

# HIGHLUX® Multi-Skin and Corrugated Sheets

*Intelligent Roofing*

**MÖNCH**

Kunststoff-Technik GmbH



Image: HIGHLUX® Vertica





## HIGHLUX® Multi-Skin Sheets

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## HIGHLUX® Corrugated Sheets

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- Quality from Germany
- DIN-certified
  - DIN EN ISO 14001: 2009
  - DIN EN ISO 50001: 2011
- Guaranteed for 20 years, according to each valid Guaranty regulations

Intelligent Roofing





Image: HIGHLUX® 76/18 Comb

# HIGHLUX® Multi-Skin Sheets

## Unsurpassed brilliance and lasting good looks

HIGHLUX® shows excellent resistance to UV light. It does not become yellow or brittle even after many years of outdoor exposure.

HIGHLUX® multi-skin sheets are impact-resistant and therefore ensure problem-free installation and hail resistance. Their special configurations give them outstanding load bearing capacity at low weight.

The air entrapped in the cavities makes for excellent heat insulation.

Owing to their large sizes, HIGHLUX® multi-skin sheets require much less outlay for supporting structures. On the smooth surface dirt and dust will be rinsed off by the rain very easily.

Special grades can also be used for sunscreening.

HIGHLUX® stands for extruded multiskin and corrugated sheets. They are manufactured from acrylic molding compound according to state-of-the-art methods, and combine the unsurpassed weather resistance of acrylic glass with excellent impact strength.

That makes HIGHLUX® the ideal choice for architectural glazing.

**HIGHLUX® multi-skin sheets are available in the following standard configurations:**



HIGHLUX® SDP 16/32



HIGHLUX® SDP 16/96 – Vertica



## Special Properties for Special Requirements

### Resistance

The unsurpassed weather resistance of HIGHLUX® is a great advantage for all outdoor uses.

### Transparency

Even after many years HIGHLUX® multi skin sheets keep their great transparency. We give you a 20-year non-yellowing warranty period for the HIGHLUX® multi skin sheets. An important decision criteria.

### Creativity

Are you looking for white multi-skin sheets for designing unusual carports or structured multi-skin sheets for your well being? Maybe brown multi-skin sheets for the good mood or do you just want transparency? No problem with HIGHLUX® multi-skin sheets - just be creative!

### Relaxation

HIGHLUX® multi-skin sheets offer protection against strong sunlight. You can relax, enjoy the sun and just forget about time. A rain shower will increase your well-being, HIGHLUX® products are low-noise-look for the comparison.

### Freedom

Are you your own builder or are you letting your ideas get developed? The lightweight and easy processing of HIGHLUX® multi-skin sheets offers you many options of design even during the construction site.



## Technical Information

Here is an overview of our standard range.  
Special products are available on request.



**HIGHLUX® SDP 16/32**

crystal clear, white, brown, colourless „IC“,  
SUNSTOP opal/sky



**HIGHLUX® Vertica 16/96**

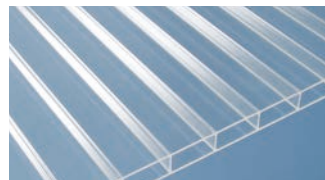
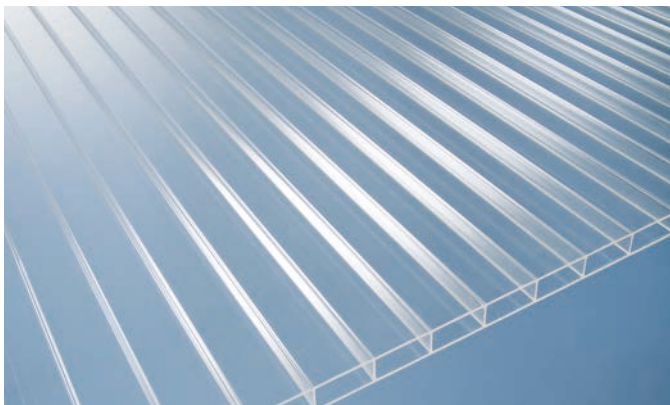
crystal clear

