	WARNING! Warns of material damage without possibility of injury

During assembly follow the standards, building regulations and local safety regulations. Observe the safety of other system components of the plant.

- The lack observation of the instructions brought following can cause damages to things and/or you serious injury

- To preserve the instructions for the assemblage.

- Keep the instructions for assembly.

A2 Safety indications



Warning !

Risk of falls

When working on roofs and during the slope and the descent there is the risk of falls. Absolutely follow to safety regulations and use appropriate fall protection.



Precaution!

Lesion to the hands

- During the assemblage of the structure and the forms you can be crushed us the hands.
- The jobs must exclusively be performed from personal on purpose trained.
- To use protective gloves

Muscular tears

- Not to lift great loads of 25kg to operator

Fallen of objects

- During the assemblage on the roof there is the risk that from the roof utensils fall, material of assemblage, causing lesions to the underlying people.
- Before beginning the jobs of assemblage, to delimit the zone of earth danger and to warn the people that are found in the proximities.

A3 Indications for the planning and the sizing (Load winds)

- Value the needs of the use of accessories to enhance the stability of the system according to the wind load, as shown in DM14 01 2008 Circ. 02 February 2009-N 617.

The conclusive factors for the load wind are the speed of reference, that goes in base to the location plant zone (from 1 to 9), height building, distance from the edges of the coverage.

Pay particular attention to installations within 30 km of the coast and / or typically windy.

It is the responsibility of the designer and the executor of the work size the system structure.

- Make sure that the substructure is appropriate in terms of capability.

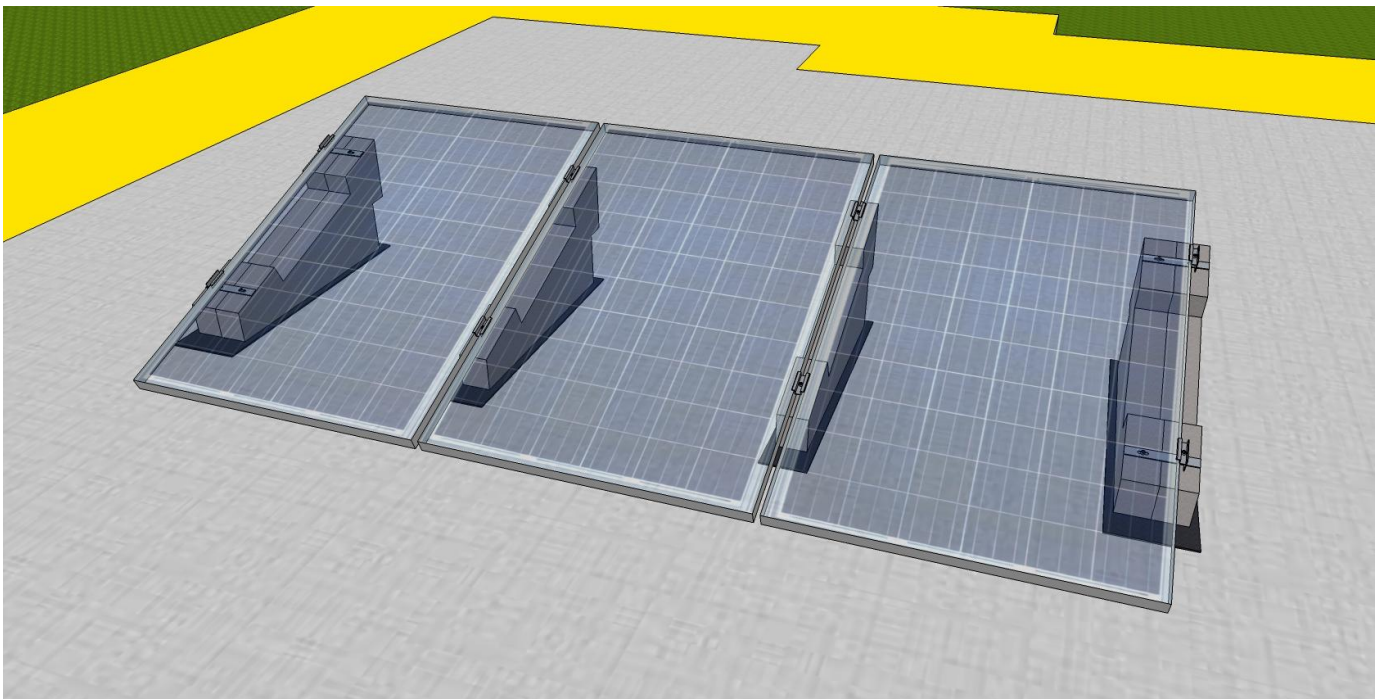
Ask the client the residual load available, check that the ceiling performs the function of the department of loads and divide the weight of modules + ballast to mq including the area between the rows and the edges facility.

- For any doubt consult a qualified technician

A4 Description of the system

Sun Ballast is a modular system both in terms of degrees of tilt that weight, thanks to the 14 models of the Sun Ballast: 0°, 0°.K, 3°, 5°, 8°, 10°, 11°, 11°.K, 11°.2, 11°.3, 15°, 20°, 30°, 30°.1, which allow you to put the modules in various combinations possible horizontal, vertical, east-west.

The modulation of the weight is made thanks to the possibility of inserting additional ballast and/or installing reinforcing bars; this to the advantage of going to insert weights only in the most appropriate without unnecessarily load areas of coverage and meet the verification of resistance to wind actions.



