

INSTALLATION INSTRUCTIONS

FENCE PROFILE 90 Rhombus and Fence Boards 90 and 120* mm

- Before starting installation, please read these installation instructions carefully. If you have any questions, please contact the manufacturer WPC-Woodplastic a.s. or your dealer. For more information, visit www.terafest.cz.
- * These instructions also apply to Fence Panel 119 ECOLINE

Important product information

- Terafest® fence profiles are made of composite wood, which consists of wood flour and HDPE. They are designed for building fences, fence panels, screens, or cladding for sheds or garages.
- Composite wood is not a structural material, so it cannot be used for load-bearing structures. For this reason, Terafest® fence panels cannot be used as load-bearing and safety fillings for balconies, staircases and walkways, i.e. where people could fall to dangerous depths.
- If you are installing additional accessories on the fence (e.g. lighting, doorbells, postboxes, etc.), we do not recommend anchoring them only to Terafest® fence profiles.
- Before installation, store Terafest® fence profiles in a dry, flat and ventilated area so that both sides of the profiles are protected from sunlight and uneven colouring does not occur.
- Do not treat the surface of Terafest® fence profiles with stains, paints, varnishes, waxes, oils or other similar products that are not recommended by the manufacturer. Avoid using solvents and thinners when cleaning!
- Terafest® products are primarily intended for outdoor use. Exposure to sunlight and rain facilitates their maintenance; consult your supplier regarding their possible use indoors. Partially covered fences may develop dusty water stains due to uneven exposure to rain, but these do not affect functionality.
- Temperature causes volume changes (expansion and contraction) in Terafest® fence profiles. Therefore, observe the recommended expansion gaps and installation procedures.
- This is a natural product, which may exhibit slight colour variations and shadows that give it the natural appearance of wood, but do not in any way reduce the quality or durability of the product. When installing, we recommend checking the colour of the profiles and, if necessary, mixing the profiles on the fence to emphasise the natural character of the fence. We recommend ordering profiles for the entire fence at once.
- When working with composite wood, you can use the same tools as when working with hardwood (drills, saws, grinders, tape measure, spirit level, cordless screwdriver with bits and drill bits, etc.).
The fence profile is made of combustible material (class E) – always use this material in accordance with fire safety regulations and other building standards, preferably after consulting an authorised building engineer or designer.

Technical information

90 RHOMBUS: 90(70) x 41 mm	Profile weight: 1.35 kg/m
Profile 90: 90 x 16 mm	Profile 120*: 120 (119) x 11 mm
Fence panel length 90 and 120: from 1,000 mm to 3,600 mm	
Dimensional tolerance: width +/- 2 mm, thickness +/- 1 mm, length +/- 10 mm	
Profile weight: 1.65 kg/m (Profile 90 and Profile 120*)	

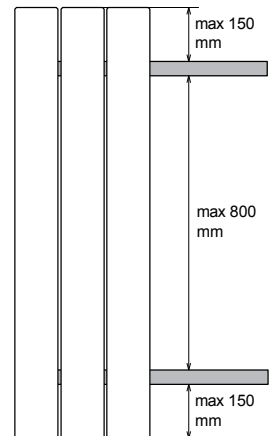
General rules for installing fence panels

- Take into account the higher weight of the material compared to wood (see technical data).
- We recommend constructing a support frame from a combination of concrete (posts) and iron or aluminium beams (longitudinal beams).

