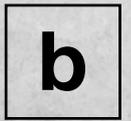


THE IMPORTANCE OF PROPER SIZING OF SUPPORT STRUCTURES FOR PV SYSTEMS ON FLAT SURFACES



The calculations and analyses contained in this report represent a fundamental tool for ensuring the safety, reliability, and durability of the PV system. Every evaluation is conducted by specialized technicians in full compliance with the relevant regulations, including the Ministerial Decree of January 17, 2018 (Technical Standards for Construction), the Application Circular of January 21, 2019, the CNR-DT 207/2008 Instructions regarding wind effects, and the European standards UNI EN 1991-1-4 and UNI ENV 1991-2-4 concerning actions on structures.

Wind load calculations

Wind action is analyzed by considering the specific needs of the client and the actual characteristics of the installation site, such as geographical location, building height and shape, roof geometry, and panel inclination. Furthermore, all coefficients are calculated according to validated aerodynamic criteria supported by technical standards such as CEI 82-74:2018, which allows for calculation adjustments based on the specific layout of the modules.

Tests and laboratory analysis

The analyses provided by Sun Ballast® technicians are not based solely on theoretical verification: all components-including the ballasts and panel fastening systems-undergo numerous wind tunnel trials and laboratory tests at certified facilities. These include holding strength tests for threaded bushings, static load tests, and waterproofing and aging tests. The result is a 25-year warranty based not only on precise calculations but also on concrete testing and analysis constantly conducted by certified bodies.

Certifications

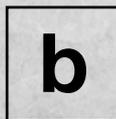
The numerous tests, calculations, and technical analyses-combined with compliance with industry standards-make Sun Ballast® ballasted systems a true guarantee of quality. Achieving the most important international certifications represents an added layer of security for all professionals: Sun Ballast® ballasts are certified ISO 9001:2015, ETN (Enquête de Technique Nouvelle) for the French market, and UL 2703, issued by the CSA Group for the North American market.

Load analysis

Load analysis is performed in compliance with current regulations (NTC 2018 – Ministerial Decree of Jan 17, 2018): the weight of the PV system represents a permanent surcharge and must be carefully considered during design and static verification. In most cases, flat roofs are equipped with surface layers designed to improve weight distribution, allowing the entire area occupied by the system to be considered as the surface of influence. Given the importance of these evaluations, the Sun Ballast® Technical Department performs calculations with maximum precision, prioritizing system safety and reliability, ensuring full compatibility with the building structure and the optimal balance between weight and wind resistance.



TECHNICAL AND LEGAL GUIDELINES FOR PRODUCT INSTALLATION



Preliminary checks and technical verifications

1. Technical Data Sheet and Assembly Instructions.

Verify the technical documentation of the module to be installed, ensuring that the fixing methods comply with the manufacturer's specifications.

2. System compatibility with the installation surface.

Check that the selected installation system is suitable for the type of surface on which the plant will be laid, ensuring stability and safety.

3. Compatibility of the fixing foam (if provided)

Verify that the foam used is compatible with the installation surface, avoiding chemical reactions or alterations that could compromise adhesion.

4. Consistency of project parameters with actual conditions

Ensure that the data provided for the calculation report correspond to the actual conditions on site; in case of discrepancies, promptly communicate them to the competent technician.

Intellectual property of the calculations

“The generated report, as well as the data and calculation methods, are the result of BASIC S.R.L.'S KNOW-HOW, and are subject to copyright pursuant to Law no. 633 of April 22, 1941, on copyright and related laws. The disclosure and/or use of the information for other systems is therefore prohibited. The use of the software and/or the calculation report is granted exclusively for Sun Ballast® products, a trademark owned by BASIC S.R.L. The violation of these provisions may lead to legal actions, including civil and criminal penalties, as provided for by articles 171 and 174-bis of the aforementioned Copyright Law.”

Workmanship and professional execution

The installation of the products must be carried out in compliance with the technical standards in force and according to the best practices of the sector ("Workmanship and Professional Execution"). It is therefore important to follow the positioning of the system as reported in the technical report in order to ensure compliance with the calculations performed: Sun Ballast® will not be held liable for any damages or malfunctions resulting from installations that do not conform to the above.