GENERAL INFORMATION

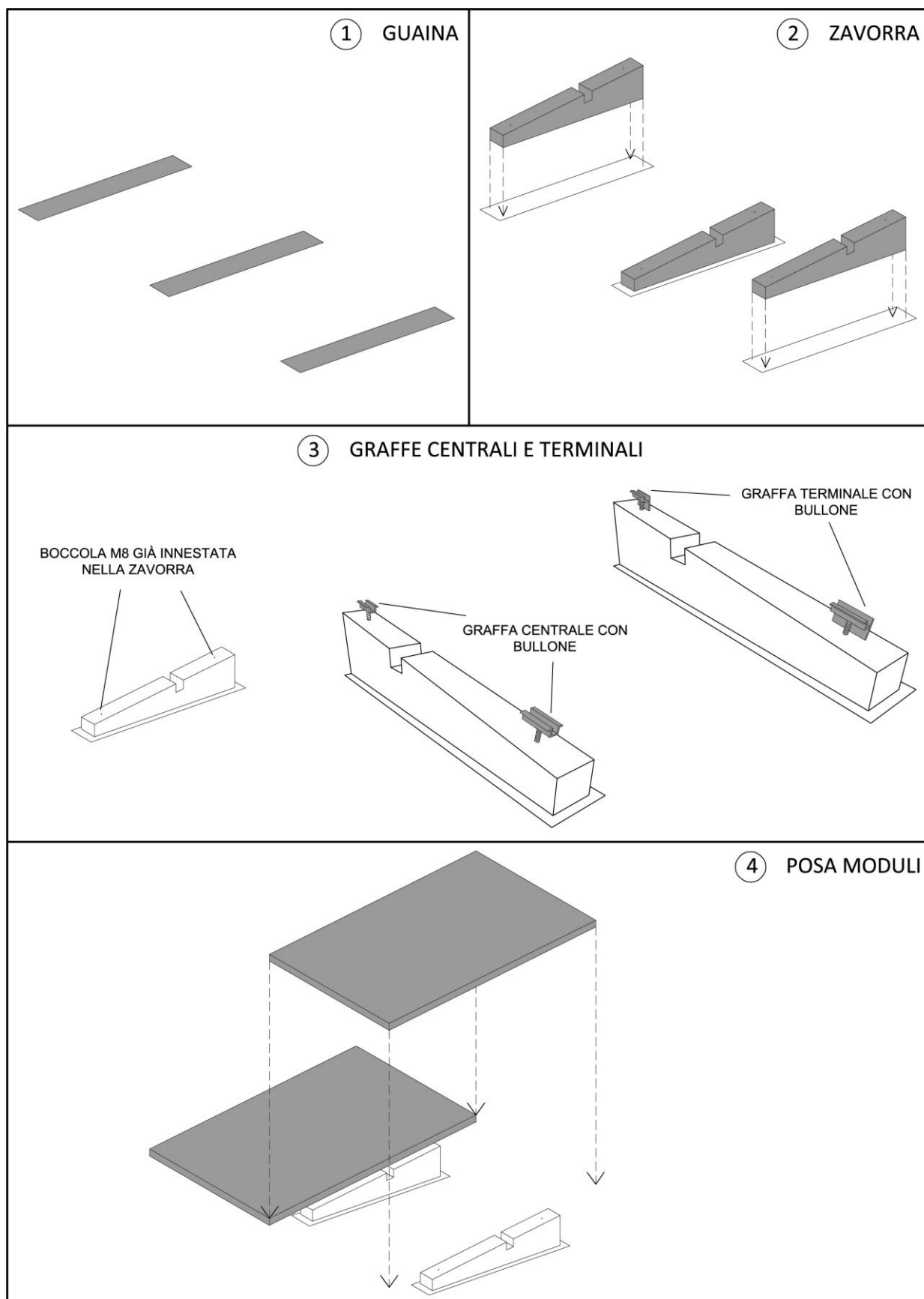
Carefully read the product data sheets Sunballast and relating them to the system in question.

For an indicative calculation of verification of load windy and possible use of additional weights furnished us: sizing plant, height and complete address of the building.

Or consult a qualified technician.