Sheet thickness (mm)	16	16
Support spacing (mm)	32	96
Sheet width (mm)	980 und 1,200	980 and 1,200
Standard Sheet length (mm) *	2,000, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,000	2,000, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,000
U value (W/m² K)	2,7	2,6
Rated Soundproofing measure	24 dB	22 dB (approximated)
Light transmission (%) **		
crystal clear	approx. 84	87
white	approx. 76	–
brown	approx. 60	–
colourless „IC“	approx. 83	–
SUNSTOP opal/sky	approx. 50   approx. 35	–
Support spacing		
width 980 mm at a load of 75 kg/m²	6,000 mm	3,500 mm
width 1200 mm at a load of 75 kg/m²	4,000 mm	2,500 mm

\* = Special length up to 12 m on request      \*\* = according to DIN 5036 Bl.3

## Delivery Program – HIGHLUX® Multi Skin Sheets

### HIGHLUX® SDP 16/32



crystal clear



colourless „IC“



white



brown

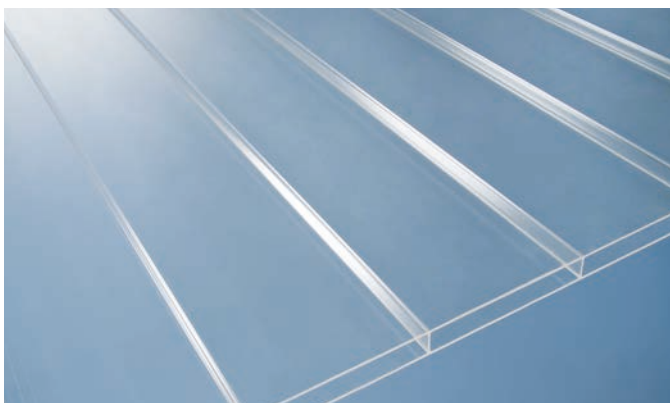


SUNSTOP opal



SUNSTOP sky

### HIGHLUX® Vertica 16/96



crystal clear

## Examples of Installation

Supporting structure consisting of laminated timber beams or metal.

Grid dimensions = sheet width + 15 to 30 mm, depending on glazing bars. Contact us for further information if required.

Max. service temperature without load = 70°C

In the selection and application of HIGHLUX® products the local relevant norms and regulations have to be observed.

- local relevant building regulations
- applied norms, e.g. DIN 1055
- verification of VOB or BGB
- workmen's compensation board-policy u. a.

