DECK BOARDS TOP
INSTALLATION MANUAL

WOOD PLASTIC®
MANUFACTURER OF COMPOSITE MATERIALS

• Before the installation, carefully read all the instructions in this guide. In case of concerns, contact the manufacturer or your distributor. More information at www.woodplastic.cz.

1. Important information about product

• WPC products are not a structural construction material and cannot be used for the supporting structure for balconies, elevated decking, covers, etc. For these cases, it is necessary to make the support structure for the WPC decking from different materials. Railings, pergolas, roofing and other elements cannot be anchored only to the deck boards or WPC joists.

• Before installation the WoodPlastic® deck boards should be stored on a flat and ventilated surface with the unbrushed side up to be covered from sunlight in order to prevent the uneven color change.

• Avoid using aggressive solvents and thinners. Do not paint WoodPlastic® products with stains, paint, wax, oil, varnish or other similar products, if they are not approved by the manufacturer.

• Woodplastic® products are designed mainly for outdoor use. Exposure to solar UV radiation and rain eases their maintenance. Consult their indoor use with your distributor.

• Due to the sunlight and temperature changes the WPC products are expanding and contracting. Therefore, keep the required expansion gaps.

• Woodplastic® is a natural product, it may have slight differences in color and shadows that evoke the natural look of wood, but do not detract from the quality of the product and its durability. We recommend you to check the color of the boards and mix the boards before the installation to achieve the natural look of the decking. We also recommend to order whole decking at once.

• Use standard woodworking tools (drills, saws, sanders, tape measure, level, cordless screwdriver with bits, countersink bit, etc.) and use self-protective equipment during the installation of the decking.

Approximate material consumption per 1 sqm		
TOP boards (140 x 23 mm)	clips	joists
7,25 lm	20 pcs	2,8 - 3,4 lm

2. Ground preparation

• Deck boards TOP creates decking with overlapped gaps between the boards that prevents fall of small items under the decking, but also make ventilation more difficult. Therefore, the ground surface under the decking must be well drained. WPC joists and deck boards cannot stay permanently in the water.

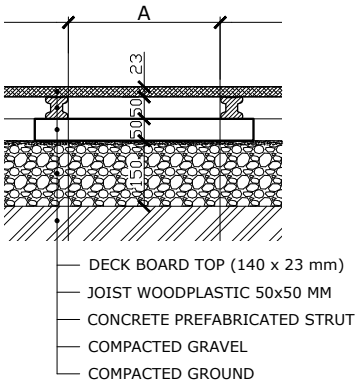
• The minimal gap between the bottom of the deck board and underlying surface must be 50 mm in the entire area of the decking to provide proper air ventilation.

• Recommended types of underlying surface: sloped concrete slab, compacted gravel bed (preferably with concrete supports), sloped hydro insulation (consult with supplier) and support structure (steel or wooden).

• To countersink decking into the surface do not pour the soil up to the decking, allow sufficient air flow to the sides of the decking.

• The underlying surface has to be stable enough to avoid any ground sinking.

Pic. 1 - Composition of WoodPlastic ® decking, including joists 50 x 50mm.



3. WoodPlastic® joists installation

• WoodPlastic® joists 50 x 50 mm are laid on the prepared surface with the groove down. Do not anchor them to the surface and never seal them to the concrete.

• Do not use WoodPlastic® joists 50 x 30 mm for the TOP deck boards, because of insufficient height of the ventilation gap under the decking.

• The maximum distance (A) between joists (Pic. 2), is shown in Table 1 below. When you are combining multiple profiles on the decking, use the smallest value of the gap. Do not exceed these values, otherwise any complaints will be accepted.

• It is useful to make the plan for more complicated decking with the composition of the boards and joists.

Each deck board has to be supported with at least 3 joists.

• If the deck boards are used as bridge or walkways they should be laid perpendicular to the direction of step, obey this rule mostly for commercial use.

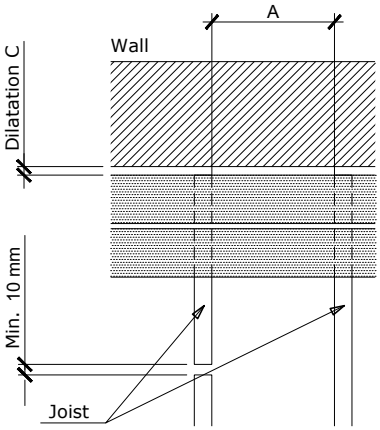
• When butting minimal gap in length between the ends of the joists is 10 mm. The gap (C) between the end of the joist and the wall or other obstacle must be a minimum 10 mm.

• For leveling the differences of joist elevation, use rubber shims or pedestals.

• The maximum length of the unsupported part of the joist 50x50 must be 300 mm. The maximum allowed overlap of the joist is 50 mm.

• We recommend you to cut the joists to the desired length right before laying the last row of the boards.

Pic. 2 - Installation of the joists and distances between them.



Tab. 1 - Recommended spacing between joists for TOP boards, see Pic. 2, 4.

