

**BRUCHA**Paneel®

## Handling - Details



United in panels.

# BRUCHA<sup>®</sup> Panel Handling

## INFORMATION ON TRANSPORT, STORAGE AND ASSEMBLY

Installation guidelines available at: [www.brucha.com/downloads](http://www.brucha.com/downloads)

### GENERAL

Composite panels are among the most technologically advanced prefabricated elements for roof and wall cladding.

The composite panels protect against the weather and serve as thermal insulation and vapour brake. After the panels are positioned and attached and the edging is completed (ridge, verge, eave, plinth, window and door jambs), the roof and wall cladding is complete.

### PACKAGING AND TRANSPORT

The sandwichpanels are protected with unload boards, while loading, transport and unloading with hoisting sling.

### DELIVERY

Trucks are loaded pursuant to Austrian Road Traffic Regulations.

Deliveries require clear access for articulated trucks and long vehicles.

The driver is largely co-responsible for loading the truck and proper transportation. Please check immediately whether the panels have arrived undamaged.

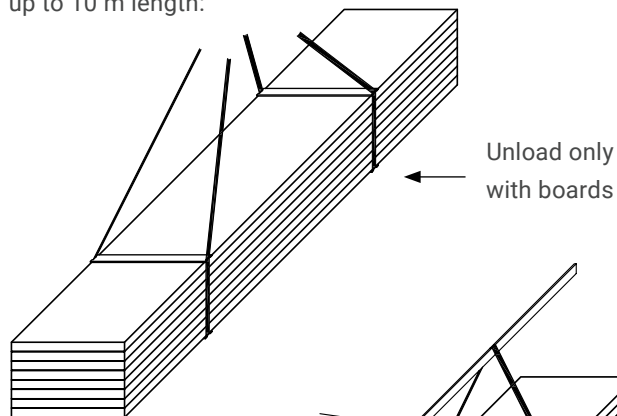
Announce damaged material immediately in written form on the transport papers with licence number, name of the driver, incl. photo of the concerned material before unloading, together with packing list where the order-no. incl. the product-description is shown. Later complaint cannot be accepted.

### UNLOADING

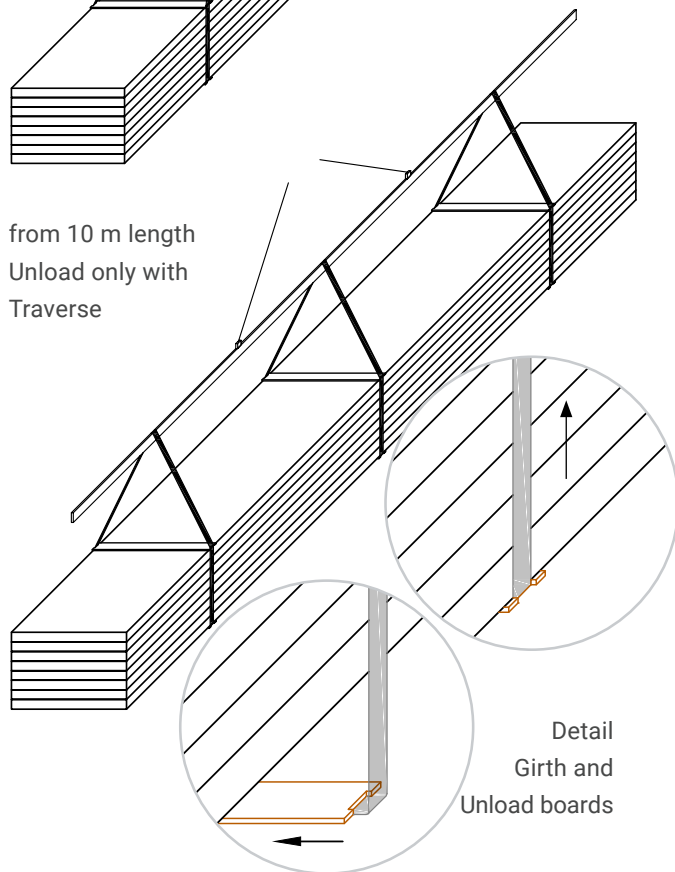
Use only slings for unloading.