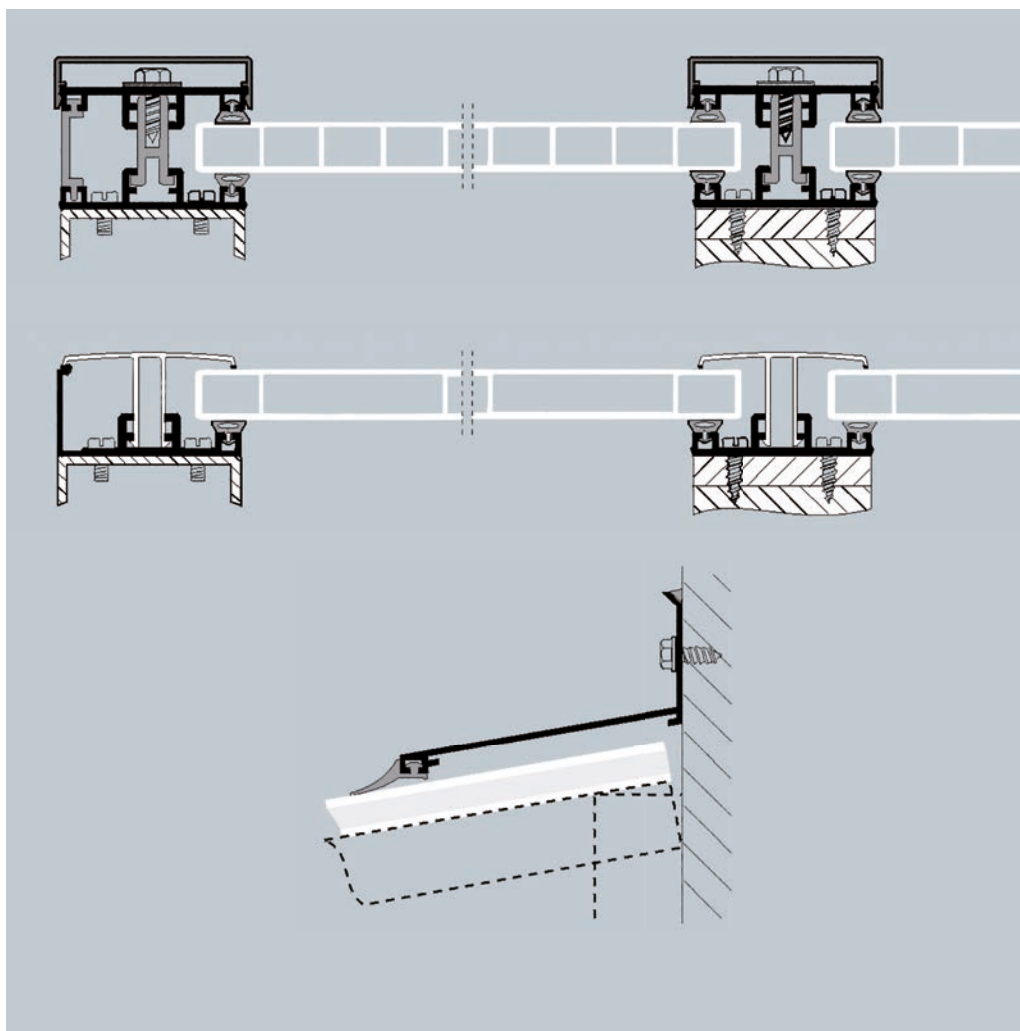
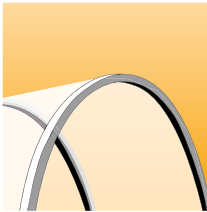






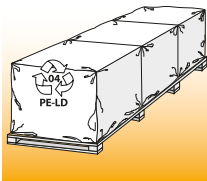
Image: *HIGHLUX® SUNSTOP sky*

## Guidelines for Installation– HIGHLUX® Multi-Skin Sheets



### Barrel vault

HIGHLUX® Multi-Skin sheets are shock-resistant and can be installed cold bended. They are suitable for light domes in industrial roofing. A minimum radius of 150 x sheet thickness is necessary.



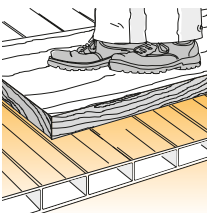
### Transport + Storage

If possible, store the material indoors. HIGHLUX® multi-skin sheets are supplied with surface masking (PE film) and recyclable white polyethylene sheeting for protection against sunlight, UV light and moisture. If they are stored outdoors, the outer packaging must be left in place. Keep the open ends sealed. If the plates are shortened, the end faces must be protected again according to the extrudable state. A maximum of 3 pallets with standard amount can be stacked on top of each other.



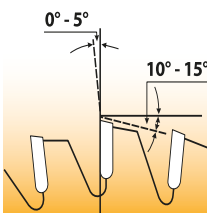
### Fire rating:

HIGHLUX® multi-skin sheets are classed as normally flammable (DIN 4102-B2). Protect them from open flame and excessive heat as for wood and other combustible materials. Use the multi-skin sheets in accordance with the valid building regulations and manufacturer's instructions.



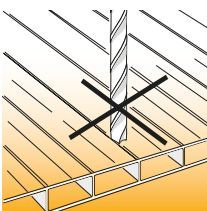
### Access

For your own safety and to avoid damage to HIGHLUX® multi-skin sheets, always use wooden crawling boards or similar devices for walking over the sheets. Preferably, these boards should be placed across the load-bearing members of the supporting structure. Padded ladders or scaffolding are required for access to steeply inclined roofs.



### Appropriate

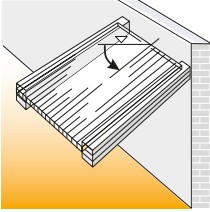
The best results are obtained with carbide-tipped sawblades. Use high-speed circular saws. Clamp the sheet firmly to avoid flutter. When width cutting on all sides of the sheet use an appropriate reinforcing profile. Please ask your supplier for further information.



