INSTALLATION GUIDE DUOFUSE®
TONGUE AND GROOVE BOARDS SYSTEM

As the Duofuse® wood composite boards system is much more durable than wooden fences, correct installation is necessary to enjoy the fences for years.

We recommend reading through the entire installation instructions before starting your application, check the website for the latest installation instructions. Plastivan disclaims responsibility for damage caused by, or failure of, the product as a result of faulty installation caused by failure to follow these instructions. Failure to follow these instructions will void Plastivan warranty. Wood Plastic Composite products can in no circumstances be used as structural elements. Wood composite cuts, drills and installs similar to solid wood using standard wood working tools. We recommend carbide-tipped saw blades. The colours and the surface brushing may differ slightly from production deliveries and are not contractual.

MATERIALS

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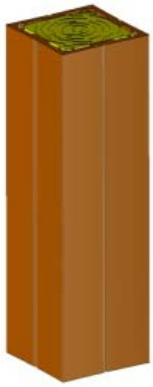
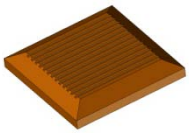
2. 

3. 

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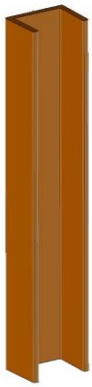
5. 

Boards **(1.)**:	15x2.7x180cm	(reinforced with galvanised steel - HxWxL).
Composite post **(2.)**:	9x9x270cm	(reinforced with an impregnated wooden core – class 4).
Cover cap **(3.)**:	11x11x1.7cm	(to avoid water infiltration in the composite post).
Small U-profile **(4.)**:	2.7x3.5x182cm	(to shove in the boards and to use as finishing profile above the upper board).
Stainless steel screws:	minimum 4x45mm	(to attach the U-profile to the composite boards).

Stabilised sand: Semi-dry mixture of ballast, sand and concrete (200kg per m³ mixture).
This mixture can also be bought ready to use at a specialised store.

OR:

Concrete/Rapid concrete: Advised in cases of exposure to heavy wind (open field, …)

OPTIONAL:

Large U-profiel **(5.)**: 4.2x3.5x182cm
Only needed if started under the boards system with a concrete under plate.

Fence post support on base plate **(6.)**: 9.1x9.1x15cm stainless steel or galvanised
Only needed when fixing the posts on a terrace, concrete floor or wall.

6. 

7. 

Fence post support with spike **(7.)**: 9.1x9.1x75cm stainless steel or galvanised

Suitable plugs, stainless steel screws and L brackets (when fixing to a wall)
Stainless steel screws: minimum 4x60mm (when using fence post supports)

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TOOLS (depending on the way of fixing)

Garden spade / post hole auger
Water level
Mason rope or normal rope
Screwdriver
Drill
Wood drill (and stone drill)
Measuring tape
Sliding mitre saw / Jig saw / handsaw
Iron saw for cutting the boards
Laser