- If you are applying a surface finish to the supporting frame, e.g. paint, wait until it is dry before installing the composite wood fence panels (according to the instructions for use of the paint, varnish, etc.).
- Due to the gradual degradation of wood through drying, warping, bending, etc., do not use wood as a support frame. If wood is used as a support element, the shape of the composite wood fence panel cannot be guaranteed (no bending or warping) and these defects will not be covered by the warranty.
- **The recommended direction for installing the fence profile is vertical.**

Beams

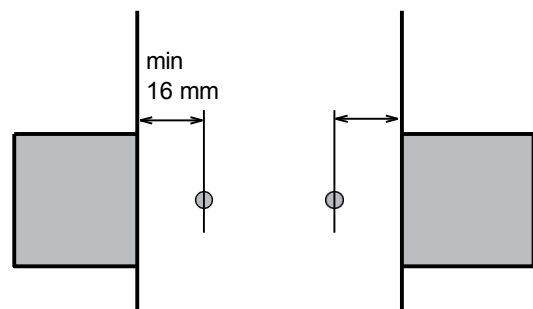
- Recommended minimum dimensions: aluminium - 60 x 20 x 2.5 mm or iron - 40 x 20 x 1.5 mm
- Install vertically.
- We recommend applying an anti-corrosion coating to the beams.
- **The maximum overhang from the longitudinal beams at the top and bottom of the fence panels is 15 cm.**
- **The maximum spacing between beams is 800 mm for vertical installation.**
- For horizontal installation of fence profiles, the maximum distance between beams is 800 mm (). For horizontal installation, the maximum distance between beams is 800 mm (). In this direction, anchor the fence profile to at least 3 beams.
- **The minimum distance between the end of the fence panel and the fixed part of the fence is 4 mm.**
- The use of **three beams** ensures better **dimensional stability** of the fence panels regardless of the direction of installation.



Fence panel attachment

- **We recommend checking/adhering to the direction of installation of the fence panels, which are always sanded in one direction, as indicated by a thin groove on one side of the fence panel, see Fig. 6 and Fig. 7.**
- For installation, it is best to use stainless steel screws with a diameter of at least 3.5 to 4 mm. Choose their length and type according to the longitudinal beams used.
- Pre-drill the hole for the screw in the fence board using a drill bit that is 1 mm larger in diameter than the size of the screw used. Then, according to the screw manufacturer's recommendations for the given material, drill into the longitudinal beam.

Fig. 1a Distance of the screw from the edge of the fence board 90 to 120

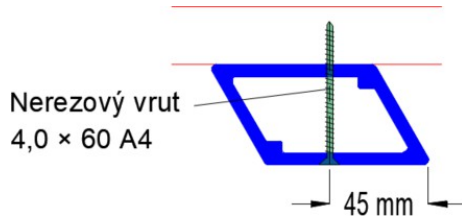


The fence panel can be anchored with one or two screws at least 16 mm from the edge of the fence panel. Solid fence panels can also be anchored with a large-headed blind rivet.

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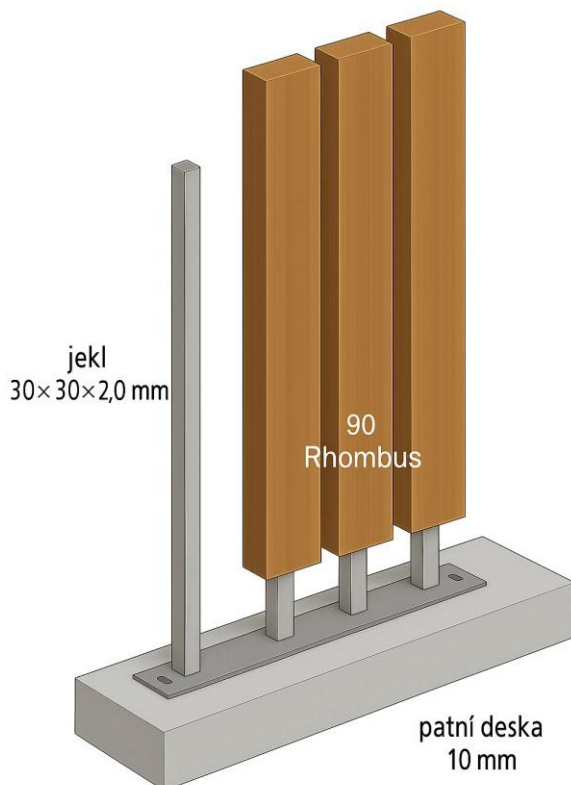
Fig. 1b Position of the screw from the edge of the 90 RHOMBUS fence panel



Anchor the 90 Rhombus fence panel with one screw at least 45 mm from the edge of the fence panel. Tighten the screw so that the fence panel is not deformed at the screw head. Holes for countersunk screws must be countersunk.

