



HOESCH ISOWAND VARIO®

INSTALLATION RECOMMENDATIONS

INFO 2.4.8

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Hoesch isowand vario®

Installation recommendations

You have decided in favour of a product from our Hoesch isowand® range, i.e. for a high-quality industrially fabricated product. Thank you very much! In order to ensure that after completion of the production process, the product will be treated with the same care as in our company, we would like to inform you about the following mandatory handling procedures:

1. Regulations / Guidelines

Among other things, the following must be noted:

- General official approval no. Z-10.4-345 for sandwich panels issued by the building inspection authorities
- Technical information Hoesch isowand integral® (proposed designs)
- Accident prevention regulations issued by the Employers Liability Insurance Association
- Directive for the installation of profiled steel sheets for roofs, walls and ceilings issued by IFBS, Info 8.01
- Information for roofing using profiled steel sheets and strips, issued by Zentralverband des Deutschen Dachdecker-Handwerks
- Structural analysis and laying plans relating to the project

Installation recommendations

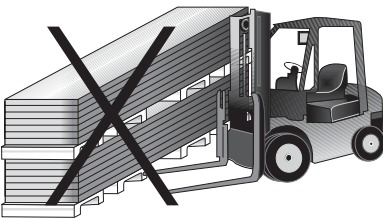
2. Delivery / Unloading

Please check the Hoesch isowand vario® packages on their arrival on site. Any complaints and any evidence of damage must be recorded on the shipping documents and reported without delay to the appropriate Hoesch Bausysteme sales office. **Complaints related to visible damage which are submitted later will not be considered.** Unloading and transport of the packages must be carried out singly i.e. one at a time. Never unload two or more packages at the same time (pictures 1 and 3)!

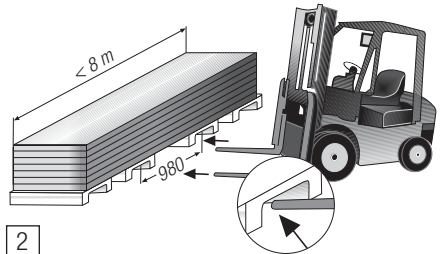
When using a fork lift truck for unloading, the forks must take up the package below the two central styropor pallets (centre distance 980 mm) (picture 2). The maximum package length is 8 m for this method of unloading; otherwise a fork extension with an additional fork arm must be used.

When using a crane for unloading, a spreader bar as well as suitable, sufficiently dimensioned lifting slings (no ropes or chains) should be used. Make sure that the panel edges are well protected (picture 4).

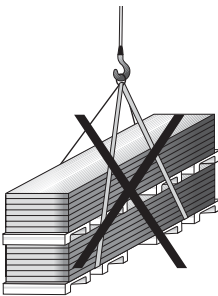
Fasten the slings to the spreader bar so that they hang vertically and can be pulled through the two supplied unloading aids (50 mm x 300 mm x 1060 mm) (picture 5). Place the unloading aids between the styropor pallets, the protective surfaces being on the sides towards the Hoesch isowand vario® package.



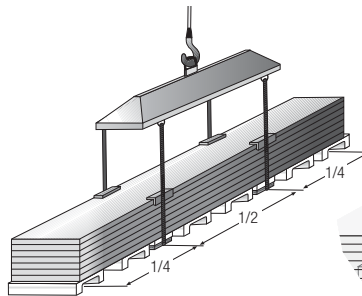
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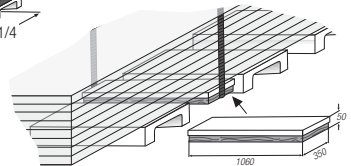
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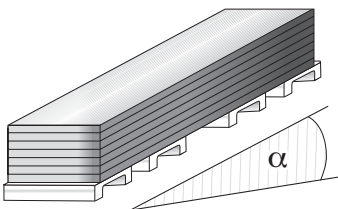
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Installation recommendations