### Drilling

We advise against drilling the sheets because pointwise fastening of HIGHLUX® multi-skin sheets poses a number of problems. Please ask your supplier for further informations.





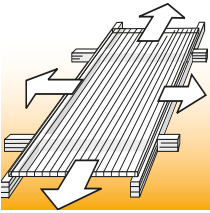
### Roof pitch

To ensure the self-cleaning effect trough draining rain-water and to avoid condensation in the cavities a minimum roof pitch of 5° (9 cm/m) is required. Secure the sheets against slipping. Always install the sheets with their webs in the direction of water flow. Regardless of the roof pitch an impermeability to the wall has to be ensured on site.



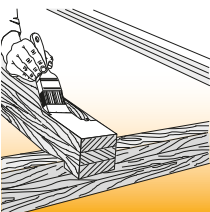
### Internal shades

When using internal shades, it is very important to avoid a heat buildup. Shades (blinds, panels, etc.) should be white and compatible with acrylic glass. We recommend to keep a minimum distance of 20 cm to the sheet. A sufficient ventilation between the sheet and the shade should be provided. Otherwise there can be a tear provoking heat buildup.



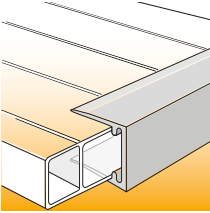
### Allowance for expansion

HIGHLUX® multi-skin sheets expand due to heat and/or moisture. An allowance of +6 mm/m sheet length and width must therefore be made for expansion. Cracking noises might occur due to expansion. This does not affect the usability. Suitable profiles with rubber lips can increase the noise. Please ask your supplier for further information.



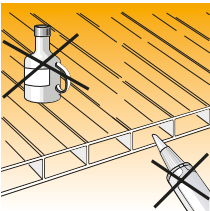
### Supporting structure:

To avoid local heat buildup in the multi-skin sheets, the upward-facing surfaces of the structural members should be provided with a white or reflective coating. The supporting structure must be non-wrapping (laminated timber beams, if wooden structures are used). In addition, a space of at least 20 mm must be left between the sheets and the crosswise supports. Usually the substructure will be covered with glaze or varnish. To save the plates from acid fumes, the substructure needs to be ventilated for a few weeks.



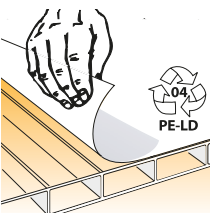
### End closure:

HIGHLUX® multi-skin sheets are slightly permeable to water vapor, which means that condensation may form inside the sheets. Seal the upper sheet ends – we recommend an aluminium adhesive tape and a proper aluminium end rail – close the lower ends with appropriate sections that allow condensation to drain off, while preventing dirt from entering. We recommend aluminium end rails with a drip nozzle.



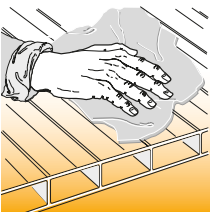
### Compatibility

The auxiliary agents used for installation, cleaning agents, solvents, sealing strips etc. may cause stress cracking of the material in the course of time. Make sure the agents used are compatible with HIGHLUX®. Ask your authorized distributor to recommend compatible sealing agents.



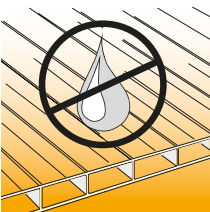
### Protective masking: + Adhesive tape

Multi-skin sheets leave the factory covered with a PE masking film that protects them against scratching. This masking film must be removed immediately after installing the sheets. If left on, it becomes very difficult to remove. HIGHLUX® Multi Skin Sheets are closed with an adhesive tape at the face side, this should be removed before you start with the installation.



### Cleaning

Depending on the pollution acrylic sheets should be cleaned at least once a year. Clear water or a solution of mild dishwashing liquid are suitable for cleaning the sheet surfaces. To avoid scratches, do not use scouring agents. Only use cleaning- and auxiliary materials compatible with acrylic sheets. Rinse with clear water afterwards.