Alternative installation of 90 RHOMBUS fence panels on spikes

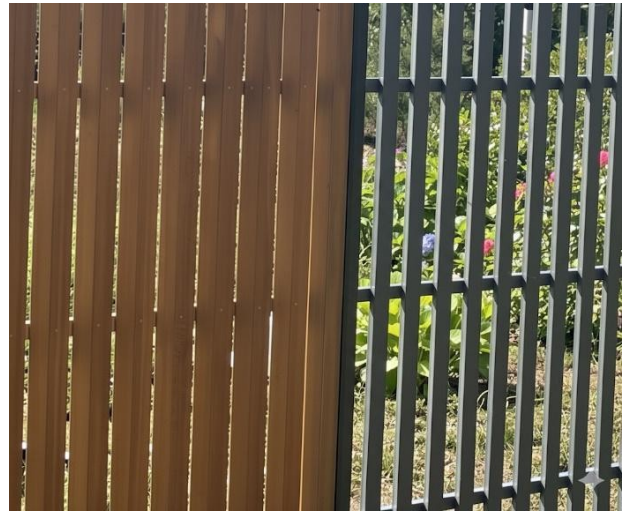
- The 90 RHOMBUS fence profile is hollow, and this cavity can also be used to install individual fence panels by placing them on steel pins. For normal use, 30x30x2 mm galvanised steel square tubes are sufficient.
- The maximum height of the fence for 30x30x2 steel reinforcement on pins is 1200 mm. With stronger reinforcement, it is possible to raise the height of the fence.
- Steel square tubes are welded at distances of 120-150 mm from each other to a base plate with a minimum width of 120 mm and a thickness of 10 mm, which is always anchored with two M10 chemical anchors to a concrete foundation or base.



General rules for installing fence panels

There are a number of options for installing fence panels, always based on the requirement for "transparency" of the fence in the desired direction.

Fig. 2 Possible orientation options for the 90 Rhombus fence panel



By choosing the orientation and size of the gaps between the 90 Rhombus fence panels, you can adjust the transparency of the fence from different directions and improve the visual diversity of the fence by combining them on the fence field.

There are also a number of installation options for 90 and 120 fence panels.

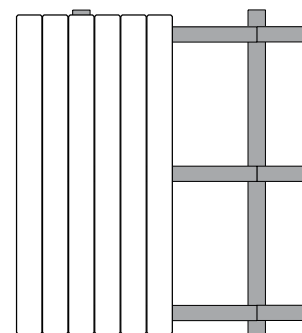
Option A

Leave a gap of at least 2 mm between fence panels to allow for thermal expansion.

Fig. 3 Top view for option A



Fig. 4 Front view of option A



Option B

Install the fence boards to the longitudinal beams alternately on both sides of the fence. Choose their spacing according to your desired transparency; they may also overlap each other.

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Fig. 5 Top view of option B

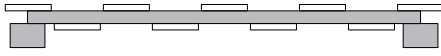


Fig. 6 Front view of option B

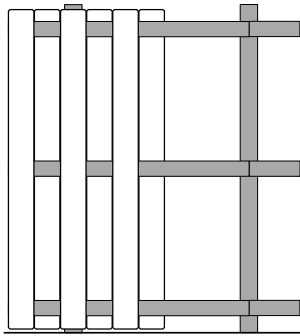


Fig. 7 Markings/thin grooves on one side of the 90 and 120 fence panels are used to check the direction of installation.

