

**ALUMERO**

AS 2.1

# **TILE REPLACEMENT BOARD**

EN

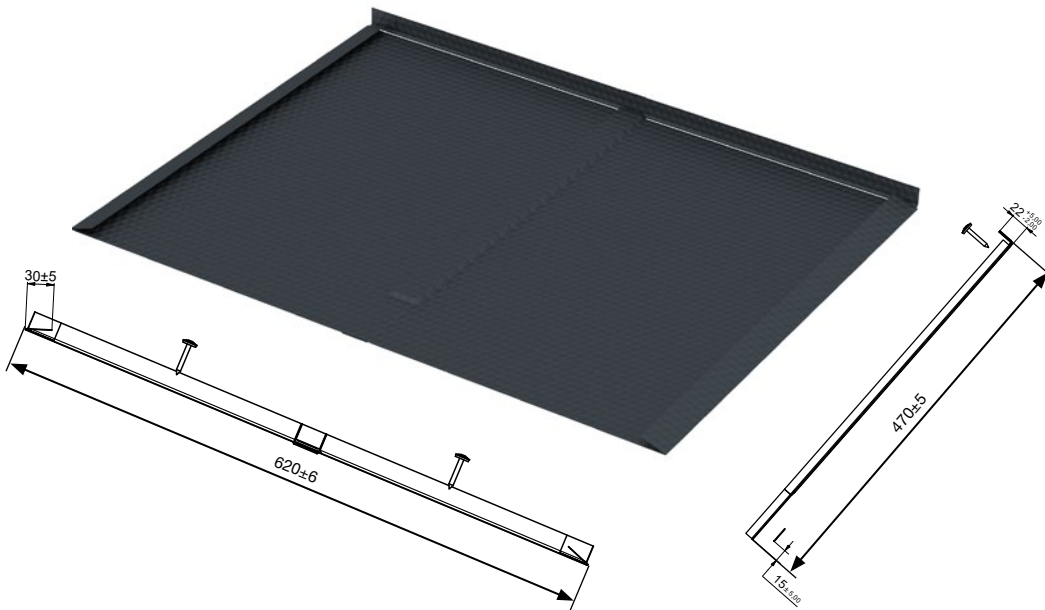
**INSTALLATION INSTRUCTIONS**

## GENERAL INFORMATION

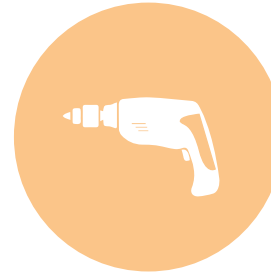
**Material:** Aluminium

**Roof pitch\*:** 15°

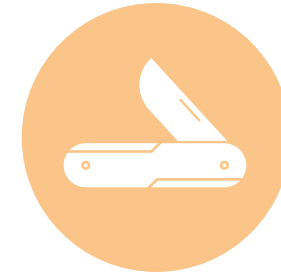
**Max. deck length:** 430mm



## TOOLS REQUIRED



**Screwdriver**  
with bit set:  
TX 20 / TX 40



**Knife**

## ASSEMBLY INSTRUCTIONS

- + To achieve optimum impermeability, roof tiles and tiles must be dry and free of dirt and dust.
- + Processing temperature +5 bis +30 °C
- + It is recommended not to install the ALUMERO Tile Replacement Board directly above or next to each other.
- + Sack formation must be avoided.
- + Cable protection must be ensured.

\*Standard roof pitch can be undercut in accordance with ZVDH specifications.

# COMPONENTS

## STANDARD



**Tile Replacement Board  
brick red RAL 8004**

Product number:  
802630



**Tile Replacement Board  
anthracite RAL 7016**

Product number:  
802631



**Foam sealing strip**  
supplied in a set with  
802630 or 802631



**2x Plate-head screws  
(4x 30mm, TX20)**  
supplied in a set with  
802630 or 802631

## COMPATIBILITY

Braas Doppel-S Pfanne Jacobi J 11V  
Braas Frankfurter Pfanne Jacobi Z10  
Braas Granat 11V Karthago-Pfanne  
Braas Harzer Pfanne Koramic Actua 10  
Braas Harzer Pfanne 7 Koramic Alegria 15  
Braas Rubin 11V Koramic Cosmo 11  
Braas Rubin 13V Koramic Mondo 11/L42  
Braas Rubin 15V Koramic Tradi 12  
Braas Rubin 9V Koramic Mondo 15 / 15 S  
Braas Taunus Pfanne Koramic Plano 11  
Braas Tegalit Koramic Universo 10  
Braas Turmalin Koramic Universo 14