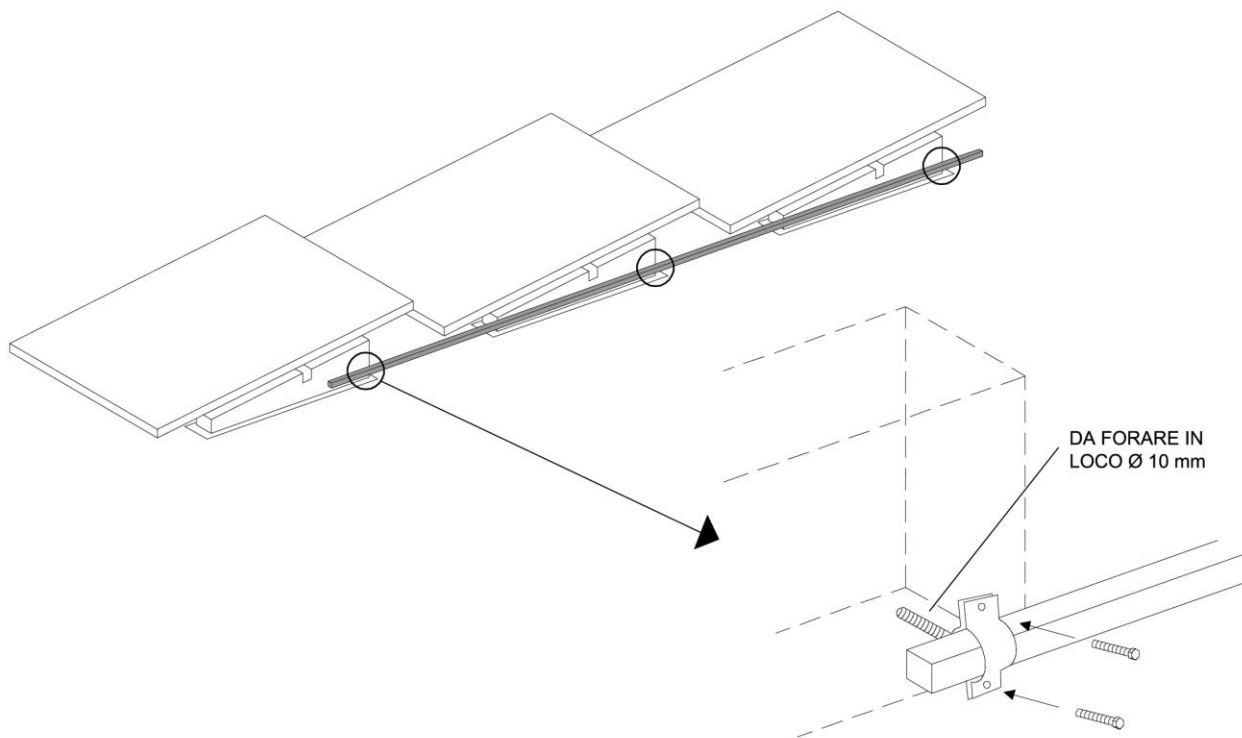
B Mounting sequence

B1 Sequence mounting standard

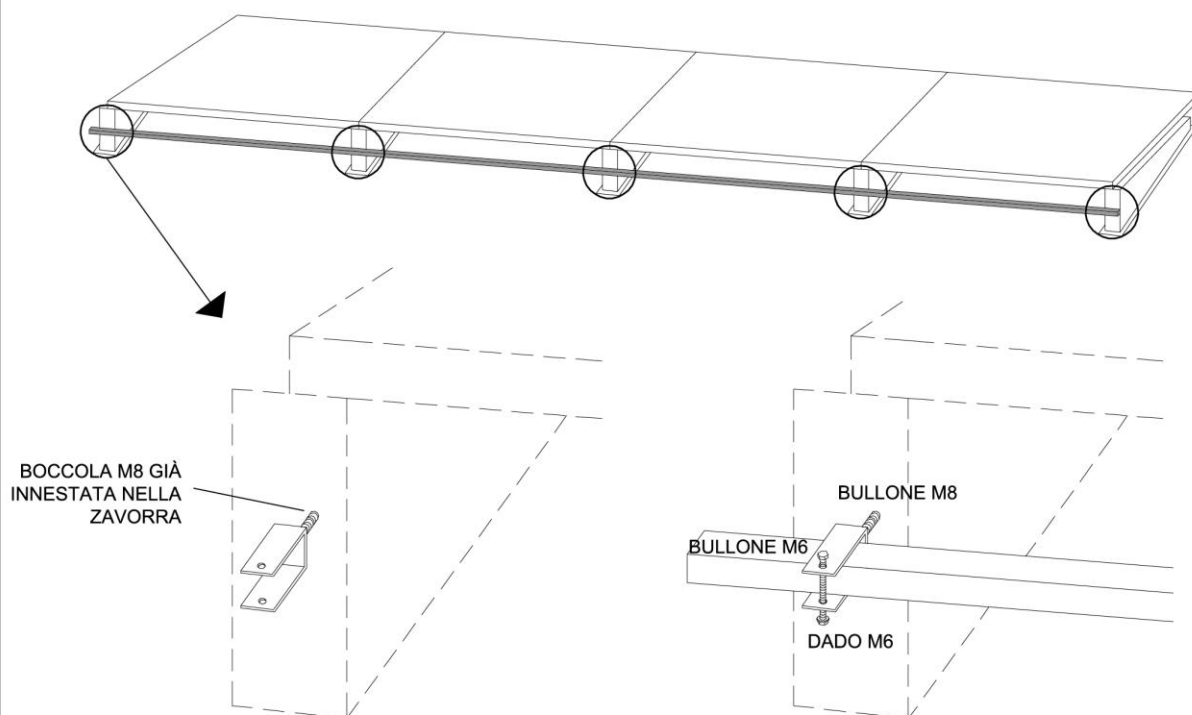


B2 Mounting rear and side bars

MONTAGGIO BARRA LATERALE

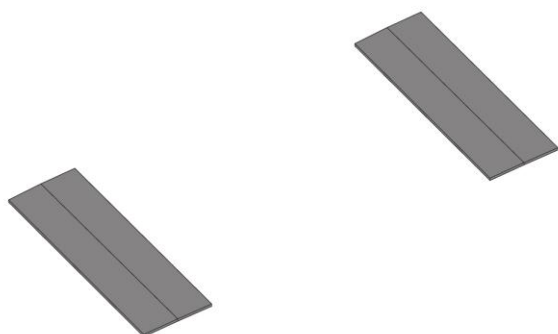


MONTAGGIO BARRA POSTERIORE

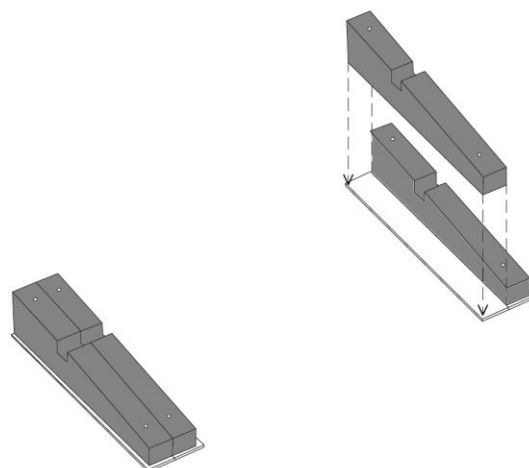


B3 Sequence mounting doubling ballast

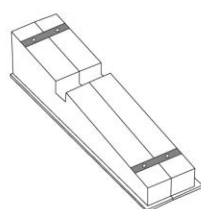
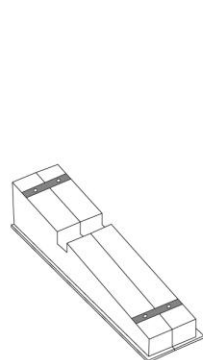
① GUAINA



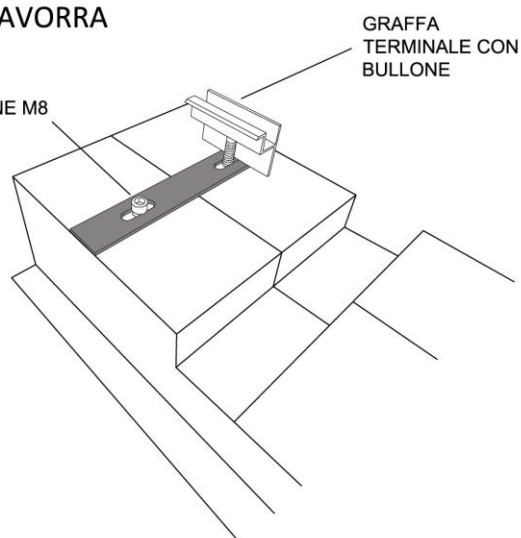
② RADDOPPIO ZAVORRA



③ KIT GIUNZIONE PER ZAVORRA

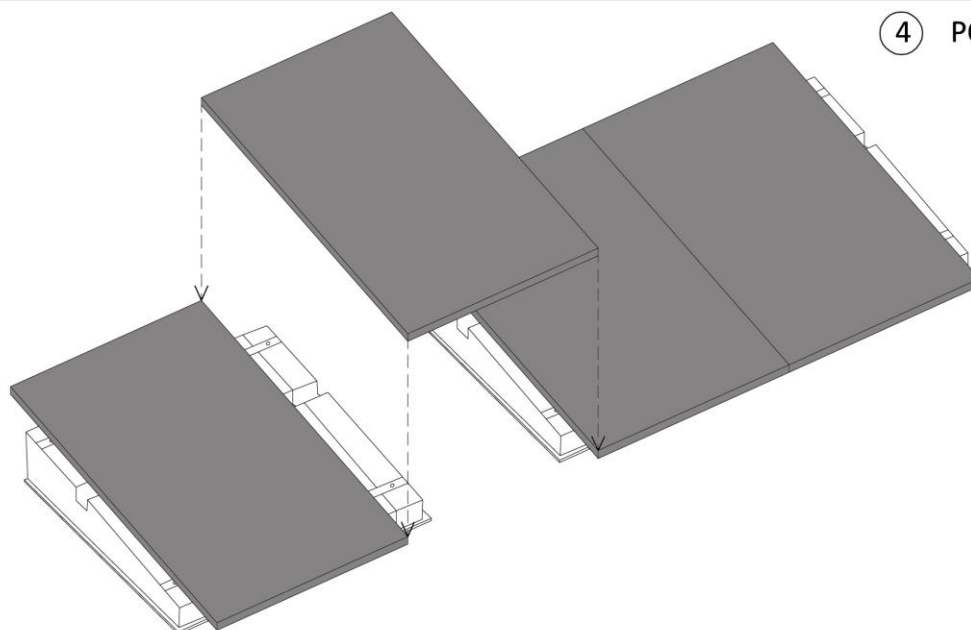


BULLONE M8



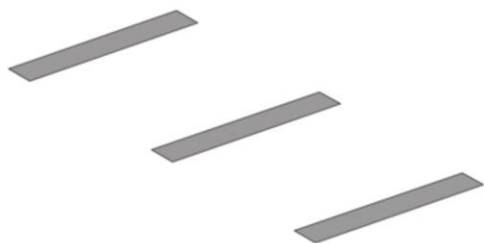
GRAFFA
TERMINALE CON
BULLONE

④ POSA MODULI

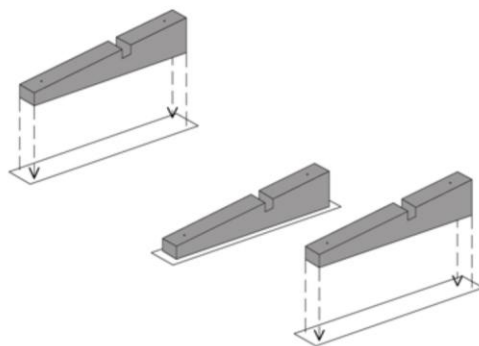


B4 Sequence mounting additional weights (35Kg and 50Kg)