For panels longer than 10 m, use a crane jib or a spreader. Never unload two panel stacks at the same time! Be cautious when using a forklift for unloading. The driver must monitor the unloading procedure carefully. He is responsible for proper hand-over.

up to 10 m length:



from 10 m length  
Unload only with  
Traverse



## STORAGE

Panels should not be stacked higher than two units. Cover the stacks with a canvas for protection against sunlight and rain. Cover opened panel stacks. Position the panel stacks at a slight incline to allow water to run off.

## PROTECTIVE FILM

The PVC film is not UV resistant (protect from solar radiation) The film must be removed no later than 10 weeks after the production date (marked on the longitudinal panel seam).

The BRUCHAPaneel PUR roof panels – DP are normally delivered without a film underneath.

## CUTTING TO SIZE

Angle grinders may not be used for cutting panels to size. They emit hot sparks which burn into the coating of the sheet surface and are mostly permanent.

Use circular hand saws with tungsten carbide saw blades or special chain saws. This cold cutting method assures the cathodic protection effect of the cut edges.

Remove the swarf from the surfaces immediately; it rusts with the slightest of moisture and causes the same damage as described above.

## SUPPORT / SUBSTRUCTURE AND ATTACHMENT

The panels can be mounted or screwed directly onto the steel or wood substructures without additional preparation (acc. to installation guidelines).

## ROOF PITCH

The minimum roof pitch must be observed:

- roofs without butt joints and roof penetrations at least 3° (5.2 %)
- roofs with butt joints and roof penetrations at least 5° (8.6 %)

In practice, roof pitches are often referred to as percentages, convertible to angular degrees.

But be careful – this is not the same.

Conversion factor: 1° = 1.73 %

# BRUCHA<sup>®</sup> Paneel<sup>®</sup> Handling

## LIFTING THE PANELS

If panels cannot be mounted manually, suitable slinging gear must be used, compliant with the required safety measures. Ensure that the sheet steel surfaces are protected. It is very difficult to remedy damages.

From an economical point of view, mounting of the roof panels using a mounting tool has proven itself (Fig. 1).



Fig. I:  
Mounting tool

The use of commercially available octopuses (Fig. 2) is recommended for mounting large area panels (roof, wall and facade).

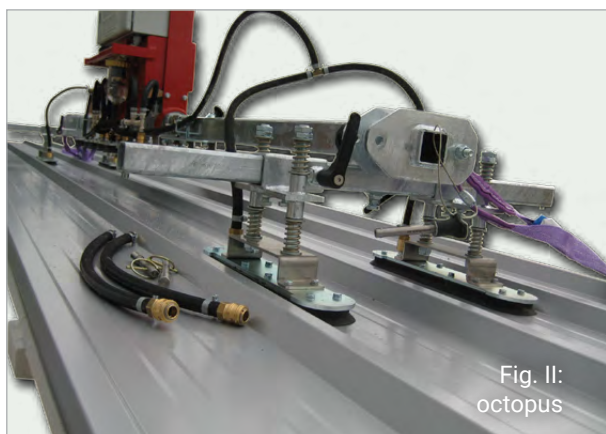


Fig. II:  
octopus

## ALIGNMENT/MAIN WIND DIRECTION

Before starting to install the panels, square the roof area and use a chalk line to mark control points at the required distances. Check that the substructure built

by the preceding contractor is square and perpendicular; if this is not so, severe problems may ensue during installation, due to shifted panels.

Always lay the panels against the main wind direction. The overlap along the longitudinal joints then protects against the penetration of hard, driving rain.

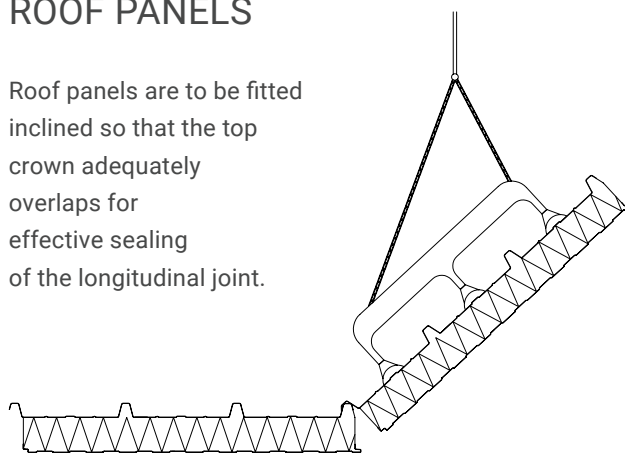
This rule is part of the guidelines for large area and overlapping roof covering materials.