BASIC RULES

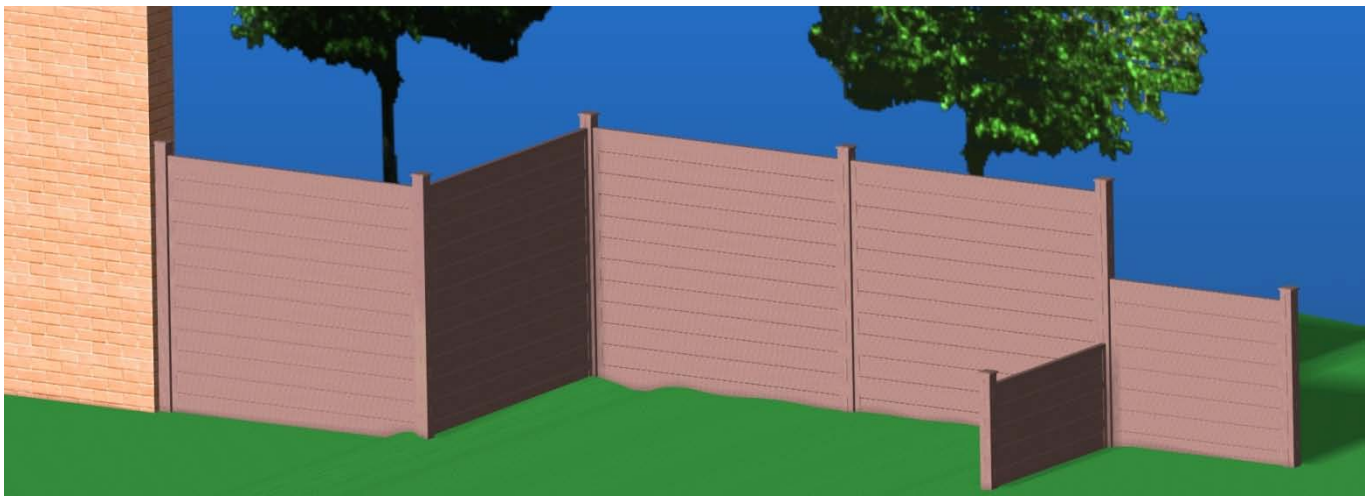
Height fence

By using the Duofuse® tongue and groove system, multiple combinations of panel frame (heights of 15cm to 180cm) are possible depending on the number of boards used. The fences can also be built in cascade, e.g. first fence 120cm high, second 150cm high,...
The boards can be placed directly on the soil as the fence will not rot. The fences can swell by moisture in width and height, therefore make sure the post exceeds the screen by minimum 5.5cm in order to leave enough dilatation space.

Length fence

Standard length of the boards is 180cm but boards can be cut to any length. By the presence of reinforcement profiles in galvanised steel, an iron saw is necessary to cut the boards.

In the length a dilatation space of min. 1cm at both sides needs to be respected.
When taken into account the thickness of the U-profile (0.5cm), the boards need to be at least 2x1.5cm smaller than the distance between two posts.
For the standard length of the fences the distance between two posts is 183cm.
These values apply if installation is under dry circumstances with boards which were stocked in a dry environment.



PROCEDURE INSTALLATION FENCE

Avoid damage of the wood composite materials:

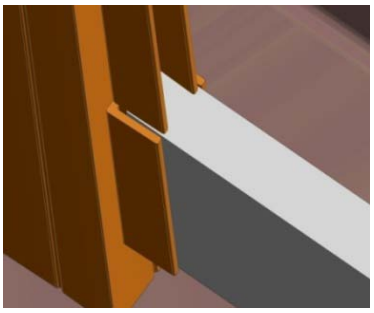
- Hammering on posts or boards is not allowed.
- Predrilling is necessary before entering a screw.
- To avoid colour differences due to a different illumination angle, the boards need to be inserted with the mark at the same side of the board (front or back). You can find the mark on every board (see red arrows).

Step 1 : Shortening the posts (optional)

When installing fences of less than 180cm or when using fence post supports, you will have to saw the posts to the needed height. At one of both sides of the post the wooden core is attached to the composite post by means of a screw. Always crop the post at the other side.

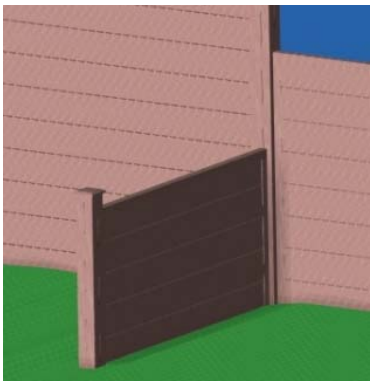
When you need a short post, you can choose to saw the post in two. Then you will have to screw in every post a 4.0x45mm stainless steel screw at the bottom of the post into the wooden core. Make sure that the fully impregnated side of the core is located at the bottom of the post.

Step 2: When using a concrete under plate (optional)



When you want to use a concrete under plate – up to 4cm thick – beneath the fence, you can attach it with the large Duofuse® U-profiles (width 4.2cm). Attach these U-profiles to the posts with at least 2 stainless steel screws of 4.0x45mm (max. intersection 40cm).