Creaton Cantus Koramic Alegria 12  
Creaton Domino Meindl Megaton MZ5  
Creaton Eleganz Meyer-Holsen Dacapo  
Creaton Futura Meyer-Holsen Doppelfalzziegel  
Creaton Harmonie Meyer-Holsen Garant  
Creaton Maxima Pro Meyer-Holsen Piano  
Creaton Mikado Meyer-Holsen Ravensberger  
Creaton Ratio Nelskamp F12 Ü  
Creaton Regius Nelskamp Finkenberger Pfanne  
Creaton Terra Optima Nelskamp Kronen Pfanne  
Creaton Visio Nelskamp Planum  
Creaton Rustico Nelskamp Sigma Pfanne

Erlus Linea Nelskamp S-Pfanne  
Erlus E58 / E58 S Tondach A11  
Erlus E58 MAX Tondach Fidelio  
Erlus E58 SL / SL-D Tondach Figaro  
Erlus Forma Tondach Landdach  
Erlus Großfalzziegel Tondach Mulde  
Erlus Großfalzziegel XXL Tondach Norma  
Erlus Reformpfanne SL Tondach Sulm  
Erlus Reformpfanne XXL Tondach V11  
Falzziegel -A- Walther Stylist  
Falzziegel Rustico Walther W4

Note: the following list includes recommendations. These can be used as a reference, actual compatibility has to be ensured on site.

# INSTALLATION

MAKE OPENING



## INSTALLATION

REMOVE ORIGINAL ROOF TILES



## INSTALLATION

INSERT ALUMERO TILE REPLACEMENT BOARD  
ON ONE SIDE



## INSTALLATION

REMOVE THE PROTECTIVE FILM  
FROM THE ADHESIVE STRIP



## INSTALLATION

COVER THE TILE REPLACEMENT BOARD  
ON THE OTHER SIDE





## INSTALLATION

MOULD THE TILE REPLACEMENT BOARD TO THE CONTOUR OF THE TILE, STARTING IN THE CENTRE WORKING OUTWARDS, AND PRESS ON FIRMLY



## INSTALLATION

FIX THE TILE REPLACEMENT BOARD WITH  
PLATE-HEAD SCREWS



## INSTALLATION

REMOVE THE PROTECTIVE FILM FROM THE  
FOAM SEALING STRIP AND APPLY IT FLUSH TO  
THE TOP EDGE



## INSTALLATION

CUT FOAM SEALING STRIP L-SHAPED  
AT ROOF HOOK POSITION



## INSTALLATION

INSERT ROOF HOOK INTO FOAM SEALING STRIP  
AND FASTEN



# INSTALLATION

## COVER THE ROOF



## INSTALLATION

COVER THE ROOF



**DONE!**

# PLEASE TAKE NOTICE OF THE FOLLOWING INFORMATION!

We recommend to read the following information very carefully as it is of immense importance for handling the product. Please also make sure you are familiar with the safety guidelines and rules for the other components within the system.



# SAFETY INFORMATION AND WARNINGS

The AS 2.1 pitched roof system is intended solely to carry PV modules. Any other applications of the system shall be considered examples of misuse. Correct use of this infrastructure also entails adherence to the guidelines and recommendations in these instructions. ALUMERO shall accept no liability for damages resulting from neglect to adhere to the installation manual, particularly in cases of incorrect use of the product.

- ALUMERO shall under no circumstances accept liability for losses of performance suffered by the system, or damage to the system, whatever their nature.

All work carried out on the PV system should be conducted in full compliance with these instructions. Installation, commissioning, servicing and repair may only be conducted by specialists with recognised relevant certification and qualifications.

Please observe all current and applicable rules and safety advice.