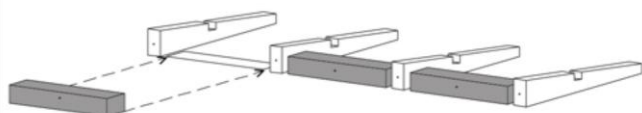
① GUAINA



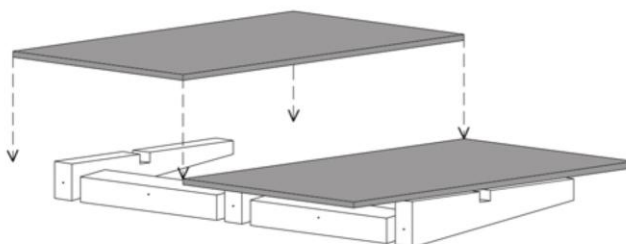
② ZAVORRA



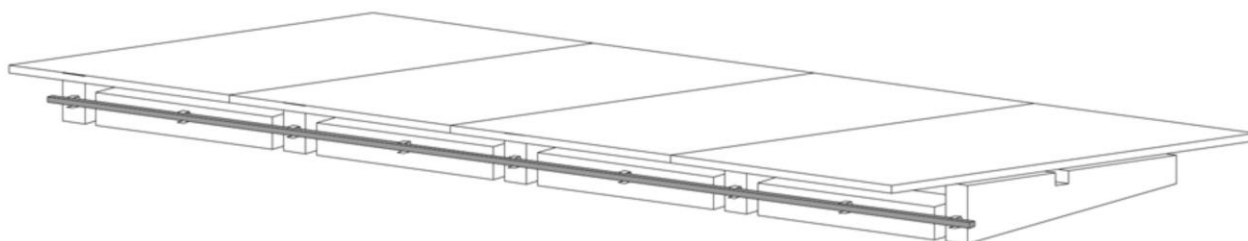
③ INSERIMENTO PESI



④ POSA MODULI

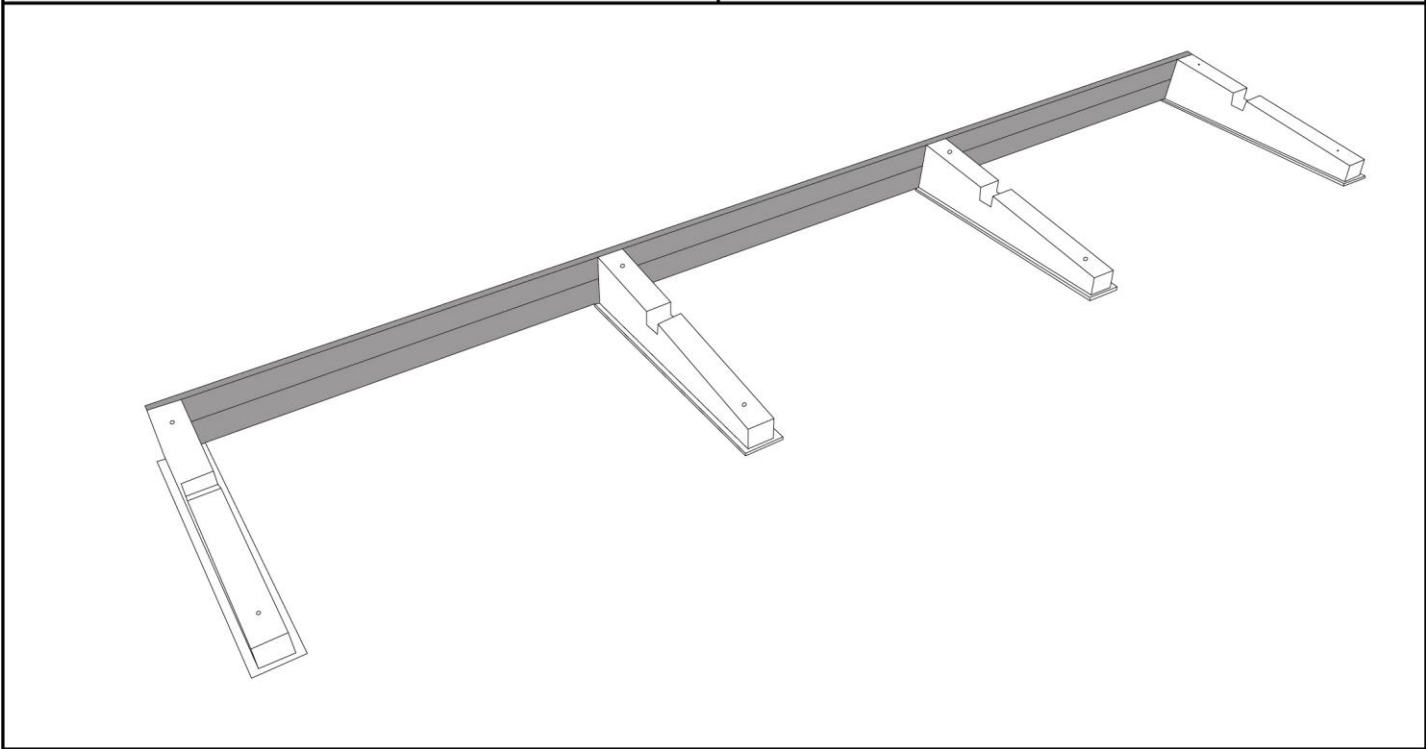
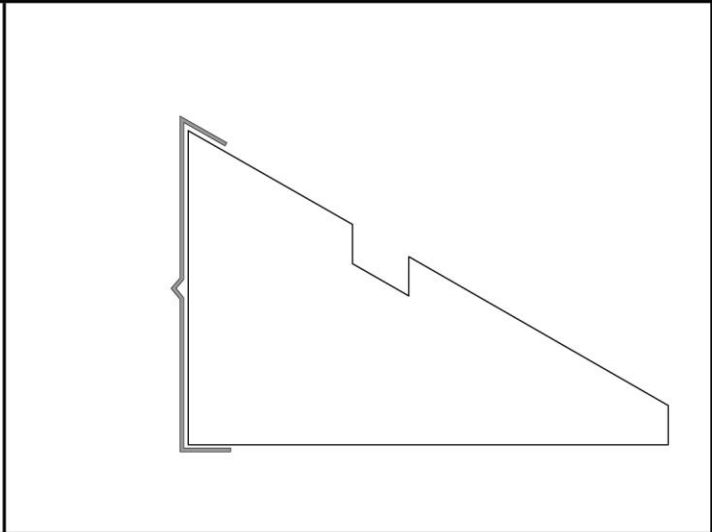
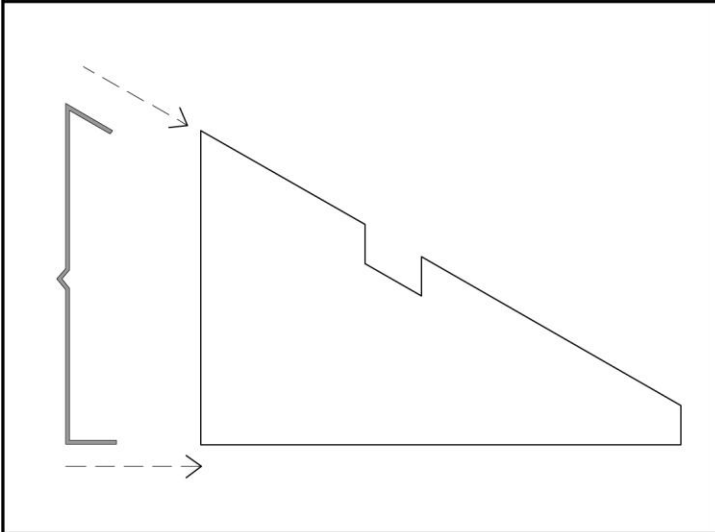
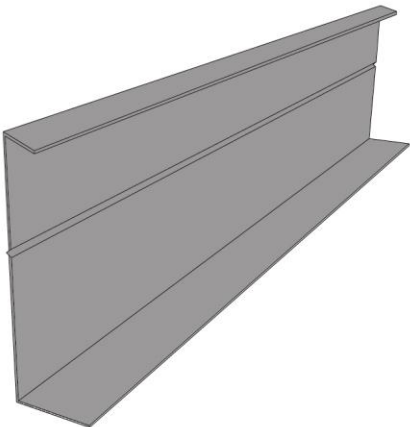


