

General Guidelines for Installation

(including a disclaimer and assembly instructions)

Aelex (trade name of AliusEnergy B.V.)
Meerheide 101
5521 DX Eersel, the Netherlands
Hereinafter: "Aelex"

AliusEnergy B.V. is registered with the Chamber of Commerce under number 54262437.

Article 1: General

- 1.1 When installing any Aelex mounting system, please carefully follow the instructions and safety regulations set out in this document and the accompanying installation manual. As also reflected in the applicable Aelex General Terms and Conditions of Sale and Delivery, failure to comply with the requirements set out in this document will result in the customer no longer being entitled to rely on any guarantees and Aelex no longer being liable for any damage whatsoever.
- 1.2 The information, comments and advice given in this document are binding. Aelex reserves the right to amend this document without further notice.

Article 2: Safety

- 2.1 The installation of Aelex mounting systems should be carried out by qualified technical personnel.
- 2.2 When installing mounting systems, all components supplied must always be used and assembled correctly, i.e. in accordance with the instructions and safety regulations in this document and in the installation manual. A failure to use certain components may adversely affect the functioning of mounting systems and is therefore not permitted.
- 2.3 The customer is responsible for checking and validating that a mounting system has been delivered in its entirety and assembled correctly.
- 2.4 Avoid mounting in high winds and on a wet (slippery) roof surface.
- 2.5 During installation work on a roof, always work with fall protection and if necessary with safety nets and edge protection.
- 2.6 Always wear proper protective clothing and gloves when working.

Article 3: Environmental factors

- 3.1 Tall neighbouring buildings or structures, like windmills, can affect wind pressure. In such cases, always seek Aelex's advice before carrying out any installation.
- 3.2 If before, during or after installation it turns out that data, information and/or environmental factors do not fully correspond to the assumptions or the project report, the project must first be recalculated and possibly adjusted.
- 3.3 In coastal areas, mounting systems should be placed at least 500 metres from open water. This is to prevent accelerated corrosion from salt water.

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Article 4: Stability and condition of the roof

4.1 The condition of the roof should be checked in advance for sufficient strength to support the weight of a mounting system, including solar panels as well as wind and snow loads. Ensure that the roof load reserve is not exceeded either locally or over the entirety.

4.2 Check roof stability and adjust it/its construction if required.

Article 5: Standards, rules and regulations

5.1 Always observe the following standards, rules and regulations to ensure the correct and safe installation and use of the mounting system:

- Dutch Building code 2012 (*Bouwbesluit 2012*) (regulations on the construction, use and demolition of buildings)
- NEN 7250:2014 - Structural aspects of solar energy systems
- NEN-EN 1990 - Basis of the structural design
- NEN-EN 1991-1-3 - General loads - snow loads
- NEN-EN 1991-1-4 - General loads - wind loads
- NEN 1010:2015 - Low voltage electrical systems (HD-IEC 60364)
- NEN-EN-IEC 62305 - Lightning protection
- Health and safety law and health and safety regulations - Safety at work
- NEN 3140 - safe operation of low-voltage systems
- VCA checklist - Safety on the workfloor
- Directive A-sheet on scaffolding construction

Article 6: Dilations

6.1 Linking two or more insert profiles should be done strictly in accordance with the assembly instructions.

6.2 Fixing the insert profiles to the Proficlicks must be done strictly in accordance with the dilation table.

6.3 To prevent displacement of an insert profile, it should be secured using the IP bender.

6.4 An attached mounting system must not be placed over a gutter or apex.

Article 7: Solar panels

7.1 The installer is responsible for verifying that the solar panels to be installed match the solar panels in the project plan.

7.2 If the dimensions of the project plan and the solar panels that are to be installed do not match, a new project plan should be made to ensure the soundness and stability of a mounting system.

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Aelex Disclaimer

Please read this information carefully before starting to design and instal your PV system.

Installing a PV system changes the roof load, which can affect the supporting structure. It is therefore important to have the roof load recalculated by a qualified technician. Pay attention in this regard to current regulations, in particular NEN6702, NEN7250, NEN1991-1-1-4 A1+ C2/NB & NEN1991-1-1-3.