## MOUNTING

Observe the national regulations on fasteners. We generally recommend the use of stainless steel screws.

## ROOF PANELS

Roof panels are to be fitted inclined so that the top crown adequately overlaps for effective sealing of the longitudinal joint.



Fasten the panels through the crown level. Always use the original fastening washers supplied by the panel manufacturer or available from specialised dealers, since these distribute the tensioning force of the screw across a larger area, such as the sealing washer. Bottom crown fixing is also possible using special screws (see installation guidelines).



PUR/PIR and Fire Protection  
Spherical cap

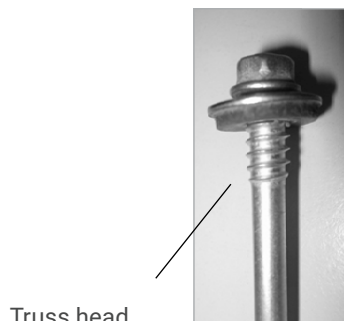
## WALL AND FACADE PANELS

Visible mounting – supporting thread screws

Screws with supporting thread are preferably used with wall and facade panels.

Use screw machines with depth stop to avoid dents when turning in the screws.

Ensure that the sealing washers fit firmly to avoid water penetration.



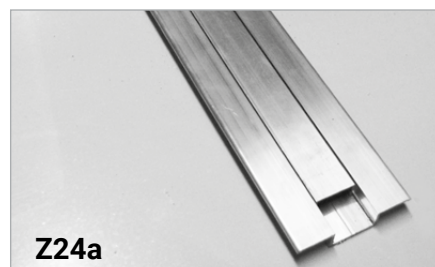
Truss head

## MOUNTING OF WALL AND FACADE PANELS

With horizontal mounting, lay bottom to top. Ensure that the panel joints are arranged such that panels form a water-repelling, downward facing drip nose.

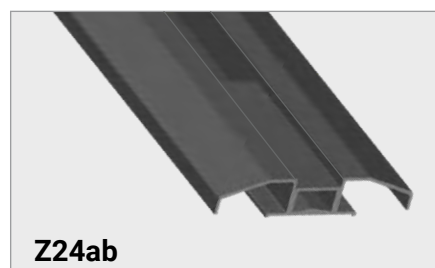
For all sealing works please follow our installation guidelines.

With horizontal mounting, lay bottom to top. Ensure that the panel joints are arranged such that panels form a water-repelling, downward facing drip nose.



**Z24a**

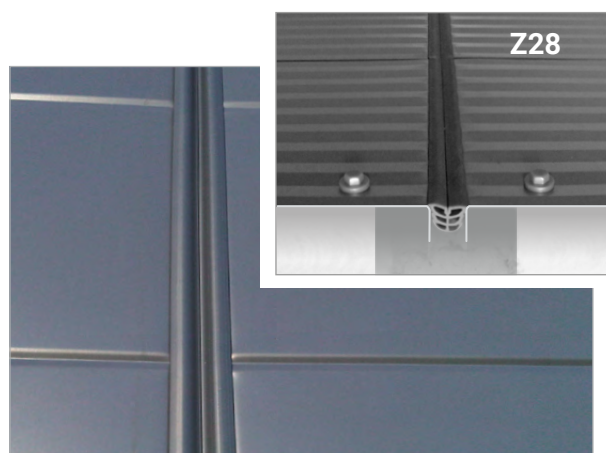
Joint cover – TOP HAT – Z24a  
horizontal mounting for FP/FP-F



**Z24ab**

Joint cover – TOP HAT – Z24ab  
horizontal mounting

**EDGE FOLDING** for horizontal mounting  
notch incl. 90° fold, incl. seal – Z28





# BRUCHA<sup>®</sup> Paneel<sup>®</sup> Details

THE DETAIL DRAWINGS SHOWN HERE ARE SUGGESTIONS FOR INFORMATION ONLY. THEIR CORRECTNESS AND SUITABILITY MUST BE CHECKED, BASED ON THE PARTICULAR APPLICATION.

## SEALING THE JOINTS

Sealing of the individual terminal butt joints at the ends, i.e. at the connecting edges to the wall, facade and roof requires special attention, since they all demand special sealing.