⑤ MONTAGGIO BARRA POSTERIORE



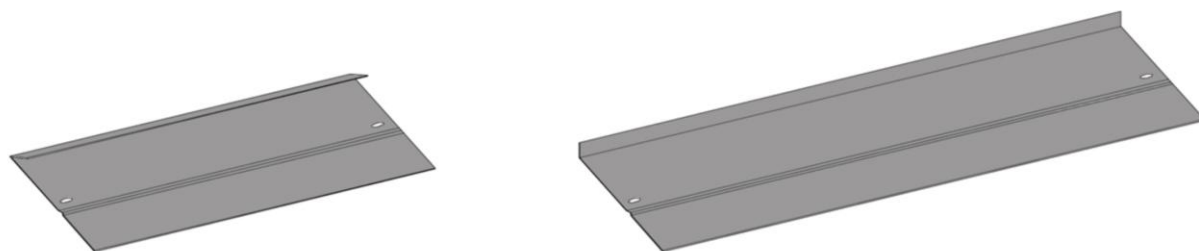
B5 Mounting Carter

MONTAGGIO CARTER

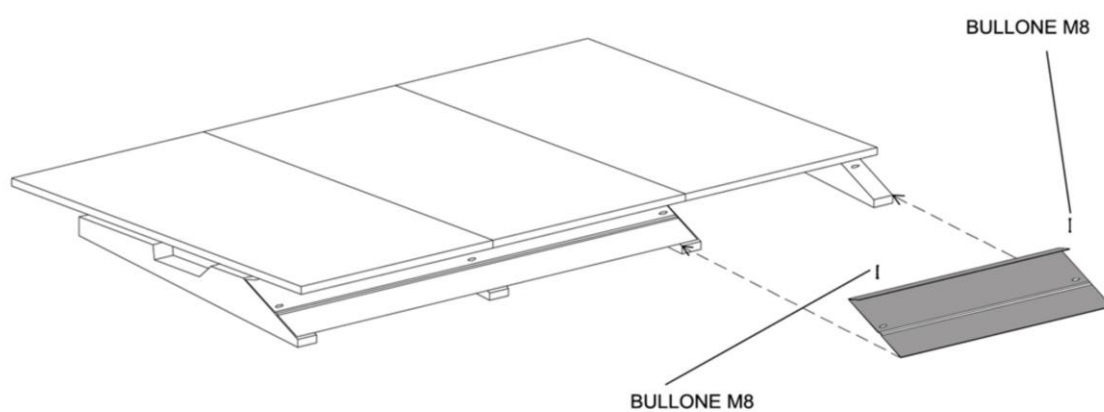


B6 Mounting Carter 10°

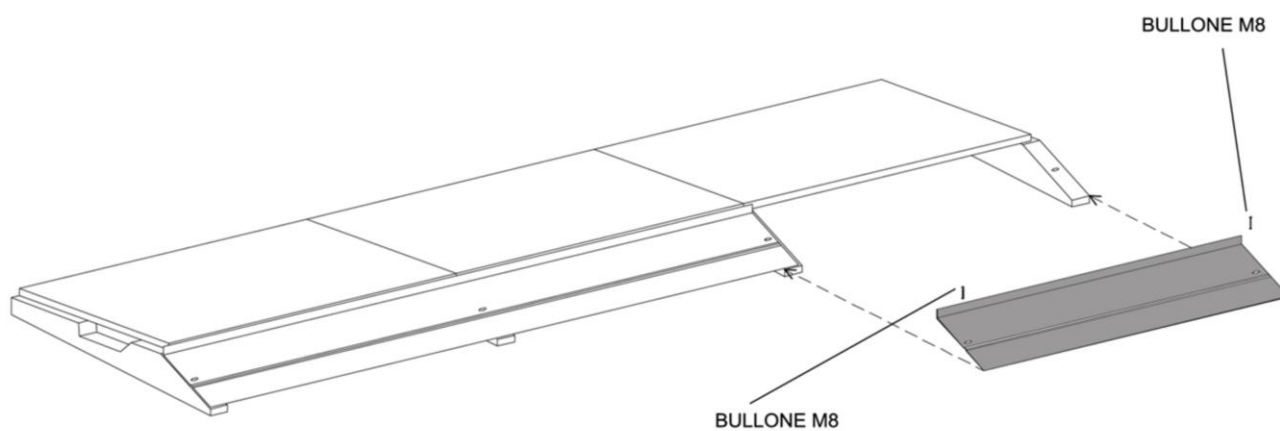
MONTAGGIO CARTER SU ZAVORRA 10°



POSA VERTICALE

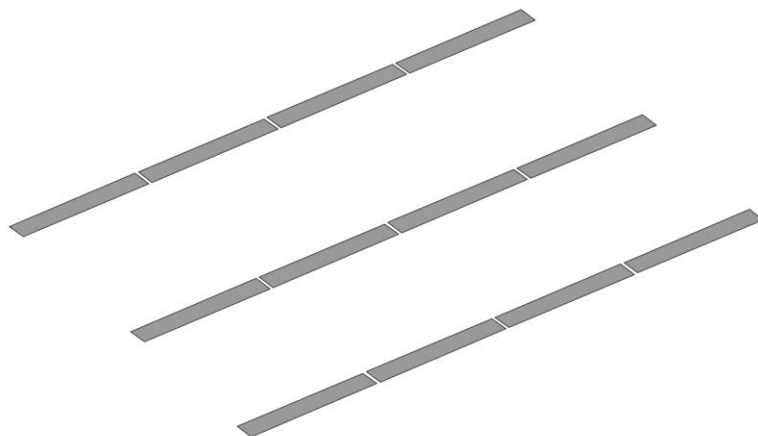


