Rhenoplast® transparent panels

INSTALLATION INSTRUCTIONS

Introduction

Prior to installation, please read the following important information.

Prior to installing Rhenoplast transparent panels you must make yourself **familiar with the statutory health and safety regulations!**

Transportation

At the factory, Rhenoplast transparent panels are safely packed for transportation.
Do not put any load on the panels during transportation (in a horizontal position).
Be careful not to hit edges and corners against hard objects.
The stacked transparent panels to be transported must be protected from direct sunlight and moisture.

Storage

Always store Rhenoplast transparent panels dry on a flat surface with a max. stack height of 50 cm. Avoid moisture in the stack.

Adequately protect from pressure and impact damage.

In order to avoid **heat accumulation** caused by the „magnifying glass" effect the **stacked** transparent panels must be protected against direct sunlight, including during transportation.

A light-coloured opaque cover will be sufficient. Do not store near heat sources. The same requirements apply for on-site storage.

Instructions indicated on and included in the packaging must be strictly adhered to!

Processing

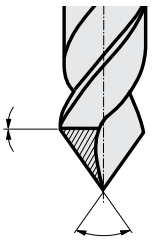
Rhenoplast transparent panels are processed as follows:

Cutting:
with fine-toothed non-set saw blades or with angle grinders using standard cutting discs (e. g. stone cutting discs, diamond cutting discs).

Drilling:
preferably with **Rhenoplast drill bits** ø 10, 12 or 14 mm or with drill bits with a clearance angle of 0° (point angle 60 - 70°) at medium speed.

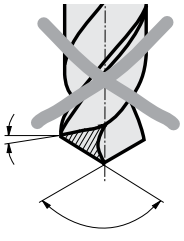
Important:
Remove all drilling chips!

Correct



60° - 70°, clearance angle 0°

Incorrect



118°, clearance angle 5°

Drill hole diameter

The expansion coefficient of rigid PVC is 0.8 mm/m/10K change in temperature.

In order to make allowance for the **material-dependent expansion** of the Rhenoplast transparent panels, depending on the panel length, **corresponding holes must be predrilled** into the panels. Please note the following recommendations:
For panel lengths up to 3 m, the drill hole must be 3 mm wider than the screw shaft diameter.

For larger lengths the drill hole must be at least 12-14 mm wide, corresponding to the expected expansion.
As a general rule, for every metre of panel, the drill hole must be 1 mm wider than the screw shaft diameter, however not more than 14 mm.

Supporting construction

The supporting surfaces of the transparent panels (e. g. supporting construction and roof covering) must be white. We recommend a white, UV-resistant, single-sided adhesive cover tape (e.g. Rhenoplast cover tape) or solvent-free, white, rigid PVC-compatible paints (e. g. water-soluble UV-resistant acrylate dispersion paint). Alternatively, the supports or supporting surfaces must be permanently reflective, e. g. aluminium bright or comparable surfaces.
The minimum support width is 50 mm. The roof slope should be at least 3°.

Purlin and crossbar spacing

For purlin and crossbar spacing, please refer to the Rhenoplast data sheet.

Installation

Generally, panel installation is carried out against the prevailing weather direction.

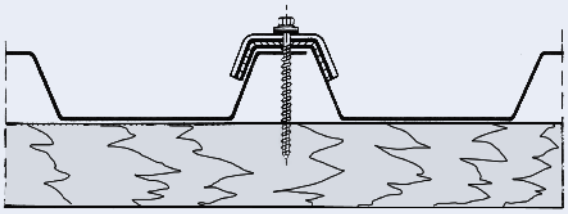
Transparent panels must not be installed in front of or over dark backgrounds or insulation materials.

In the case of Rhenoplast OV, the marked UV protective layer must always face the weather side. Remove the marking immediately after installation.
When installing the transparent panels observe the corresponding net covering width.
Prior to fastening, push the panels together as required.

Overlaps
Roof cross joints

Roof slope	Overlap
3° – 5°	Joints are not permissible
5° – 7°	200 mm with 2 sealing tapes 1 before and 1 behind the fastener
7° – 12°	200 mm with sealing tape
> 12°	200 mm without sealing tape

The sealing tape must not contain any solvents.
We recommend a white, UV resistant and rigid PVC compatible, single sided adhesive sealing tape (please ask for source of supply).