All composite construction sealing requires using specially suited sealing tapes, readily available from specialised dealers (acc. to installation guidelines).

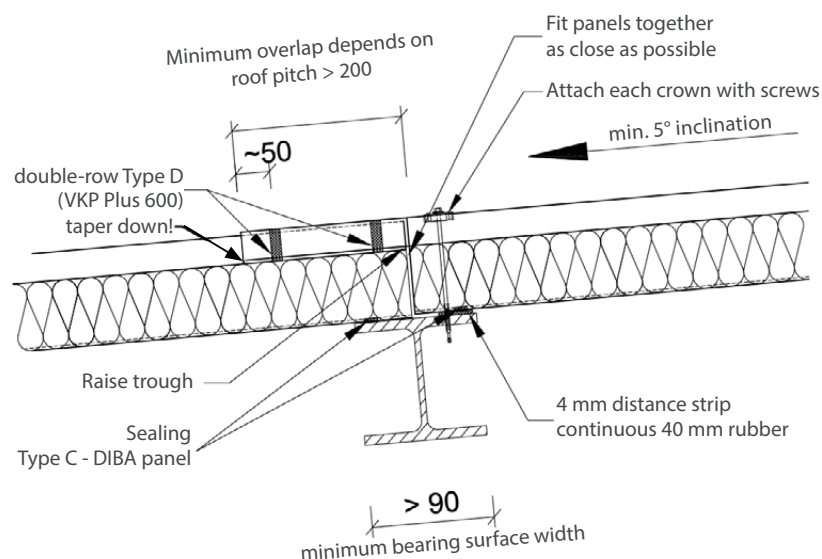
Example:

### DETAIL BUTT JOINT CONSTRUCTION

## BUTT JOINT DESIGN

THE BUTT JOINT MAY ONLY BE MADE OVER A PURLIN! (see detail drawing below and the installation guidelines at [www.brucha.com](http://www.brucha.com)).

Minimum roof pitch 5° (8.6 %) with transverse joint or penetration.

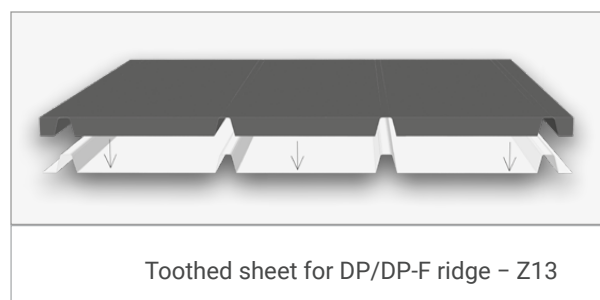
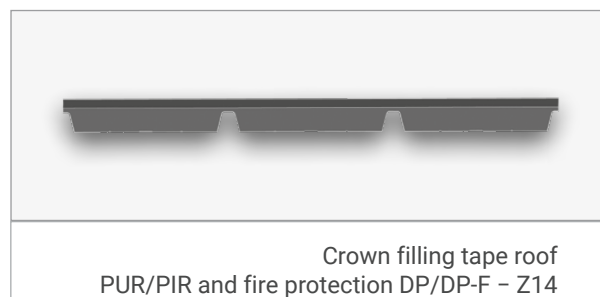


For the sealing material overview chart see installation guidelines.