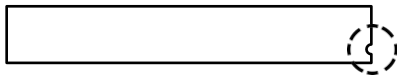
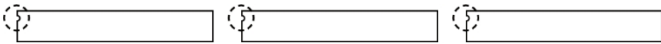


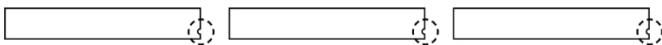
Fig. 8 When installing the fence panels, it is necessary to check the position of the thin groove on the side of the fence panel so that its position is the same for all fence panels.

Otherwise, the fence panels may appear to have different colours. (see Figs. 7a and 7b).

a)



b)



The most common mistakes when installing longitudinal beams, which lead to warping of the fence panels

Fig. 9 Deviation of longitudinal beams (A) from the vertical axis of the posts (B).

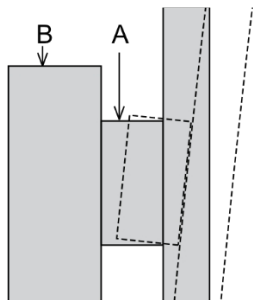


Fig. 10 Different distances between longitudinal beams (A) and posts (B).

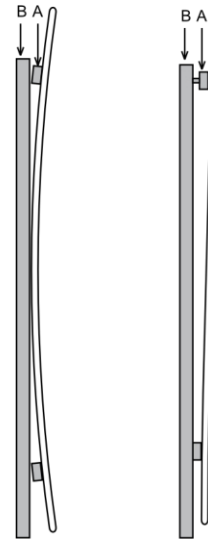


Fig. 11 Colour difference when the fence panels are not installed in the same direction



MAINTENANCE, WARRANTY

FENCE PROFILE 90 Rhombus
and Fence Panels 90 and 120* mm



WARRANTY

The extended 25-year warranty on TERAFEST® products applies to all composite wood products against wood-destroying fungi, rot and insects under standard conditions. In all other cases, a 60-month warranty applies.

We will replace damaged products under warranty. If the product is no longer manufactured, it will be replaced with a similar product. No further financial or other compensation can be claimed under this warranty. Installation and all other work and costs associated with replacing fence profiles are excluded from the warranty.

The warranty does not cover the following:

- **Colour fastness** – TERAFEST® products have UV protection. However, these are wood products, and therefore colour variations may occur over time as a result of uneven exposure to UV radiation and moisture.
- **Maturation of the wood component** – in the first weeks or months after installation, depending on the intensity of sunlight and rainfall, the colour matures. This is due to the leaching of lignin from the wood component in TERAFEST® material, which consists of wood (60%) and HDPE (40%). Lignin is a natural component of all wood species. Due to its leaching, which is caused by water and UV radiation, a colour change occurs in the first weeks or months, usually with a yellow tinge. Over time and depending on weather conditions, this colour change will disappear.
- **Water dust stains** – these stains occur in areas with varying humidity (on partially covered areas in the transition zone between covered and uncovered areas of the fence, around garden furniture, under eaves, etc.) and are caused by water evaporating from the surface of the boards. As the rainwater dries on the boards, tiny dust particles also dry. However, the stains gradually disappear on their own due to the effects of solar UV radiation and rain. This phenomenon cannot be completely prevented. It is less noticeable on unprotected areas exposed to sun and rain.
- **Occurrence of static electricity** – under certain conditions, persons moving near a fence made of TERAFEST® material may experience static electricity discharges. This is a common physical phenomenon occurring in most materials containing plastics. The polarity and strength of the electrostatic charge varies depending on the types of materials in contact (footwear, clothing), surface roughness, temperature and other circumstances. This phenomenon is not very predictable. If at all, static electricity usually occurs in windy weather and at low relative humidity. The intensity varies depending on the climate and age of the fence. There are no health risks associated with the occurrence of static electricity on TERAFEST® fences, and its occurrence is not a valid reason for complaining about WPC material.
- **Normal surface contamination and wear**, see the other side of the document - Table 2
- **Problems arising from poor preparation of the fence support structure**, or its low load-bearing capacity, rigidity, or deformation.
- **Failure to follow the installation instructions** – TERAFEST® products that have not been installed in accordance with the installation instructions supplied with the material. The warranty also does not apply to products that have been used for purposes other than those specified in the installation instructions.
- **Damage caused during maintenance** – for example, by pressure washers, coarse brushes, aggressive cleaners or solvents.