## Observation of these accident prevention regulations is mandatory:



- BGV A 1 – General official guidelines
- BGV A 3 – Electric systems and items in operation
- BGV C 22 – Construction and installation work (PPE for fall prevention & falls)
- BGV D 36 – Ladders and steps
- Trade association rules on health and safety at work BGR 203 for work on roofs, and DIN EN 516 regarding infrastructure required to work on roofs, work clothing and work safety rules according to trade association regulations



## You are obliged to adhere to the following DIN norms:



- DIN 18299 – General regulations for all types of construction work
- DIN 18338 – Roof covering and roof sealing work
- DIN 18360 – Metal structure work and construction
- DIN 4102 – Combustibility and flammability of building materials and components

Work on systems made by Alumero Systematic Solutions GmbH may only be conducted by authorised personnel. The system operator is obliged to observe the following safety conditions:



- We require that the AS 2.1 pitched roof system components and the outer surface of the roof installed are inspected and serviced at least once a year. At a minimum, the following points must be checked:
  - » All mechanical connections must be checked to ensure they are stable, secure and correctly tightened
  - » The situation of the system on the roof, and the condition of the system itself as regards deformation
  - » Cabling must be inspected to ensure there is no damage
  - » PV modules must be inspected to ensure there is no damage
- The frames may only be mounted by personnel with relevant qualifications, trade skills and basic knowledge of the mechanics involved.
- Make sure personnel charged with mounting, installation and servicing on your behalf are capable of evaluating the hazards and recognising the possible dangers.
- This installation manual is integral to the product itself and must be available at all times during mounting and installation.
- Ensure all personnel charged with mounting and installing systems have read and understood the installation instructions, and particularly the safety information, before work commences.
- There must be absolute compliance with the rules and regulations of the responsible trade association, local work safety directives and all applicable rules for technical equipment.
- Only suitable lifting devices and ladders must be used for mounting purposes. The use of ladders that are only leaned against structures is not permitted
- Evaluation of the existing structural statics of the building and roof in question must be conducted by a certified structural engineer to ensure existing structures can bear the additional weight and forces caused by a PV system.
- Make sure you are aware that ALUMERO Systematic Solutions GmbH applies maximum weight limits to take various eventualities into account, such as the need to climb on roofs to clear snow and reduce weight.



## PRODUCT GUARANTEE / EXCLUSION OF LIABILITY

Information about dimensioning in these instructions is provided from past experience. Binding installation statics for frames and structures can be generated using ALUMERO Solar Pro.Tool.

The company mounting and installing the system is responsible for ensuring all such work is executed correctly. ALUMERO Systematic Solutions GmbH accepts no liability for the reliability of dimensioning information provided in system sales offers.



The company mounting and installing the system is responsible for the mechanical sustainability of connections mounted on, and to the outside of, the building, particularly in terms of watertightness. ALUMERO Systematic Solutions GmbH's components are designed to correspond with the latest technical standards and to cope with the loads and forces to which such systems are commonly exposed. On submitting an inquiry/order you are required to use the project questionnaire to inform ALUMERO Systematic Solutions GmbH in writing/print about all the general technical conditions prevailing on-site, such as support structure details, snow load zone, building heights, wind loads etc.

ALUMERO Systematic Solutions GmbH accepts no liability for the incorrect handling of parts built into the system.

In order to avoid corrosion, the aluminium construction may only come into contact with media (solid, liquid, gaseous) that have a PH value from 4,5 till 8,5.

If used correctly, dimensioned within statutory static tolerance levels calculated for the site, and operated under normal local weather and environmental conditions, ALUMERO Systematic Solutions GmbH grants a 2-year product guarantee for the working life and durability of the support frame systems. It is valid for generally prevalent meteorological and environmental conditions.

Materials and finishing guarantee: ALUMERO Systematic Solutions GmbH provides a 10-year guarantee on all materials and finishing. For more information, please see the specific guarantee conditions.

## INFORMATION ABOUT ELECTRICAL INSTALLATION



All work with electricity, or on devices carrying electrical currents, must be conducted by trained electricians. Compliance must be guaranteed with all the applicable DIN norms, VDE rules, VDEW guidelines, VDN directives, accident prevention rules and the directives of the local energy suppliers.