## RIDGE CONSTRUCTION

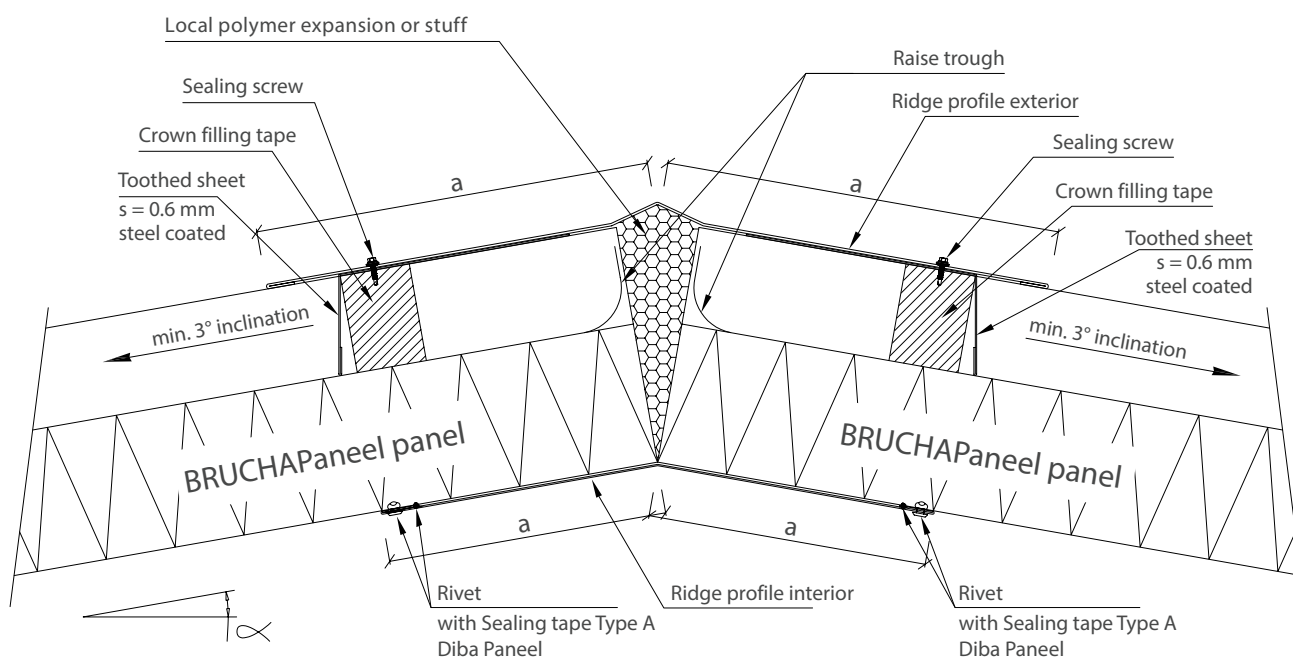
The proper ridge construction is shown in the detail drawing below. Always raise (tip up) the low profiles of the outer cover of the panel at the edge; use profile fillers and toothed plates. Without toothed plates the profile filler may be removed in a storm or by birds. Furthermore, the plate protects the profile filler from UV light.

The joints of the ridge sheets are designed as a batten seam (see sheet metal working methods). Should sealing be required with elastic sealing compounds, the sealing material must be applied such that it is protected against direct UV radiation.



Example:

## RIDGE CONSTRUCTION



# BRUCHAPaneel® Details

## EAVE CONSTRUCTION

Corresponding to the various kinds of eave construction the elements have to be sealed against the interior space.

Different variants of rainwater gutters can be chosen, in any case you have to organise a professional installation (see our installation guidelines).

### NOTE:

For BRUCHAPaneel panel fire protection roof DP-F a notch has to be carried out in the eave construction area (available at a surcharge).

Toothed sheet for DP/DP-F eave – Z13b

### Example:

## EAVE CONSTRUCTION

**BRUCHA**®

Brucha · 104 · 2018



# BRUCHAPaneel® Details

Various variants of verge implementation can be chosen, in any case a professional installation has to be guaranteed.

## VERGE CONSTRUCTION

As noted for both ridge and eave construction, interior sheeting must also be used in the verge to ensure proper sealing.

After mounting and screwing on the interior sheeting, the gaps between panels must be filled with mineral fibre or PIR mounting foam.

Usually the outermost verge sheet is placed over the last rib of the roof panel and attached directly to the facade on both sides.

Depending on the design standard, the longitudinal overlaps of the moulded parts are sealed and come with splice plates.