TERAFEST® warranty period	FOR DOMESTIC USE	FOR COMMERCIAL USE
BASIC	<u>5</u>	<u>5</u>
EXTENDED	<u>25</u>	<u>10</u>

FENCE MAINTENANCE

Fence treatment after installation

- Wash the fence boards with a stream of water. A **high-pressure cleaner** with a **maximum** pressure of **80 bar** can also be used with caution, keeping the nozzle at a constant distance of **approx. 400 mm from the boards**. It is important to wash all dust off the fence to reduce the occurrence of so-called water dust stains (see material properties).

Preventive measures

- At least once a year (preferably in spring), wash the fence with clean water and brush it with a stiff brush (not a wire brush). Instead of a brush, you can use a high-pressure cleaner, see the previous point. If possible, clean the fence profiles lengthwise. Finally, rinse the entire surface with clean water.

Removing dirt and stains

- Avoid using aggressive solvents and thinners. Never treat the surface of TERAFEST® fence profiles with stains, paints, varnishes, waxes, oils or other similar products unless they are approved by the manufacturer.
- For **unpolished** Rhombus fence panels, **avoid using coarse brushes** that could scratch the surface. Also, check the suitability of a high-pressure washer on a scrap piece or in an inconspicuous place.

MAINTENANCE, WARRANTY

FENCE PROFILE 90 Rhombus
and 90 and 120* mm fence boards

Table 2 – Procedures for removing common dirt and wear from TERAFEST® fence profiles

Type of dirt	Cause and origin	Method of removal
Common dirt	Dust and ash in the air, etc.	Use common household cleaning products – washing-up liquid, soap (or special products for WPC products), a rice brush or, with caution, a high-pressure cleaner, and wash with water.
Coloured stains	Red wine, concentrated fruit juices, etc.	Rinse the surface of the fence profiles with clean water, then brush in a longitudinal direction and rinse again with water.
Grease stains	Oils, fats, greasy sunscreen, barbecue stains, etc.	Rinse immediately with clean water, then use a degreaser (detergent, soap or a special product for WPC products) and a rice brush or high-pressure cleaner to wash the stain and rinse again with clean water. The rest of the stain will disappear on its own within a few weeks due to the effects of UV radiation and rain.
Stubborn stains	Stains from mould, fungi, moss, leaves and other organic material	You can use cleaning agents containing chlorine, such as SAVO, Cilit Bang, etc. Before use, soak the fence thoroughly, apply the cleaner and leave it to work, then rinse the treated area with plenty of water. Always follow the instructions and safety precautions on the cleaner packaging.
Water dust stains	These stains occur in areas with varying humidity due to water evaporation from the surface of the fence profiles and the drying of small dust particles (see material properties).	If stains form, wash the fence with clean water and, if necessary, use common cleaning agents. You can brush the profiles in the longitudinal direction. However, exposure to solar UV radiation and rain causes the stains to gradually disappear on their own. This phenomenon cannot be completely prevented. On unprotected surfaces exposed to sun and rain, less noticeable.
Yellowing of the surface of the boards	Caused by the maturing of the wood component	This is a natural process of ageing of the surface of the boards after exposure to sunlight and water. The associated yellowing of the surface will disappear over time. The process can be partially accelerated by frequent rinsing with water.
Surface scratches	Accidental damage, vandalism	Brush the surface of the fence profiles with a rice brush and water in a longitudinal direction, or use abrasive fleece (not sandpaper) and rinse with water.
Burnt areas	Charcoal from the barbecue, cigarettes	Brush the surface of the fence profiles with a rice brush in a longitudinal direction and rinse with water, or proceed as with scratches.

* This document also applies to Fence Profile 119 ECOLINE.