### No Drip

HIGHLUX® Multi skin sheets are delivered with a factory-set unilateral special functional layer („No Drip“). This layer ensures that the rainwater runs off in a smooth film and does not remain on the sheet as a drop.

Laying direction: No Drip outside (up) > water-repellent (especially in open construction)  
No Drip inside (down) > reduced drop formation with condensed water (especially in greenhouses)

# HIGHLUX® Corrugated Sheets

## Unsurpassed brilliance and lasting good looks

With unsurpassed brilliance and lasting good looks, HIGHLUX® shows excellent resistance to UV light. It does not become yellow or brittle even after many years of outdoor exposure.

HIGHLUX® corrugated sheets are impact-resistant and therefore ensure problem-free installation and hail resistance.

Their special profiles make it very simple to build high quality roof glazing. Their smooth surfaces enable dust and dirt to be washed off by the rain.

The variety of grades offer huge scope for creative design. Formed parts for wall flashings and ridge covers add further possibilities.

In a special „SUNSTOP“ version, the HIGHLUX® Corrugated Sheets can be used as Sunscreen-glazing.

HIGHLUX® corrugated sheets are extruded from acrylic molding compounds according to state-of-the-art methods and combine the unsurpassed weather resistance of acrylic with excellent impact strength. That makes HIGHLUX® the ideal choice for structural glazing.

HIGHLUX® ist the ideal solution for architectural glazing.

With HIGHLUX® formed component ridges and wall connections on roofs can be covered properly

**HIGHLUX® corrugated sheets are available in the following-standard profiles**



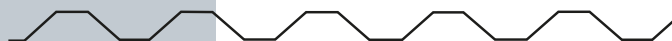
**HIGHLUX® 76/18**  
1,8 mm und 3 mm Thickness



**HIGHLUX® 130/30**  
3 mm Thickness

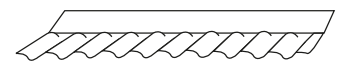


**HIGHLUX® 177/51**  
3 mm Thickness

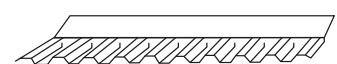


**HIGHLUX® Bulkhead 76/18**  
1,8 mm Thickness

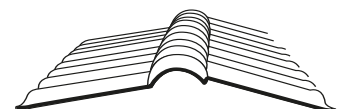
**HIGHLUX® formed components are available in the following types**



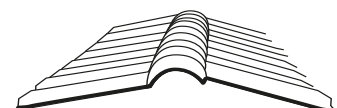
**Formed component 76/18**  
Wall mounting profile



**Formed component Bulkhead 76/18**  
Wall mounting profile



**Formed component 76/18**  
Ridge profile (set out of two component parts)



**Formed component Bulkhead 76/18**  
Ridge profile (set out of two component parts)





## Criteria for value – HIGHLUX® Corrugated Sheets

### **Durability**

Our products are no seasonal items. The high weather resistance of HIGHLUX® corrugated sheets is characteristic for a year-long use.

### **Transparency**

With HIGHLUX® corrugated sheets the cloudless sky will be bright blue even after many years. HIGHLUX® corrugated sheets do not yellow and ensure a lasting colour perception. Even after years of outdoor exposure we guarantee a high transparency.

### **Variety**

Do you love broken colours on HIGHLUX® multi-skin sheets with wool structure or brown multi-skin sheets for your well-being? Do you want corrugated sheets with pearl structure for relaxation, or do you expect transparency at the highest level? No problem with HIGHLUX® corrugated sheets - variety creates individuality

### **Well – ness**

With a good conscience your HIGHLUX® corrugated sheets turn into wellness sheets. A special UV-protection preserves you from a sunburn, while the broken light due to the chosen structure gives you wellness. A rain-shower turns into a welcome diversion under our roofs; HIGHLUX® products are low-noise – that's what makes our products special.

### **Flexibility**

No matter what you are planning, the HIGHLUX® product range offers you a wide variety of creative solutions. Furthermore HIGHLUX® corrugated sheets are lightweight and therefore easy to work with and to install.



## Technical Information

Here is an overview of our standard range.  
Special grades are available on request.