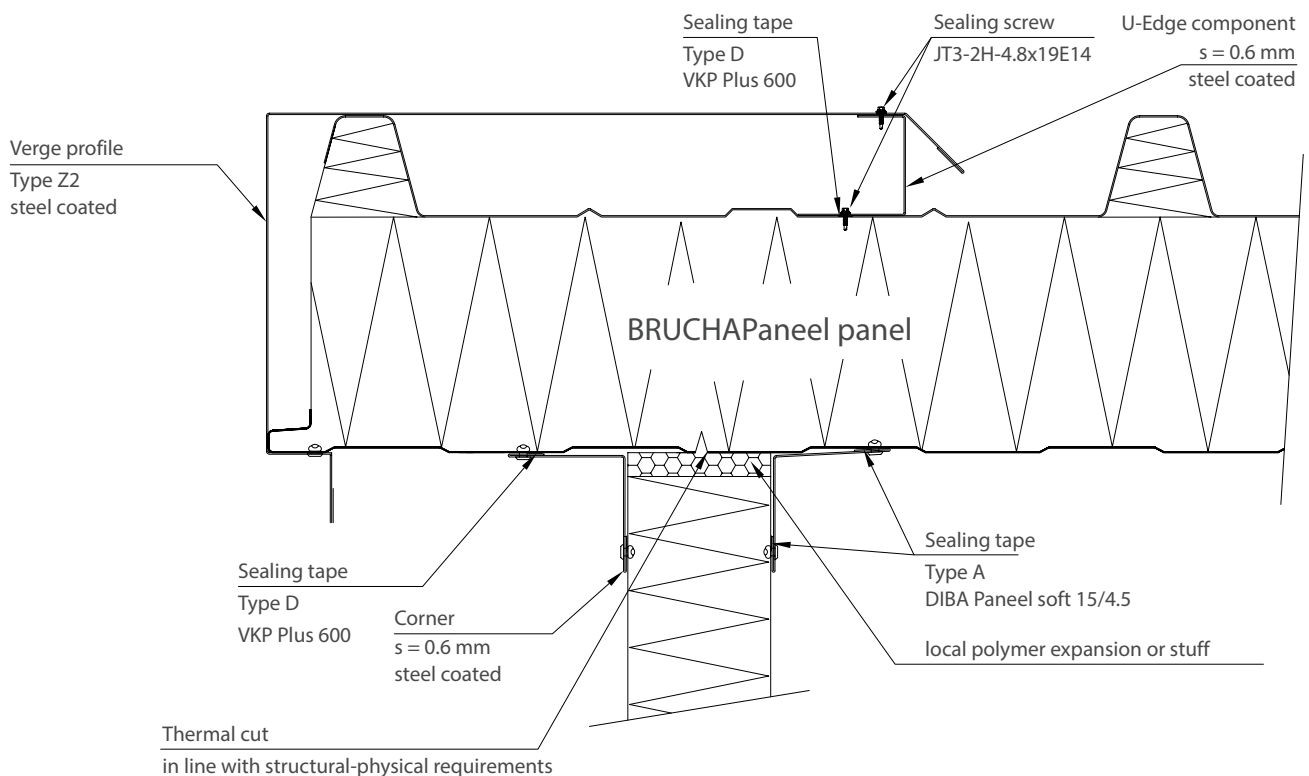
Material expansion, dependent on type and length of the material, must also be considered.

If necessary, make a thermal separating cut here as well; but note that the load bearing capacity of the overhanging panel section is reduced.

Please refer to the relevant OIB [Austrian Building Technology Institute] guidelines.

Example:

## VERGE CONSTRUCTION



# BRUCHAPaneel® Details

## PLINTH CONSTRUCTION

Many different connection types are available between plinth and composite panels (see detail drawings below).

They depend on the type of installation (horizontal or vertical) and on the construction type, of course.

When designing the detail, ensure that penetrating rain water can run off again freely.

Especially in the case of panels with mineral wool insulation, the insulation may not come into contact with water!

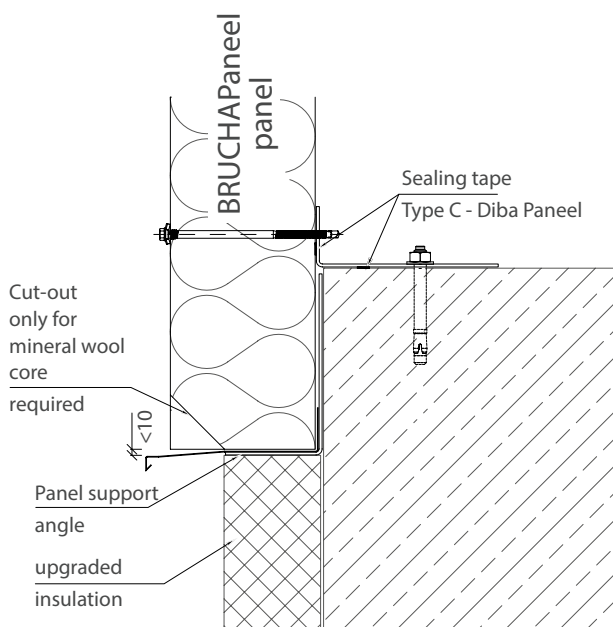
Further details can be found in our installation guidelines!