POSA ORIZZONTALE

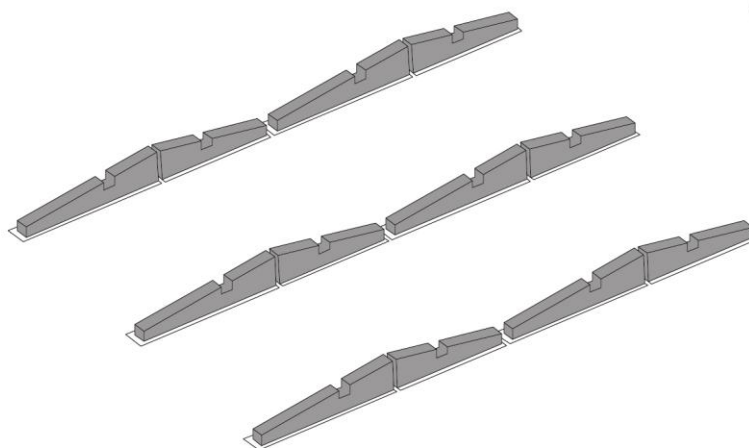


B6 Sequence mounting panels east-west

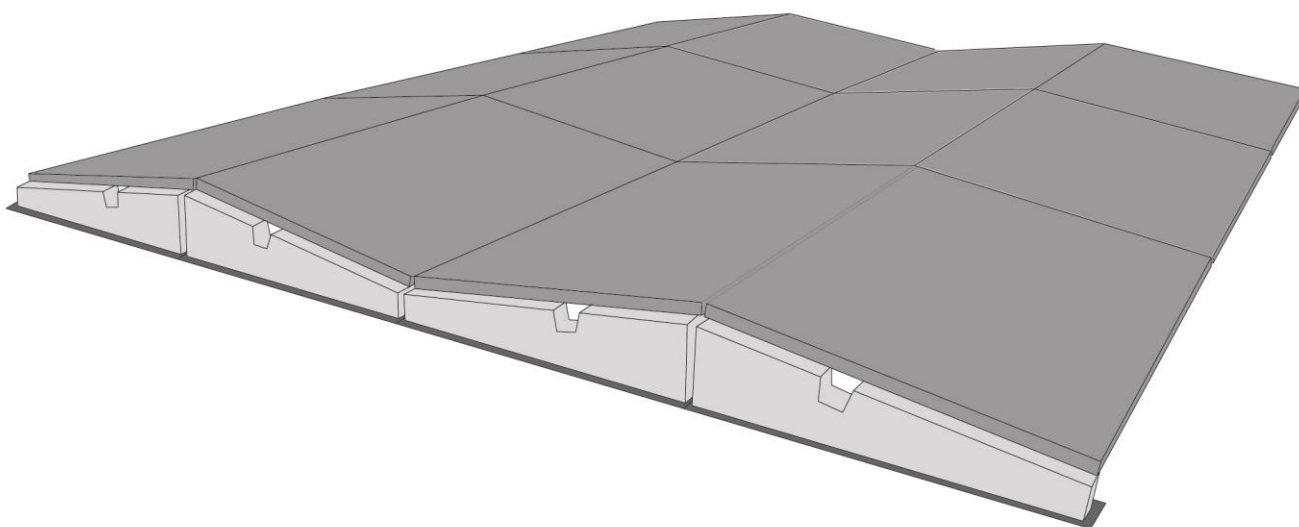
① GUAINA



② ZAVORRA

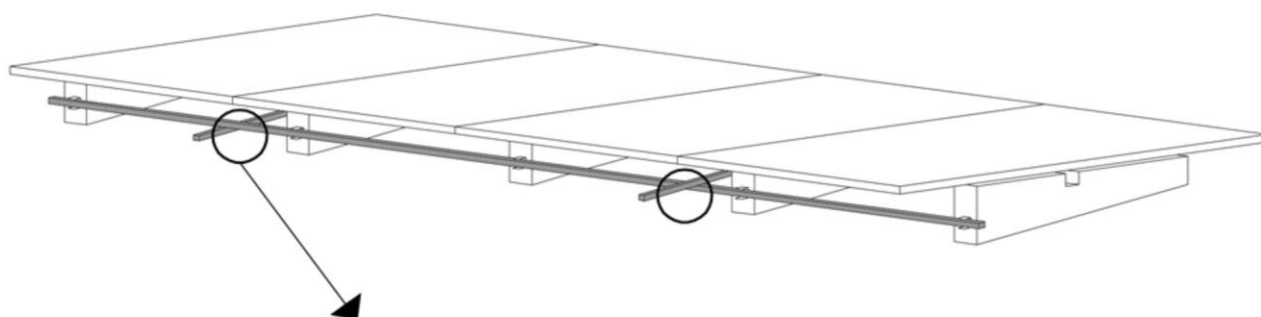


③ POSA MODULI

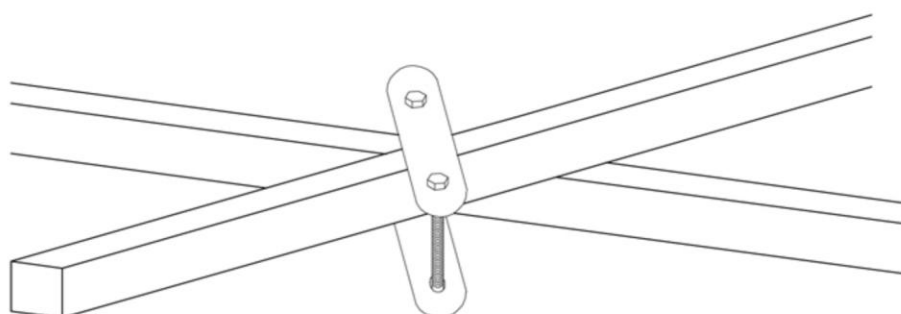
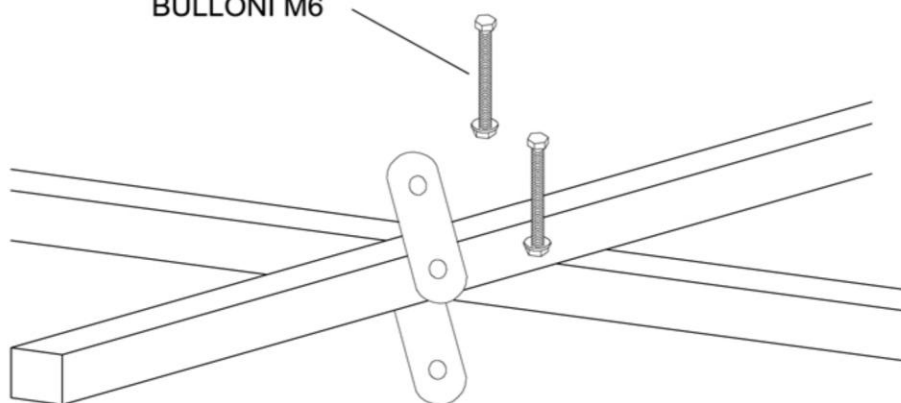