**HIGHLUX® 76/18**

**transparent:** smooth, Structure (Comb, „C“, Perl)  
**brown:** Structure (Comb, „C“, Perl)  
**graphit:** Structure (Comb, Perl)  
**SUNSTOP:** opal smooth





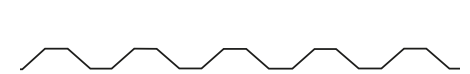
**HIGHLUX® 130/30**

<b>Sheet lengths (mm)</b>	2,000, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,000	2,000, 2,500, 3,100, 3,300
<b>Sheet thickness (mm)</b>	approx. 3 (Perl approx. 2,5)	approx. 3
<b>Sheet width (mm)</b>	1,045	1,000
<b>Effective width (mm)</b>	980	910
<b>Purlin spacing for roof glazing (mm)</b>	850	900
<b>Light transmission (%)*</b>		
<b>smooth</b> <i>transparent   brown</i>	up to 90   –	up to 90   –
<b>Honeycomb-Structure</b> <i>transparent   brown   graphit</i>	up to 90   approx. 60   approx. 55	–
<b>„C“-Structure</b> <i>transparent   brown   graphit</i>	up to 90   approx. 75   approx. 65	–
<b>Perl-Structure</b> <i>transparent   brown   graphit</i>	up to 90   approx. 70   approx. 65	–
<b>Tera-Structure</b> <i>transparent   brown   graphit</i>	–	–
<b>SUNSTOP</b> <i>opal smooth</i>	approx. 50	–

Other color and structure combinations are available on request

\* = according to DIN 5036 Bl.3



		
<b>HIGHLUX® 177/51</b>	<b>HIGHLUX® 76/18</b>	<b>HIGHLUX® Bulkhead 76/18</b>
<b>transparent:</b> smooth	<b>transparent:</b> smooth, Structure (Tera) <b>brown:</b> smooth, Structure (Tera) <b>graphit:</b> Structure (Tera)	<b>transparent:</b> smooth, Structure („C“) <b>brown:</b> smooth, Structure („C“)

2,000, 2,500, 3,100, 3,300	2,000, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,000	2,000, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,000
approx. 3	approx. 1,8	approx. 1,8
920	1,045	1,045
850	980	980
1,200	850	850
up to 90   –	up to 90   approx. 70	up to 90   approx. 70
–	–	–
–	–	up to 90   approx. 65   –
–	–	–
–	up to 90   approx. 65   approx. 60	–
–	–	–

Delivery Program –
HIGHLUX® Corrugated Sheets

HIGHLUX® 76/18	Smooth	Structure „C“	Structure Honeycomb	Structure Perl/Tera
	 transparent  SUNSTOP opal	 transparent  brown	 transparent  brown  graphit	 transparent  brown  graphit
HIGHLUX® 130/30	 transparent			
HIGHLUX® 177/51	 transparent			
HIGHLUX® Bulkhead 76/18	 transparent  brown	 transparent  brown		