Step 3: Assembly of the U-profiles

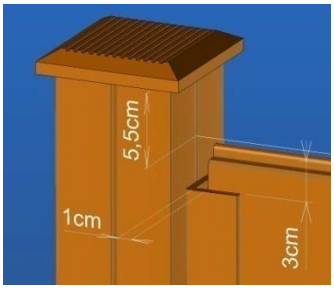


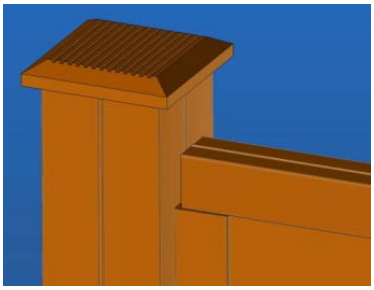
In order to create a corner or extra raised beds, you can attach at more than one side a U-profile (up to 4).

Attach the U-profile to the post with stainless steel screws of 4.0x45mm (max. intersection 40cm). Attach the U-profile each time at the same distance from the top of the post; e.g. 9cm.

- Attach the U-profiles to the posts before mounting the post in/onto the ground. This makes it easier.
- When using fence post supports you can attach the u-profiles to the post only after placing the post into the fence post supports.
- When using a concrete under plate you can attach the small U-profiles (width 2.7cm) to the post only after that the under plate was placed between the large U-profiles.

When you want to finish the upper board with a horizontal U-profile (Step 7), make sure that the boards are 3 cm higher than the vertical U-profiles, so that the horizontal profile can be shoved onto the upper board.





Step 4: Mounting of the posts

There are 4 possibilities to attach the posts:

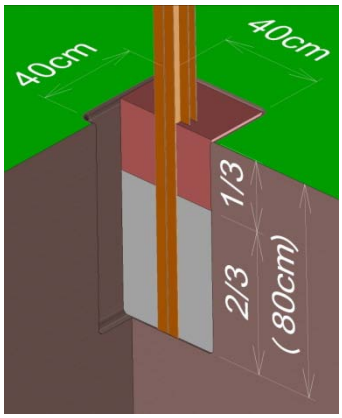
- Against a wall
- Into the ground without fence post supports
- Into the ground with fence post supports
- On a terrace, concrete floor or wall by using fence post supports

4.1 AGAINST A WALL

- Saw the post to the desired length
- Drill the post so that the mounting screws can be placed through the post.
- Place the post on the right place, water level to the wall and drill the holes through the post into the wall.
- Withdraw the post, drill the plug holes into the wall and place the plugs.
- Attach the post with screws against the wall but make sure it's water level.

If the wall is not 100% water level, you can place a small wedge between the post and the wall Make sure the head of the screw is levelled with the post.
Alternatively you can use stainless steel L brackets to mount the post to the wall instead of screws.

4.2 INTO THE GROUND WITHOUT FENCE POST SUPPORTS



1/3 of the length of a post needs to be into the ground. For a fence of 180cm 80 to 85cm into the ground is sufficient.

- Dig a hole of 40x40cm and 80cm deep and (if necessary) place a tile in the hole to avoid sinking of the post.
- Place the post in the hole.
- Fill the hole completely or at least for 2/3 with stabilised sand, concrete or rapid concrete. When using (rapid) concrete, wait until the concrete has become hard. Fill the rest of the hole with soil which you press hard. In doing so you can sow or plant against the pole.
- Use a level to make sure the post is standing 100% straight.

4.3 INTO THE GROUND WITH FENCE POST SUPPORTS

- Dig a hole of 40x40cm and 60 to 80cm deep (depending on the length of the post support; the upper square part should be above the surface).
- Place the post into the post support and fix it with the suitable stainless steel screws.
- Place the supports with the posts level and 100% straight into the hole and fill it with stabilised sand, concrete or rapid concrete (see 4.2).