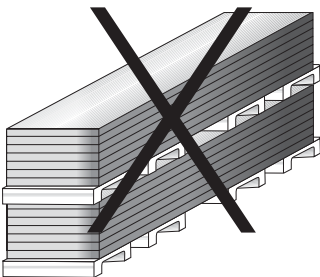
3. Storage on the site

Store the Hoesch isowand vario® panels on a firm, dry and clean base. When the panels are stored outdoors, make sure that they are protected against rain, storms and dirt. The formation of condensate must be avoided. Make sure that the panels are stored in a slightly inclined position in order to allow any water that may have entered the package to drain out (picture 6). When Hoesch isowand vario® vario packages are stored for an extended period of time on site they should be protected by a textile cover and/or stored in a place where they are protected against direct weathering (e.g. under canopies or inside dry buildings) (picture 7).

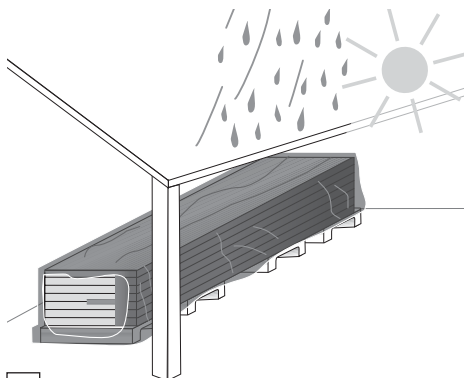
Do not pile the packages one on top of another (picture 8) and do not store them on panels which have been installed already. Secure any packages which have already been opened.



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Installation recommendations

4. Preparation for installation work

Before commencing installation work, check that the supporting structure is suitable for the installation of Hoesch isowand vario® panels. Hoesch isowand vario® may be laid on a steel, concrete or wooden supporting structure. Before starting the installation work, the supporting structure must be checked to see whether it is perpendicular, right-angled and even.

According to the official approval issued for Hoesch isowand vario® the minimum width for the intermediate support must be 60 mm and for the end support 40 mm. The customer must be informed of any defects of the supporting structure, which make proper installation of the panels difficult or even impossible.

5. Protective foil (SF)

Hoesch isowand vario® panels are provided with a strippable foil to protect them from damage during transport and installation.

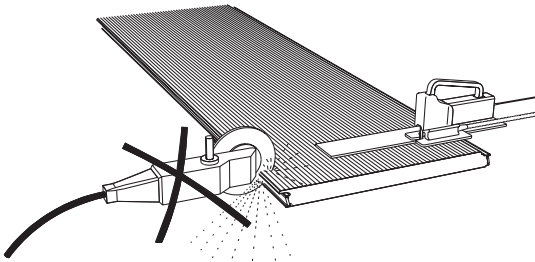
Please note!

The foil must be protected against UV radiation and must be pulled off during installation work but not later than six weeks after production. In overlapping areas the protective foil must be removed before commencing installation work.

6. Cutting on site

Only use suitable cutting tools, e.g. a compass saw with fine teeth for the sandwich panels,

plate shears and nibbler for other flashings (picture 8).

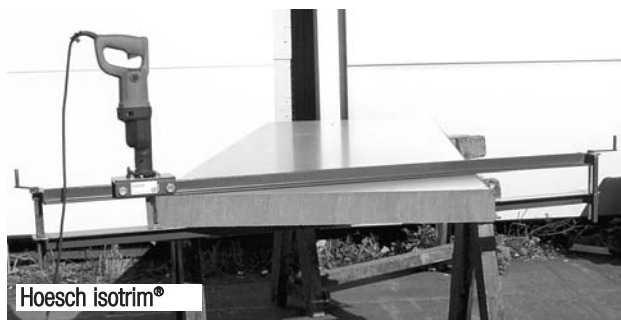


Any chips must be removed immediately.

Thermal cutting processes (e.g. abrasive cutting machines) must not be used.

Installation recommendations

The "Hoesch isotrim®" cutting tool has proved to be well suited for carrying out cuttings on site. It can be ordered from Hoesch Bausysteme (part no. Z00-011) (picture 9).