HIGHLUX® Structures

„C“

Honeycomb

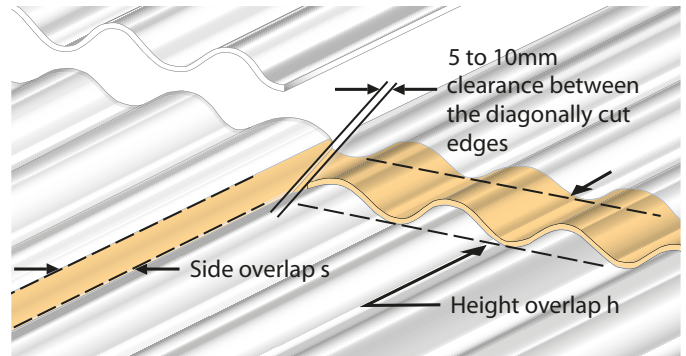
Perl/Tera

## Installation Guidelines

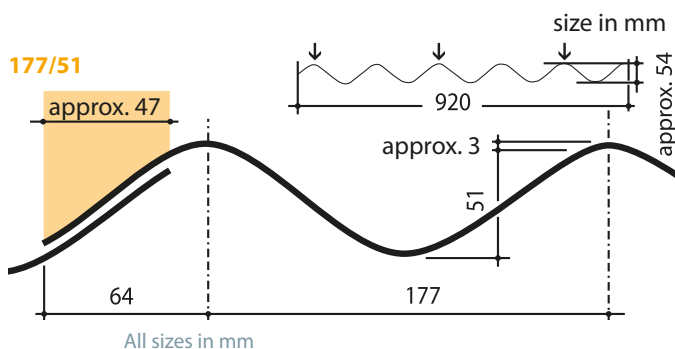
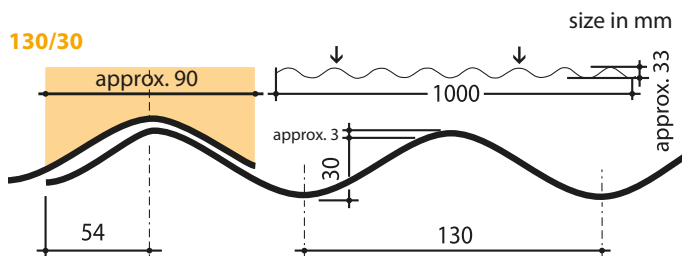
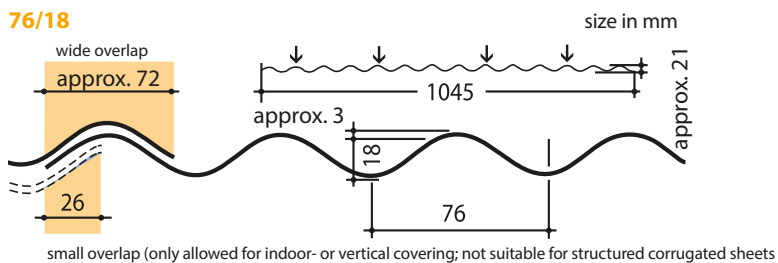
The installed length of each individual sheet must not exceed 4000 mm. If greater lengths are required, two or more sheets are mounted overlapping horizontally. The fixing of the plates must not be done in the overlap of two plates

**The overlap in the direction of water flow depends on the roof pitch:**

- Roof pitch of 9° to 17° = 200 mm
- Roof pitch of more than 17° = 150 mm

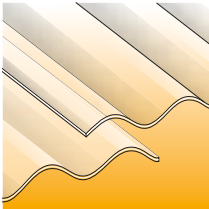


### Cross sections of HIGHLUX® Corrugated Sheets (↓ = fixing point)



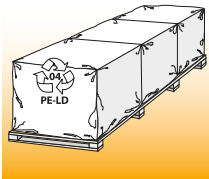


## Installation – HIGHLUX® Corrugated Sheets



### Installation

When installing corrugated sheets a maximum sheet length of 4.000 mm should not be exceeded. An overlapping laying method is typical for this product. Textured sheets should be laid with the smooth side up.



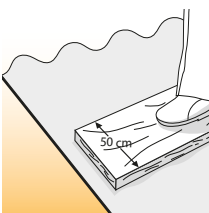
### Storage

If possible, store the material indoors. HIGHLUX® corrugated sheets are supplied with surface masking (PE film) and recyclable white polyethylene sheeting for protection against sunlight, UV light and moisture. If they are stored outdoors, the outer packaging must be left in place. Stack three pallets at most (with standard number of sheets per pallet). When opened please cover the pallets with white-polyethylene sheeting.



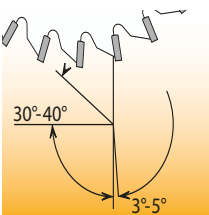
### Fire rating

HIGHLUX® corrugated sheets are classed as normally flammable (DIN 4102-B2). Protect them from open flame and excessive heat as for wood and other combustible materials. Use the corrugated sheets in accordance with the valid building regulations and manufacturer's instructions.



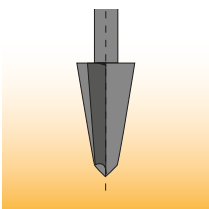
### Access

The sheets may only be walked over using crawling boards of at least 50 cm width (see for example the German workplace regulations Arbeitsstättenrichtlinien 8/5 and employers' liability insurance regulations VBG 37 n.ZH 1/489). The boards should have an appropriate thickness to avoid bending.