B8 Mounting plate for cross bars

MONTAGGIO PIASTRA INCROCIO BARRE

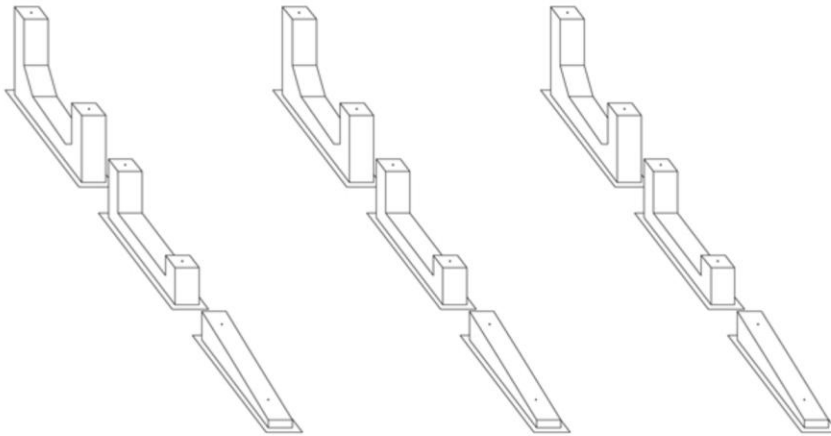


BULLONI M6

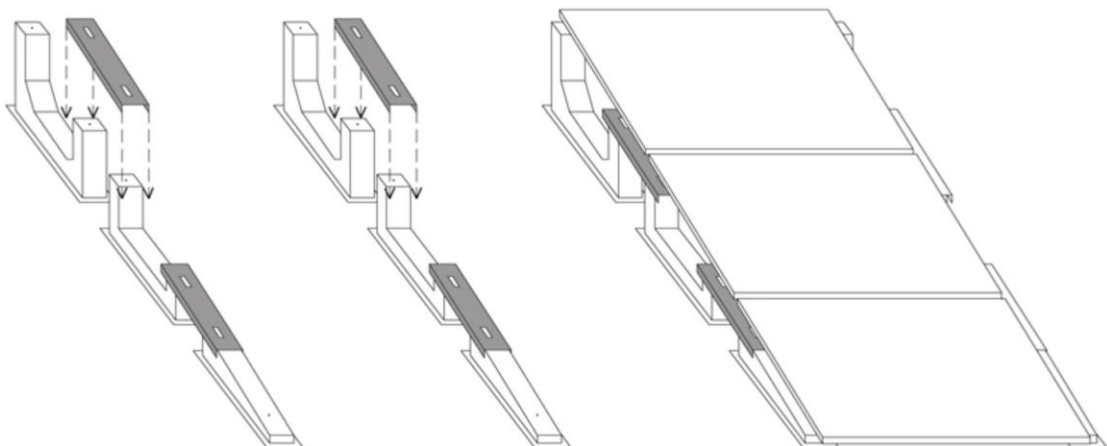
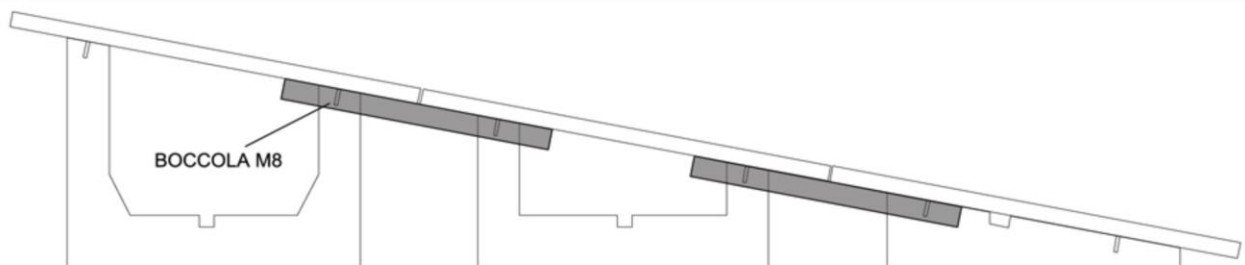


B9 Mounting plate junction

MONTAGGIO PIASTRA DI GIUNZIONE



PIASTRA DI GIUNZIONE A "C"



C Maintenance

- The Photovoltaic systems are subject to annual controls in which besides the verification of the electric apparatuses, the general state of every component of the plant must be verified, particularly the structure of support and ballasting.
- Pay particular attention to the tightening of the brace that bind the forms to the ballasts and the bars to the ballasts.
- In phase of maintenance you must be verified if there have been moves of the lines, due to loads exceptional winds and/or not expectations and sized in before wisecrack (in phase of installation).
- In case of anomalies to handle the setup and/or to the substitution of the parts doesn't conform, preserving him of mass in safety of the plant.

D Responsibility

Not being able Basic Srl to watch over and to check if they come to respect the instructions of assemblage and/or if the proper solutions for the due peculiarities to the different sites of location are adopted plant to the use and the maintenance of the plant, not participating, in before person, actively to the phase of project and execution of the plant, it declines every responsibility for referable damages to an improper use of the system Sun Ballast. Our data are brought purpose to give a line to the solo it drives to the planner. The text and the graphic indications of this manual correspond to the technical state during the press. With reserve of changes.

CIVIL RESPONSIBILITY OF THE TO BUILD

We speak of the actual normative panorama

INTRODUCTION

The theme of the civil responsibilities in the field of the housebuilding is a rather delicate and slippery ground because of the myriad of technical norms that, currently it creates not little confusion. Innumerable they are the obligations to dispatch enacted but there is little clarity on who must shoulder the serious assignment to check and to sanction

RESPONSIBILITY EXTRA CONTRACTUAL EX ART. 1669 CIVIL CODE

Solidal responsibility of the contractor, of the manager of the jobs and the buyer himself.

Fundamental it is the art. 1669 c.c. "Downfall and defects of immovable things" that it establishes: "When it comes with buildings or of other immovable things destined for their nature to long duration, if, during ten years from the conclusion, the work, for vice of the ground or for defect of the construction, downfall in everything or partly, or introduces evident danger of downfall or serious defects, the contractor is responsible towards the buyer and of his having cause, provided that is served the declaration within one year as the discovery. The right of the buyer prescribes him in one year from the declaration."

Although to a first reading the device of the article above quoted sets in head to the contractor the exclusive responsibility, it is not this way: the orientation by now consolidarted of the Court of Cassation individualizes in the art. 1669 c.c. a form of contractual extra responsibility that, therefore, it goes over the limits of the contractual relationship intervened among the parts, going to involve, besides the contractor, the planner, the manager of the jobs and buyer same that has directly managed the construction of the immovable property.

All can have called to indemnify jointly and severally the damage verified him when the respective behaviors (actions or omissions), although among them independent, has competed in efficient way to the production of the harmful event. **(Cass. N.20294/2004-Cass.n.12367/2002-Cass.n.972/2000).**

For great clarity it is to do well an aggravated: the supplier of the materials used in the construction of the immovable property cannot reenter in the case of responsibility extra contractual above suitable being its limited performance to the delivery of the products without participating, therefore, to the construction of the immovable property **(Cass. n. 13158/2002)**

THE PRODUCER

Responsibility and guarantees

The article 1° of the DPR n. 224 of 1988 enact the general principle according to which "the producer is responsible of the damage caused by a defect of his product" towards all the consumers: is them professional figures as enterprises and employees or single privacies.

It also required to:

- to specify indications and limits of use for the products, furnishing all the possible necessary instructions and the anticipated obligations of law;
- to insert the measured data in control quality and the limits of responsibility;
- To make to effect from corporate body third tests on the products, that recognize the functionality of it, and to ask for the certifications ITC/ETA on the systems and the scoring CE, whereas obligatory.