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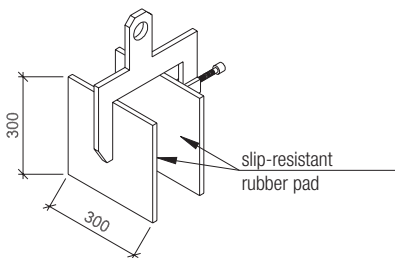
Any cut-outs in panels prepared before the panels are installed must be reinforced appropriately for transport on site.

7. Installation / Fastening

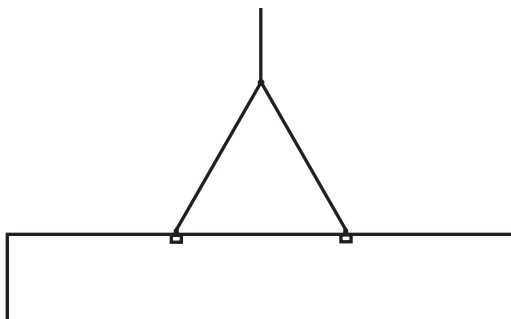
7.1 General / Handling the panels

Short panels may be installed manually but for longer panels it is recommended that suitable aids are used (e.g. vertically holding using a screw clamp (picture 10). For very long elements a spreader bar should be used.

The lifting devices must be secured so that they may not accidentally become undone (e.g. by slip-resistant rubber pads or by an additional sling).



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Installation recommendations

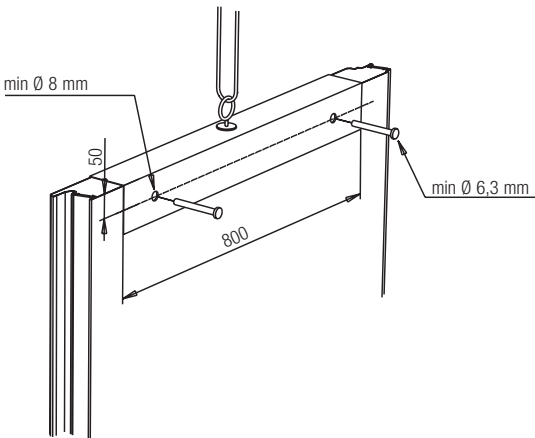
As an alternative, the transport device shown below may be used.

Drill holes for fastening the slings for **vertical transport** will be covered by flashings.

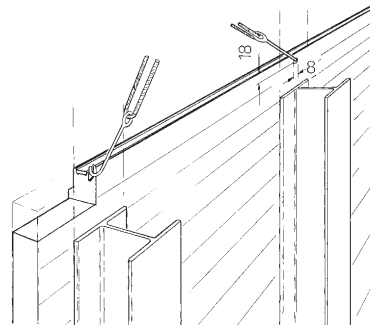
Holes for fastening the slings for **horizontal transport** must only be drilled where they will be covered by the flanges of the supports. These holes must be closed after completion of the installation work.

Marking the supporting structure at intervals of 1000 mm (modular width) ensures exact positioning of the panels in accordance with the laying plan.

In order to prevent the high-quality panels from being damaged, they must be handled with care. It is recommended that clean protective gloves are worn.



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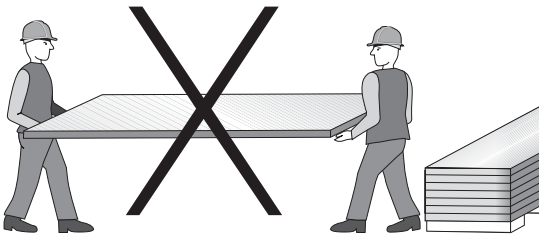


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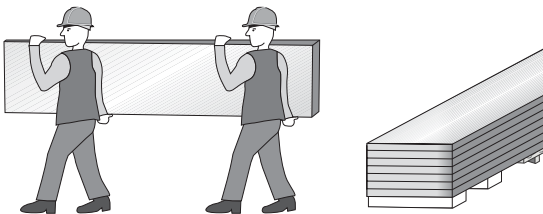
Installation recommendations

When removing single panels from a package, make sure that any distortion, bending and localised loads on the panels are avoided!