Fastening on timber structure

Wall cross joints

In general, the cross joint overlap must be not less than 150 mm.

Longitudinal overlap

Corrugated profiles:
The lateral overlap depends on the roof slope and is 1/2 to 1 1/2 corrugations, depending on the profile.

Trapezoidal profiles:
The lateral overlap depends on the manufacturer's specifications.

Generally, the following applies:
in exposed positions (e. g. height, wind, roof load) and in the case of extended corrugated profiles (e. g. 177/51), in each individual case, it will be necessary to check whether a larger overlap will be required.

Fastening

Generally, the panels must be fastened on every purlin or crossbar. In the lateral overlap area of the panels (longitudinal joint), fastening is mandatory.
The number of fastening points depends on the corrugation crest/trough width of the corresponding profile.
In general, the following fastener spacing will be sufficient:

Crest width up to 99 mm: fastening on/in every third crest/trough.

Crest width from 100 to 185 mm: fastening on/in every second crest/trough.

Crest width over 186 mm: fastening on/in every crest/trough.

In the case of higher loads, *e. g.* in perimeter/corner areas of the building or on open buildings, panels are to be fastened on/in every crest/trough.

Longitudinal joint connection

Generally, interconnecting the transparent panels along the longitudinal joint between the supports is not necessary.

In the case of longitudinal joint connections, please note:

For interconnecting transparent panels, we recommend Bulbtite blind rivets; for connecting the transparent panel to the roof covering, we recommend Lap Lox fasteners, due to the different longitudinal expansion of the materials.

Roof fastening

The fasteners are normally placed on the corrugation crest. In the case of corrugated profiles, we recommend the use of spacers and calottes for fastening; in the case of trapezoidal profiles, the use of calottes with a vulcanised sealing.

Fastening on steel purlins at water-draining level is possible, if screws with sufficiently large sealing washers (e.g. Ø 29 mm) are used.

In order to prevent warping of profiles with wide corrugations (*e.g.* 333/45) in the cross joint area, at least one additional fastener should be placed in every corrugation trough.

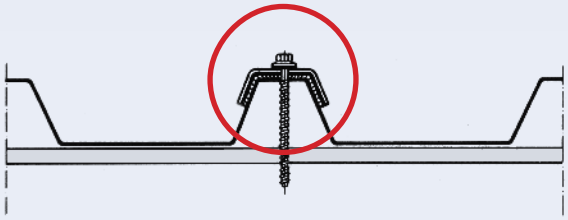
◯ **Do not overtighten the screws (allow for expansion).**

The panel must not project more than 200 mm from the last fastening point.

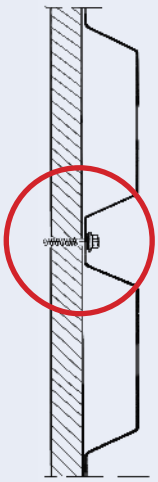
Wall fastening

Fastening is carried out in the corrugation trough.

◯ **Do not overtighten the screws (allow for expansion).**



Roof fastening



Wall fastening

Double layer construction

For double layer constructions, only **Rhenoplast OV transparent panels** must be used. Avoid heat accumulation within the enclosed space. **Therefore it is essential that there is sufficient rear ventilation with an appropriate spacing between the transparent panels, as well as a sufficient ventilation system.**
Avoid direct contact between the transparent panels and the thermal insulation.

Note:
In any case, double layer constructions must be cleared with our specialists.

Accessibility

In general, Rhenoplast transparent panels are not to be walked on, unless auxiliary constructions are installed. Access is possible only on walking boards covering at least two purlin spans.
The corresponding statutory safety regulations must be adhered to.

Cleaning

Due to the smooth surface, Rhenoplast transparent panels are normally self-cleaning. Should they nevertheless become soiled, dirt can be washed off with water and a household cleaner (free from abrasive, corrosive or solvent-containing additives).

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