The required plinth profiles are shown in our flashings/ accessories catalogue.

Example:

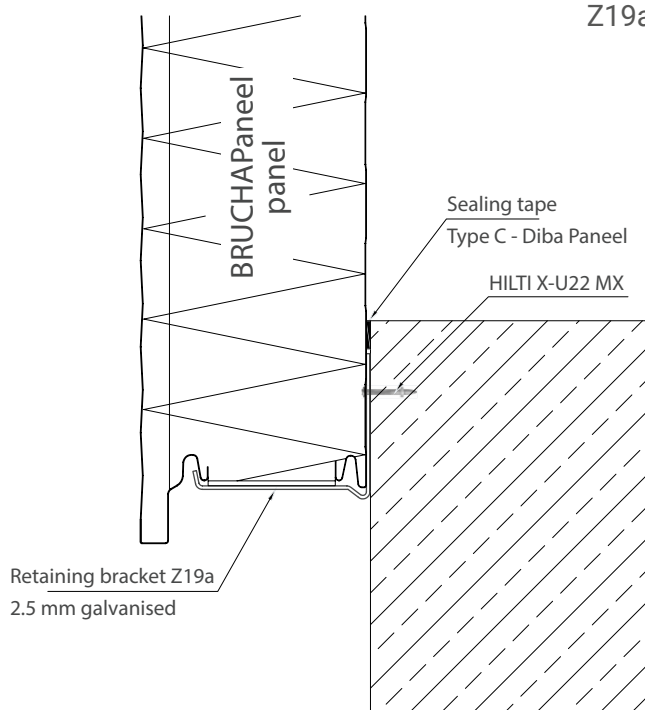
## PLINTH CONSTRUCTION

vertical installation



## RETAINING BRACKET - horizontal installation 2.5 mm galvanised

for BRUCHAPaneel panel FP-P  
Z19a



## ROOF LIGHTS

To avoid extra installation work later, plan carefully for openings for ventilation, lighting and extractors. The easiest is to use commercially available ridge roof lights and to arrange these on the ridge continuously or at right angles (from ridge to eave).

Since these roof lights have proven themselves in commercial construction for many years, installation is easy.

## INSTALLING DOME LIGHTS

### REPLACING / DOME LIGHTS:

Exchanging to accommodate feedthroughs is possible. It must be ensured, however, that the heat insulation is restored to its original state and that no thermal bridges are created.

The frames must be meticulously made by hand. Must be raised at least 150 mm (at least 300 mm in areas with heavy snowfall) above the water flow level.

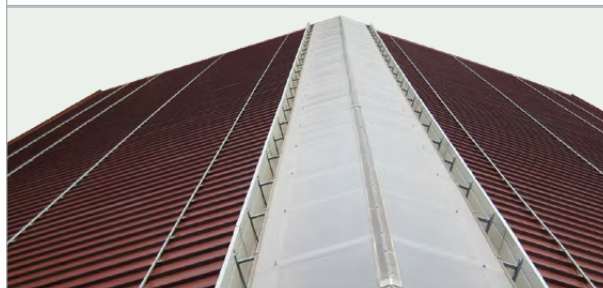
Exchanging to accommodate feedthroughs is possible. It must be ensured, however, that the heat insulation is restored to its original state and that no thermal bridges are created.

It must be checked whether the roof panels should be supported with wooden or steel exchange frames. With conventional crowns, the flashing on the ridge side is inserted to under the ridge sheet. Ensure correct crown height.

## FITTING FLASHINGS

Open gaps in the ridge area of the BRUCHAPaneel roof panel and air ventilated flashings may cause condensation. Suitable measures (e.g. closing gaps, filling cavities beneath flashing with thermal insulating material, inserting profile filler) must be taken to prevent condensation or condensate run-off beneath the flashing. Before installing the flashings, apply a suitable sealing tape (on crown) and screw the flashing to each crown, using self-sealing screws.