The panels should be transported vertically (picture 14 A+B)!



14 A



14 B

Secure any packages that have already been opened to protect them against storm.

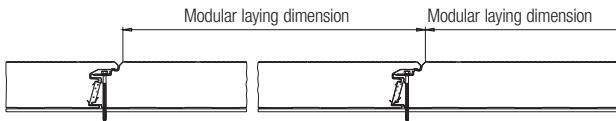
Installation recommendations

7.2 Aligning and checking

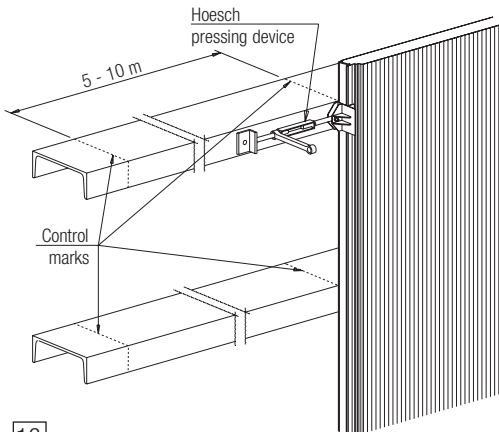
The first panel must be exactly aligned and then fastened.

It is not possible to correct the position of subsequent panels by realigning the longitudinal joint.

Sealing of the longitudinal joint is achieved by factory-applied sealing strips. Tightness, however, is only ensured when the modular laying dimension is exactly adhered to (picture 15). For checking the modular width, the supporting structure should be marked at intervals between 5 and 10 m. For aligning the Hoesch isowand vario® wall panels we recommend the use of the pressing device (part no. Z43-113.1) as an installation aid (picture 16).



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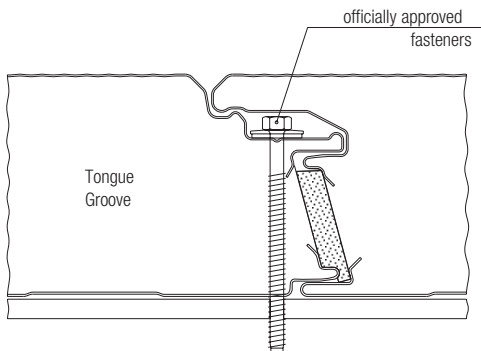


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Installation recommendations

7.3 Fastening

without load distribution plate



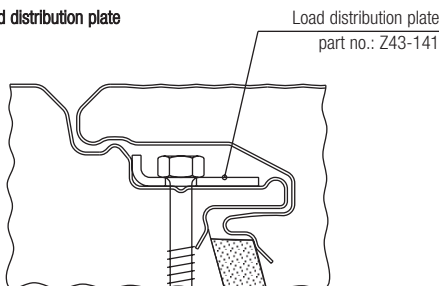
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Hoesch isowand vario® is fastened to the supporting structure by applying the concealed fastening method, with or without a load distribution plate (pictures 17 and 18). The exact design is determined in the structural analysis related to the project. For fastening, officially approved fasteners must be used. Depending on the nature of the supporting structure (steel, wood, etc.) various types of thread are required (follow the manufacturer's instructions).

The officially approved fasteners are bolted to the supporting structure through the tongued side of the elements. When no load distribution plate is used, screws with washers and sealing rings as specified in the structural analysis for the project are required. When a load distribution plate is used, a sealing ring under the screw head is not necessary. The load distribution plate, which is made from stainless steel, is available from Hoesch Bausysteme, part no. Z43-141.0.