If the spike of the post support is made of straight ribbons, we advise to make some dents into it or to attach an anchor in it (drill a hole and place a screw, nail or similar through the hole). Smooth ribbons could get lose from the concrete.

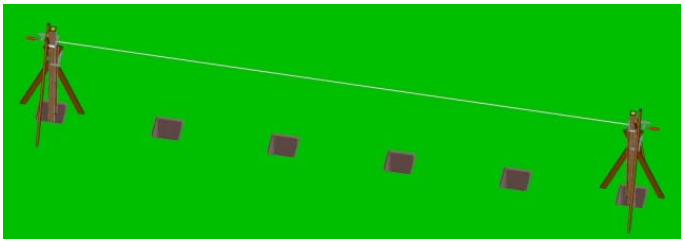
4.4 ON A TERRACE, CONCRETE FLOOR OR WALL BY USING FENCE POST SUPPORTS

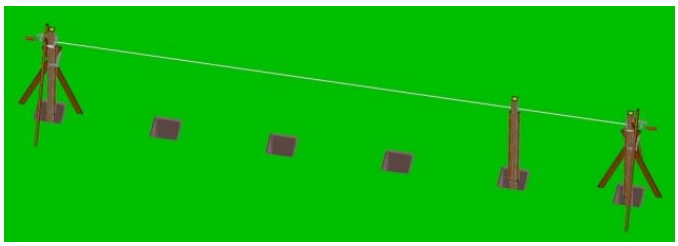
- Place the post into the post support and fix it with the suitable stainless steel screws.
- Place the supports with the posts 100% straight onto the terrace, concrete floor or wall.
- Mount the post supports with the suitable screws to the ground.

If the mounting holes of the supports are hidden under the post, the supports need to be fixed onto the terrace, concrete floor or wall before placing the post in the support.

Step 5: Order of placing the posts

If applicable always start against the house, shed or other fix point. After installing the first post, install the last post. Anchor sturdily the first and the last post. This can be done by using 2 temporary struts. When using rapid concrete, this is not necessary as it's normally dry after about 15 min. To be sure that all posts are as high you can use a transparent flexible hose filled with water or a laser. Stretch a (mason) rope between the first and the last post. Then place the second post and install the first fence.



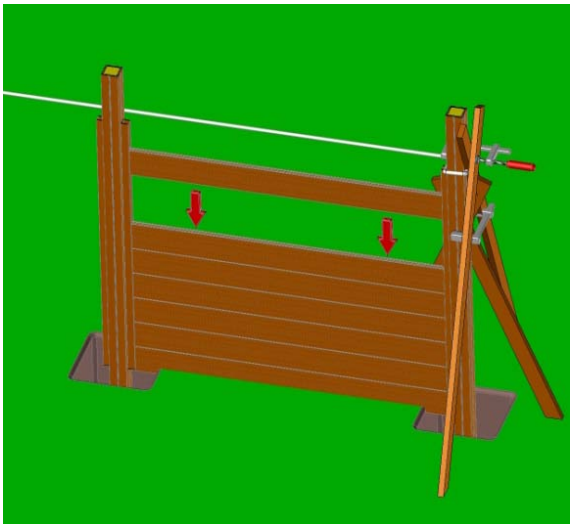


Step 6: Installation of tongue and groove boards

Shove de boards manually from above into the U-profiles.

To avoid colour differences due to a different illumination angle, the boards need to be inserted with the mark at the same side of the board (front or back). You can find the mark on every board (see red arrows).

Press the boards to each other. A dilatation space of min. 1cm at both sides needs to be respected. Avoid damaging of the boards.



Then place the next post and the next fence. So, do not place all posts, but place fence after fence. When placing a corner or an extra intersection, repeat the above steps.

Step 7: Finishing

You can finish the fence by placing the small U-profile on top of the upper board. For a nicer finishing you can sandpaper this profile manually.

The posts are to be finished by screwing or gluing the cover caps on to the post.
For posts placed against a wall, the cover cap needs to be cut at one side.