At the same time it is forced to furnish the guarantee on the product, of the two year-old duration while (on the job it is 10 years of competence of the enterprise) it is being free to offer the insurance of the quality, the constant control of the products (System of Quality UNI-EN-ISO 9000 and certificates of conformity/fitness of parts third on samplings) and possible further guarantees voluntary insurance.

E Guarantees

Basic Srl guarantees the integrity in the time of the supports for photovoltaic panels "Sun Ballast" on plain coverages, from the same products and commercialized, for a period of years 25 from the date of purchase.

OBJECT OF THE GUARANTEE

Basic Srl guarantees the resistance to the corrosion derived by the atmospheric (rain, ice, starts of temperature, saltiness) agents of the supports for photovoltaic panels on plain coverages, from the same products and commercialized, for a 25 year-old period from the date of purchase.

The Guarantee will be operational only if all the followings will apply conditions:

1. The system must integrally have realized with use of products Basic;

- Central brace in aluminum (art. 23900)
- Terminal brace in aluminum (art. 23932-23934-23935-23936-23938-23940-23942-23945-23946-23950)
- screw for central and terminal Brace 8.8 zincs. M8x55 (art. 23855)
- screw for central and terminal brace INOX A2 M8x55 (art. 23755)
- Grained washer M8 (art. 23408)
- Sheath (art. 23100)
- Element of junction ballast (art. 23101)
- Carter windshield for ballast (art. 23102- 23103)

2. The system of structure must be installed to rule of art and accordingly to the specific instructions of laying of valid Basic Srl to the action of the sale and you bring in the technical card.

3. In the case in which the system of structure has been realized also using materials and further components in comparison to those used to the point "1", the same will owe to have been dealt from Basic Srl however. The use of products not commercialized by Basic Srl won't entirely produce the decadence of the guarantee to condition that has been verified before the sale the absence of an alternative equivalent product commercialized by Basic Srl. Whatever referable damage to products not commercialized by Basic Srl is excluded by the present guarantee. The present guarantee is released on application of the client final owner of the building which refers the system of structure object of the same guarantee.

In the eventuality of a referable damage to the anticipated terms from the present guarantee, and excluded every other obligation or indemnification Basic Srl:

- it will furnish a substitutive product without additional costs. If the product is not in production anymore, Basic Srl will handle to deliver an alternative product of peer value;

- it will directly provide, through personal from the same select and to own expenses, to the restoration of the native functionality, previous inspection of a proper official to which the evaluation and the determination of the type and the entity of the necessary intervention will compete.

ESCLUSIONS

The present Guarantee doesn't include:

- damages caused by movements of the ground, from the arrangement of the structure of the immovable property or from movements of the structure
- damages caused by a not correct use or maintenance of the structure, from activity, tampering or changes from third
- accidental or voluntary damages, included actions of war
- damages caused by lightnings
- damages caused by natural calamity
- damages derived by a wrong installation
- damages derived by a wrong planning.

It expressly stays included every other obligation or indemnification to load of Basic Srl, that won't be held besides responsible for possible direct and indirect damages to goods, furniture and immovable properties, rights or activity of the guaranteed subject to third.

PROCEDURE

The application of activation of the present guarantee must have effected in writing and you must reach within 30 days from the date in which the damage reasonably makes him apparent.

The signaling must be accompanies from a test of purchase (copy of the invoice and certificate of guarantee), you must point out the characteristics of the complained drawbacks and you must be late to:

Basic Srl - Via della Costituzione 26 - 42028 Poviglio (RE)

They remain in every case affect the rights to the client towards his own direct seller, to the senses of the normative applicable in subject of guarantee in the sale of goods to the consumption of which to the arts. 1519-bis and followings of the civil code.

The present guarantee is transferable to following owners without obligation of warning to Basic Srl.



CERTIFIED OF GUARANTEE

Basic Srl guarantees the integrity in the time of the supports for photovoltaic panels "Sun Ballast" on plain coverages, from the same products and commercialized, for a period of years 25 from the date of purchase.

Date of installation :	
N. and date of the invoice:	
Address of the immovable property:	
Registry data of the owner:	
Registry data of the layer:	

Basic Srl



F Declaration of Conformity Basic srl

Place: Via della Costituzione 26-42028 Poviglio (RE) – Italia

Denomination : Ballasts in concrete prefabricated not armed

Article : Sun Ballast (Patented System)

Technical characteristics

- Class of exposure: XC4
- Class of resistance: C32/40
- Least content cement: 340 kg/mq
- Class of resistance to the fire C0 A1(decreed of the Minister of the inside of January 14 th 1985)
- Maximum depth of penetration H2o under pressure 500 kPa : 15 mm
- Middle depth of penetration H2o under pressure 500 kPa : 10 mm
- Determination forces of tear / estate (pullout) of wedge M8 englobed in element CLS for direct traction of filleted bar M8 screwed in it:
traction to 15 KNs (1530 kg) result of the test
- * any unthreading of the wedge
- * breakup of the filleted bar

YEAR OF CONSTRUCTION 2015

IT DECLARES THAT

The product above described is built in conformity to the directive followings:

- UNI EN ISO 9001:2008 (ISO 9001:2008)
N° of certificate 63450-2009-aq-ita-sincert

Every change effected on the product of which to the present declaration without the authorization of the manufacturer it makes the present Declaration of Conformity void.

Poviglio (RE) , 26/01/2015

The legal representative



G Registry system

DATA RELATED TO THE INSTALLATION COMPANY	
SOCIAL REASON	
STREET	
CAP	PLACE
P.IVA	

INSTALLATION DETAILS

CLIENT		PLACE OF INSTALLATION	
POWER PLANT		MODULE BALLAST	
: Use accessories: Additional weights, Reinforcement bars, Carter windshield			
DIMENSIONS MODULE		PRESENCE AND HEIGHT PERIMETER PARAPET	
NORTH:	SOUTH	EAST	WEST:
DISTANCE FROM THE BOARD FORMS			
CAPACITY 'RESIDUAL BEARING THE FLOOR		INCLINATION OF THE ROOF	
HEIGHT BUILDING			

Zone location system: 1,2,3,4,5,6,7,8,9 :			
Vb0 m/s reference speed wind: 25 ; 26 ; 27 ; 28 ; 30 ; 31			
CLASS OF WRINKLEDNESS OF THE GROUND			
<input type="checkbox"/> CLASS A Urban areas in which at least 15% of the area is covered by buildings whose average height exceeds 15 m	<input type="checkbox"/> CLASS B Urban areas (not class A), suburban, industrial and wooded	<input type="checkbox"/> CLASS C Areas with common obstacles (trees, houses, walls, fences, ...); areas with roughness not attributable to the classes A, B, D	<input type="checkbox"/> CLASS D Areas with no obstacles or barriers to the rarest blocks (open country, airports, agricultural areas, pastures, wetlands or beaches, snowy or icy surfaces, sea, lakes, ...)

H Register for planned maintenance

Date of maintenance	Anomalies identified	Company data	Signature operator

Notes :

[illegible]

.....

.....

.....

.....

.....

.....

.....

.....

.....

BASIC SOLAR SYSTEMS



CONTACTS:

Tel +39 0522 960926

info@sunballast.com

www.sunballast.it - info@sunballast.it

BASIC SRL Via della Costituzione, 26 42028 Poviglio RE Italy P.iva 02557770357 Tel +39 0522 960926