When the panels are fastened so that the fasteners are visible, it is recommended that special drilling screws are used. The type of screws, their number, size and spacing are specified in the laying plan, which is based on the structural analysis and the official approval (see page 2/16).

with load distribution plate

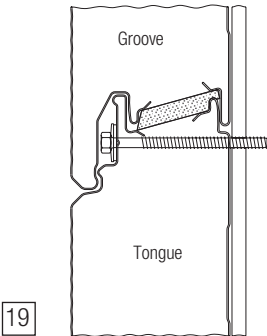


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Installation recommendations

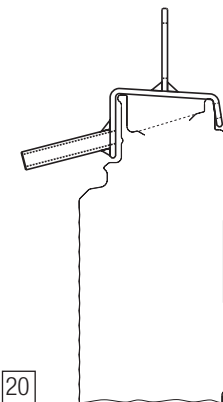
7.4 Particular considerations in the case of horizontal laying

For easy installation of the panels it is recommended that the following devices are used and that the working order proposed is followed. In order to ensure tightness of the longitudinal joint, the panels must be laid from bottom to top with the nose of the grooved edge pointing downwards (picture 19).



7.4.1 Lifting device

In order to lift the elements without damaging them, it is recommended that a lifting device as described in paragraph 7.1 or as shown in picture 20 is used. A manufacturing drawing is available from Hoesch Bausysteme. Using this device with an integral drilling jig ensures that the holes in the panels will be covered by the tongued and grooved connection.



Montageempfehlung

8. Vertical joints when laying horizontally

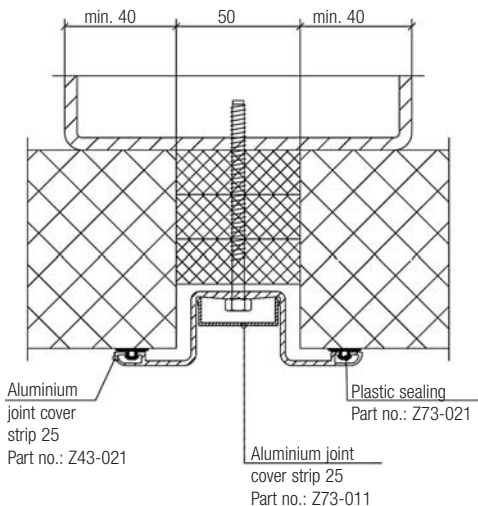
In transition areas between corner and wall elements or between columns and parapets the system allows for joints with a width of 50 mm. These are closed by aluminium cover strips (part no. Z43-051 or Z43-021 with suitable accessories) to give a good visual effect. It is possible to compensate for variations within the building tolerances in the joints (pictures 21 and 22).

The joints must be well closed to ensure air and water tightness as well as thermal insulation. The recommended arrangement of sealing tapes and other constructive measures are described in the engineering recommendations.

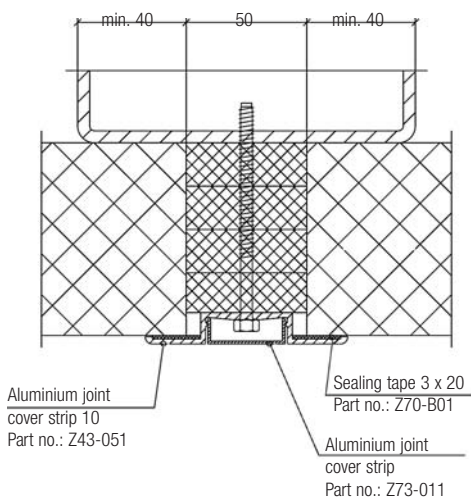
Special attention should be paid to a vapour-tight connection of the inner sheet.

The following methods may be applied:

- a) Insertion of a sealing strip made from closed-cell PE foam into the joint. Due to its viscoplastic properties, the over sized sealing strip moulds itself to the edges of the joint seals it.
- b) Foaming of the joint using polyurethane foam applied in several layers on site. It is advisable to fasten the cover strip in position immediately after foaming the joint.