- DIN VDE 0100: Installation of high-voltage systems with nominal voltages of up to 1000 V)
- VDEW directive: For the parallel operation of self-generation systems with the EVU low voltage mains system
- VDI 6012 directive for decentralised energy systems in buildings: Photovoltaics
- Info sheet for the VDEW directive: 'Low-Voltage Mains Self-Generation Systems'
- VDN directives on 'Low-voltage mains'
- DIN/VDE directives, DIN/VDE 0100 'The Installation of High-Voltage Systems Using Mains Voltages of up to 1000 V', particularly VDE 0100 part 410: 'Prevention of Direct or Indirect Contact' (DC voltage > 120 V, < 1000 V) and 'Trade Association Accident Prevention and Protection' VBG4 'Electrical Systems and Components'
- DIN VDE 0100-540: Selection and installation of earthing, conductors and equipotential bonding conductors
- VDE 0185 on the establishment of a lightning conduction system and VDS 2010

## KEY WARNINGS



Solar modules generate electricity as soon as they are exposed to sunlight. Hence, they are constantly electrically 'live'. Fully-insulated plug and socket contacts provide protection in case of physical contact. However, the following rules must be observed in contact with solar modules:

- Do not place any electrically conductive items in the plugs or sockets.
- Do not install solar modules or power cables if plugs or sockets are wet.
- Be extremely careful when carrying out any work on power cables.
- Do not conduct any electrical installation work where there is moisture.



- Even when there is only a small amount of light available, serially-connected solar modules may still use very high direct current voltages, and contact with these can be lethal. Please be aware of the secondary injuries and damage caused by electric shocks.

Even when switched off inverters can still pass on powerful electrical charges on contact:

- Take special care when working with the inverter and power conduits.
- Before further work is conducted, it is essential to adhere to offline intervals recommended by the manufacturer once the inverter has been switched off to ensure the power in high-voltage components has time to discharge.
- Please adhere to all installation specifications provided by the manufacturer of the inverter.



Lethal arc flashes may be generated when disconnecting a power conduit, such as when disconnecting an inverter from the DC power supply while still bearing a current:

- Never disconnect the solar generator from the inverter while still connected to the mains.

## NORMS AND GUIDELINES

All norms and guidelines presented here are published and intended for use in Germany. The guidelines provided in each respective edition must be complied with. Please note that installations outside Germany will also be subject to additional national norms and guidelines.

## HOW TO INSTALL THE FRAMEWORK

All roof area installations must be carried out in accordance with currently valid technical building standards, particularly those specified in the DIN norms and the requirements formulated in the 'German Roofers' Rulebook'.



- Check to ensure all screwed attachments are correctly tightened.
- Adhere to the suggested torque values.
- Regardless of the testability of the statics, prior to every installation it is essential to ensure the product complies with DIN EN 1991 statics requirements on site.
- DIN Norm EN 1991 'Forces Affecting Load-Bearing Structures' – and all accompanying national application documents.
- Part 1-1: Weight, weight distribution, counterweighting and payloads in aboveground construction
- Part 1-3: Snow loads
- Part 1-4: Wind loads



- DIN Norm EN 1990: 'The Fundamentals of Support Structure Planning' – and all accompanying national application documents.
- The structure on which the system is mounted is evaluated for compliance under DIN EN 1993 'Measurement and Construction of Steel Structures', and DIN EN 1999 'Measurement and Construction of Aluminium Support Structures'.
- Ensure suitability of the substructure for load-bearing purposes, like dimensions, current conditions, relevant material properties, general load-bearing structures – and of all individual layers affected such as layers of insulation.
- Ensure the flow and drainage of rainwater is not obstructed.
- Always take the physical effects on building work into account, such as the risk of de penetrating layers of insulation.

## PRODUCT LIABILITY

The technical documentation is an integral part of the product. Alumero Systematic Solutions GmbH shall bear no liability for damages that occur due to non-adherence to the installation instructions, particularly to safety information, or due to misuse of the products.

**ALUMERO**

# CONGRATULATIONS & WELL DONE!

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