Article 1: Also seek agreement from an insurer and a structural engineer for:

- 1.1 The loads on the building due to the additional weight of the PV system.
- 1.2 The loads on the building due to the altered geometry of the roof surface.
- 1.3 The loads on the building due to dynamic wind pressure and precipitation.
- 1.4 The loads caused by the PV system on the building, roofing and insulation.
- 1.5 The loads of the contact points of the PV system on the compatibility of the insulation and roofing.
- 1.6 The compatibility of the roofing with the supporting structure at the contact points.
- 1.7 The effects that the thermal action of the building and the PV system have on each other.
- 1.8 The effects that any movement of the roof and the PV system will have.

Article 2: Wind zone and wind loads in the Netherlands

2.1 In coastal areas, the wind has free reign and can exert considerable loads. Standard NEN-EN 1991-14 therefore imposes additional conditions if you are installing a PV system in a coastal strip in wind zones 1 and 2 (see the figure).

2.2 A building is within this strip if the distance from the water to the building is less than or equal to 10 times the height of the building.

2.3 We strongly recommend that you also have us check any building where the distance from the water to the building is less than or equal to 50 times its height!

2.4 Calculations made in the Aelex configurator are assigned to wind zone 1, 2 or 3 based on the postcode indicated. The maximum building height in wind zones 2 & 3 is 15 metres. For wind zone 1, the maximum building height is 10 metres.

2.5 At tilt angles of less than 15° in wind zones 2 and 3, Aelex circlips should be used to prevent the PV panels from vibrating. In wind zone 1, this applies to tilt angles of less than 20°.

2.6 Tall neighbouring buildings or structures, like windmills, can affect wind pressure. In such cases, you should always seek Aelex's advice prior to installation.



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Article 3: Wind zones and wind loads in Belgium

3.1 In coastal areas, the wind has free reign and can exert considerable loads. Standard NEN-EN 1991-14 therefore imposes additional conditions if you are installing a PV system in a coastal strip in wind zone 26 m/s (see the figure).

3.2 A building is within this strip if the distance from the water to the building is less than or equal to 10 times the height of the building.

3.3 We strongly recommend that you also have us check any building where the distance from the water to the building is less than or equal to 50 times its height.

3.4 Calculations in the Aelex configurator are assigned to wind zones 23, 24, 25 or 26 m/s based on the postcode indicated. The maximum building height in wind zones 23, 24 & 25 m/s is 15 metres. For wind zone 26 m/s, the maximum building height is 10 metres.

3.5 At tilt angles of less than 15°, Aelex circlips should be used to prevent the PV panels from vibrating.

3.6 Tall neighbouring buildings or structures, like windmills, can affect wind pressure. In such cases, you should always seek Aelex's advice prior to installation.



Article 4: Rights

4.1 The calculations and dimensions in the Aelex Calculator have been made very meticulously. However, no rights (nor any prices) may be derived from them. The general terms and conditions of delivery are available at [Aelex.nl](https://www.aelex.nl). This disclaimer and the general terms and conditions apply automatically to orders.

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Aelex Assembly Manual(s)

Professional installation is a requirement for a long life and maximum system efficiency. That is why we are happy to provide you with all the documentation you need to assemble and finish your project to the highest standards. All documentation on assembly and mounting can be found at: <https://aelex.nl/downloads>.

Manual on insert mounting system for tiled roofs

https://configurator.aelex.nl/Information/Manuals/Aelex_2.0_montagehandleiding.pdf

Manual on insert mounting system for sheet piling roofs

https://configurator.aelex.nl/Information/Manuals/Montagehandleiding_Aelex_damwand_dak.pdf

Manual for mounting on corrugated roof

https://configurator.aelex.nl/Information/Manuals/Montagehandleiding_Aelex_golfplaten_dak.pdf

Manual for mounting on façades

https://configurator.aelex.nl/Information/Manuals/Montagehandleiding_Aelex_gevelmontage.pdf

Manual for Aesthetica in-roof mounting system

https://configurator.aelex.nl/Information/Manuals/Montagehandleiding_indak-montagesysteem.pdf

Manual for in-roof mounting system with trapezoidal flashing

https://configurator.aelex.nl/Information/Manuals/Montagehandleiding_indak-montagesysteem_monteren_trapezium_gootstuk.pdf

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