Ridge roof lights



Dome light



Dome light with flashing



## Maintaining product quality from delivery to servicing of your construction project

### Optimal design

When planning and designing the cold-rooms is should be noted that these must be regularly and thoroughly cleaned; it is therefore important to avoid hollows where dirt or condensation can collect.

BRUCHAPaneel panels provide an optically aesthetic surface profiling enabling thorough cleaning. During assembly ensure that all fixtures & fittings have a rounded form to also enable thorough cleaning.

The lower panel end must be protected by a correctly sealed pedestal to prevent damp penetrating through the panel.

If it is necessary to cut or drill into the panel walls, we recommend using special shears to avoid burrs. In particularly aggressive environments the cut edges must be sealed with a protective paint or covered with a folded stainless steel insert to prevent possible corrosion.

No swarf, screws, rivets etc. may be left lying on the panels (risk of corrosion, particularly for roof assembly).

Use only silicon seals with neutral curing - no putty with acetic acid curing. Silicon joints require maintenance!

### Cleaning for permanent product quality

Proper cleaning not only ensures the best appearance but also removes microorganisms providing micro-biological cleanliness through disinfection.

Here we provide recommendations and guidelines for proper surface cleaning from our own suppliers:

Coated surfaces should be cleaned using cold or tepid water with mildly alkaline cleaning agent without

however oxidizing agents (e.g. chlorine). Surfaces may only be in contact with cleaning agents for a maximum of 30 minutes. Cleaned surfaces are to be rinsed with cold water (not high pressure), so that no residue remains on the coating; the cleaned surfaces must be able to thoroughly dry out.

Cleaning agents containing high levels of chlorine or phosphoric acid, or perhydrol and oxygen based disinfectants are not to be used.

Cleaning agents with corrosion inhibitors are recommended.

Abrasives, brushes, or soiled sponges are never to be used due to possible scratching. The manufacturer's details on dilution of cleaning agents must be observed precisely.

The permissible pH-values for 25 µm Polyester coatings are generally from 5 to 9 (in reference to EN 10169-3).

Values must be maintained within these parameters; exception: 150 µm PVC film (hard-PVC-film) from pH 5 to pH 10.

Particular caution is advised when using high pressure or steam cleaning equipment.

In individual cases consult the manufacturer before application; the cleaning agent supplier can inform you on the most efficient hygienic/disinfectant composition.

# BRUCHA<sup>®</sup>Panel

## Tips on appropriate care for a long lifetime

### Continuous maintenance

Inspect the panel surfaces regularly, visible damage (scratches etc.) should be touched up with paint.

If necessary wipe the damaged area with a clean towel to remove any foreign bodies.

Apply the touch-up paint precisely with a fine brush.

Only use touch-up paints which are compatible with the original paint.

Please contact us for details, we will be pleased to offer advice.

### IPA Qualification Foodstuffs safety

#### Test seal for clean room compatibility

The sheet surfaces used by BRUCHA have been tested for clean room compatibility at the Fraunhofer Institute for Manufacturing Engineering and Automation IPA in Stuttgart, receiving the IPA seal of qualification.

### Recommended Cleaning Agents

IPA investigation of the cleaning agent and disinfectant durability and solvent emission characteristics of coated steel (polyester and PVC):

The following commercially available agents for the foodstuffs industry were used for the reagent durability simulation; result chemically resistant after 24 hours exposure.

MICROBAC<sup>®</sup> food and DESIFOR-forte.

### Summary

#### Notes on finishing, cleaning, and servicing & maintenance of the panel surfaces.

##### Finishing:

- ✓ Hollows must be avoided and all corners should be rounded off (inserts).
- ✓ Complete sealing of the lower panel end
- ✓ Open cut outs are to be touched up with paint or covered with an insert.
- ✓ No swarf, screws, rivets etc. may be left lying on the panels.

##### Cleaning:

- ✓ Cleaning agents are always to be used in the manufacturer's specified concentration.
- ✓ General cleaning temperature should not exceed 30°C (point max 50°C).
- ✓ No active chlorine cleaning agents may be used.
- ✓ No abrasive cleaning agents may be used.
- ✓ The cleaning agent pH-value between 5 and 9 must be maintained.

##### Servicing & maintenance:

- ✓ Regular inspections for scratches, these must be immediately touched up with.
- ✓ Important here is compatibility with the original paint.

Please consult your BRUCHA point of contact for further questions on maintaining optimal product quality.



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