### Cutting to size

HIGHLUX® corrugated sheets can be cut using high-speed circular saws with carbide-tipped sawblades. Avoid erosion of the cut edge.



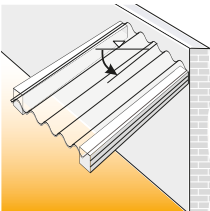
### Drilling

Use conical drills to drill the holes for fastening the sheets. Always drill against an even support to avoid bending and cracking. Make sure the drilled edges are smooth. Chipped edges may lead to stress cracking in the course of time.



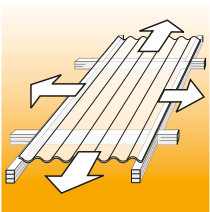
### Corner cutting

To avoid a four-fold overlap at the points where the sheets overlap horizontally and laterally, cut off the corners of the two center sheets. The cut edges should be at least 10 mm apart.



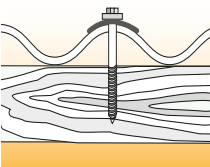
### Roof pitch

To ensure the self-cleaning effect through the draining rainwater, we recommend a minimum roof pitch of 5° (9 cm/m). Secure the sheets against slipping. Regardless of the roof pitch an impermeability to the wall has to be provided on site. We recommend the use of HIGHLUX wall connections and ridge profiles.



### Allowance for expansion

HIGHLUX® multi-skin sheets expand due to heat and/or moisture. An allowance of +6 mm/m sheet length and width must therefore be made for expansion. The drill holes must ensure the natural expansion of the corrugated sheets with their size. There might be cracking noises when the sheets extend. The serviceability of the sheets is therefore not affected. Previous experience shows, that cracking noises can be reduced by tightening the screws up to resistance against the sheet and then loosen them again for half a turn.



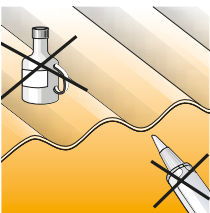
### Screw fastening

The sheets are fastened to the supporting structure by means of special screws with caps or j-bolts with calottes. These seal the drill holes against water penetration from the outside and ensure that the forces exerted on the sheet by snow loads or wind pressure are correctly distributed. There must be a space between the screw and the drill hole. Allowance must be made for fluctuations in length caused by temperature and moisture variations.



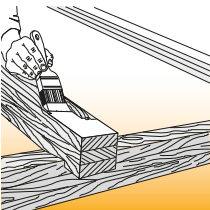
### Cleaning

Clear water or a solution of mild dishwashing liquid are suitable for cleaning the sheet surfaces. To avoid scratches, do not use scouring agents. Only use cleaning- and auxiliary materials compatible with acrylic sheets. Rinse with clear water afterwards.



### Compatibility

The auxiliary agents used for installation, cleaning agents, solvents, sealing strips etc. may cause stress cracking of the material in the course of time. Make sure the agents used are compatible with HIGHLUX®. Ask your authorized distributor to recommend compatible sealing agents.



### Supporting structure

Glazing with HIGHLUX® corrugated sheets calls for rigid supporting structures that can safely bear snow loads and wind pressure (laminated timber beams, if wooden structures are used). To avoid local heat buildup in the multi-skin sheets, the upward-facing surfaces of the structural members should be provided with a white or reflective coating. The coating applied to the supporting structure must be allowed to dry thoroughly before the sheets are installed.

## General information on installation

Please make sure to check prior to start of construction whether official requirements apply or are required. Our instructions are recommendations based on long-lasting experience which may differ in the individual case. They are based on our present knowledge. However they imply no liability on our part. For the performance and the construction it is the entrepreneur or the owner who bears the responsibility. Due to the natural quality of the material acrylic sheets are steam-permeable. Therefore there may be condensation in the cavities of the Twin-Wall Sheets. The formation of the condensed water cannot be completely avoided. „Cracking noises“ may occur due to the natural expansion of Multi-Skin and Corrugated Sheets in combination with the chosen supporting structure. Appropriate systems may provide relief and reduce the noise.

The application of different raw materials may cause production-related deviations in colour.

**For further questions please contact your distributor or supplier:**



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