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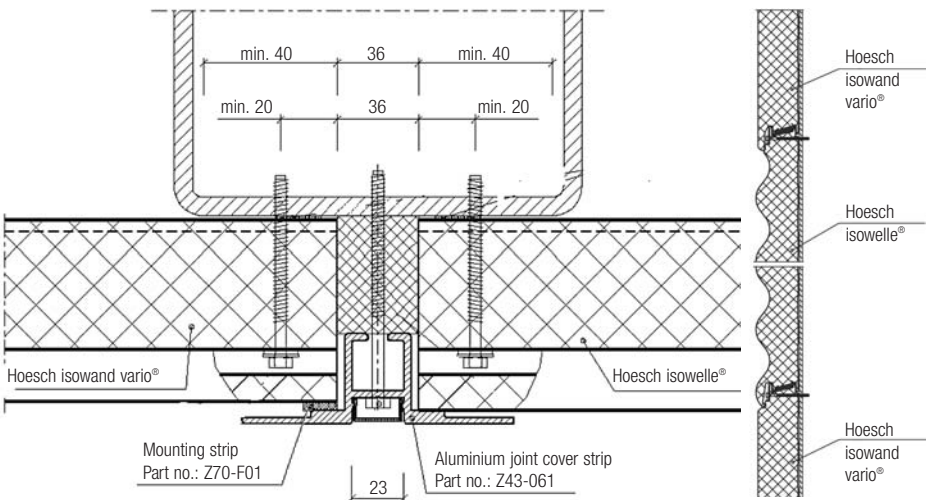
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Montageempfehlung

In cases where Hoesch isowand vario® and Hoesch isowelle® are alternated on a building, the mounting strip described in chapter 9 should be applied. Furthermore, it is recommended that the cover strip (part no. Z43-061) and the insert (part no. Z73-071) which are both designed for Hoesch isowelle® are used (see pictures 23 and 24). The resulting modular dimension of the joint is 36 mm (instead of 50 mm).

9. Hoesch isowand vario® combined with Hoesch isowelle®

As both systems are of an identical tongue-and-groove design, Hoesch isowand vario® can be connected on its longitudinal joint to Hoesch isowelle® (picture 24). Alternate laying of the two materials in either horizontal and vertical direction gives visually pleasing façades without any extra work. For connection areas please note that Hoesch isowelle® is 4 mm thicker than the matching Hoesch isowand vario®. Especially in connections arranged at right angles to the wall cladding (e.g. vertical joint between horizontally laid elements) the difference in thickness should be compensated for by using a mounting strip provided for this purpose (part no. Z70-F01), (picture 23).



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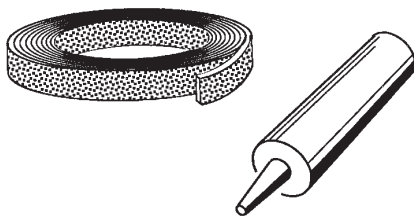
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Installation recommendations

10. Sealing

The tongued and grooved design which is characteristic of Hoesch isowand vario® requires special measures to prevent the leakage of air at all connecting points such as eaves, barge board and base point. Sealing strips shown on the detailed drawings and flashings are used for this purpose.

When sealants in cartridges are used, these must be amine hardening sealing compounds on a silicone rubber base.



11. Other matters

These installation recommendations are based on many years of experience by us and our customers. They have been prepared to the best of our knowledge. The latest version of our technical documents, and also these recommendations for installation can be found on our website www.hoesch-bau.com.

If the above procedures are not observed, any right to make a complaint in the event of damage will be inadmissible.

Observance of the recommendations does not release the user of our product from his obligations of complying with the local situation and circumstances.

Installation recommendations



HOESCHBAUSYSTEME GMBH

Hammerstraße 11 | D-57223 Kreuztal

Phone: +49 (0) 27 32 599 1 599 | Fax: +49 (0) 27 32 599 1 271 | info@hoesch-bau.com | www.hoesch-bau.com

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