The angle between the deck board and the joist	90°	45°	30°
RECOMMENDED distance (A) between joists for commercial and residential use according to EN 15534-4. Deck load capacity - 1100 kg/sqm.	250mm	175mm	125mm
MAXIMUM allowed distance (A) between the joists for residential use according to EN 15534-4. Deck load capacity -800 kg/sqm.	300mm	210mm	150mm
MAXIMUM allowed distance (A) between the joists for residential use according to ASTM D6662-01 and ASTM D7032-04. Deck load capacity - 450 kg/sqm.	350mm	250mm	175mm

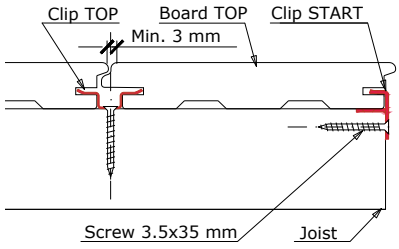
4. Deck boards installation

- The direction of installation of the TOP deck boards is definite. Due to the asymmetric shape of the sides, TOP deck boards can be installed only in one direction to create overlapped ventilation gap.

Caution - clip can be screwed to the joist only on one side of the board, the second side of the board is almost covering the clip and prevents fastening the screw.

- Each crossing of the board and the joist has to be fixed with clips or screws.
- The overlap of the boards is not recommended (max. 50 mm).
- Do not adjust the stainless steel clips.
- Do not use the clips from the other suppliers.
- START clip is intended to fix the outer boards (the first or the last board). It is recommended to sink the clip slightly into the joist not to lift the board from the joist. If it is not possible to fix the outer boards using the START clip, deck board can be fixed with the screw.
- STANDARD clip TOP clip is intended to fix the deck boards inside the layout of the decking. Slide STANDARD clip into the groove in the board. Fix the clip with the screw into the joist. Then slide the next row of the boards into the already fixed clips. Clips makes the expansion gap of 3 mm between the boards (Pic. 3). If necessary it is possible to hit the board with the rubber hammer, to help it slide perfectly to the clip. Control the uniformity of the gap in the entire length of the board.

Pic. 3– Installation of the TOP deck boards using stainless steel clips and screws.



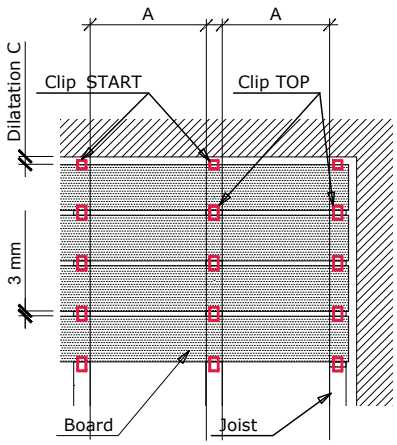
Tab. 2 - Recommended expansion gaps (for the 4m boards) depending on the temperature fluctuation and weather, see Pic. 4, 5.

Air temperature	Under +10°C	+10°C up to +25°C	Above +25°C in the shade
Distance between the deck boards (in length) - B	5 mm	4 mm	3 mm
Gap between the ends of the boards (both in length and width) and the wall - C	12 mm	10 mm	10 mm

- When installing the CUSTOM LENGTHS deck boards more than 4m long add 1 mm to the required expansion gap for 1 m of the extra length of the board.

- Always predrill the hole for the screw in the case of the START clip. For the STANDARD clip TOP, we highly recommend the predrilling. Use the 2 mm drill for the screws 3,5 mm.
- Tighten the stainless steel screws carefully – do not forget to set the proper torque.
- For the joists 50x50 mm, the clips are supplied with the screws 3,5 x 35.

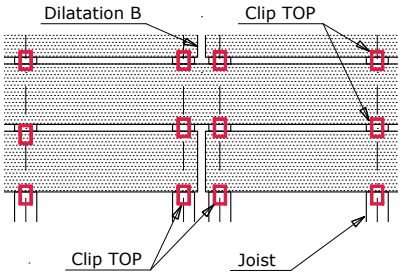
Pic. 4 – Deck board installation.



.

- For connecting deck boards use 2 STANDARD clips TOP and 2 parallel joists (Pic. 5).
- Keep the expansion gap (B) between 2 following boards (see the Table 2 and Pic. 5).

Pic. 5 - Butting deck boards with STANDARD clip TOP.



5. Finishing the installation

- We recommend cutting the overlapping boards after the completion of the installation. If possible, cut the boards at uniform surface temperature of the decking because of thermal expansion of WPC material.

- To cover the sides and support structure of the decking use finishing boards.
- For fastening the finishing boards use stainless steel screws for example 4x60 mm.
- Fasten the screws to the middle of the deck board (about 10 mm from the top edge).
- It is required to predrill a hole for the entire length of the screw (when using the screw 4x60 mm predrill the hole with the 3 mm drill).
- The screws should be applied every 400 mm, but depending on the load on the finishing board, decrease the distance between them.
- For the accurate attachment of the finishing board cut out a small piece of the finishing board to embed into the START clip.
- If necessary, finishing boards can be bended and shaped after warming.

DECK BOARDS TOP
MAINTENANCE, PROPERTIES, WARRANTY

WOOD PLASTIC®
MANUFACTURER OF COMPOSITE MATERIALS

Maintenance after the installation

• Right after the installation rinse the decking with water, you can use the high pressure cleaner (max. 80 bars, spray from a constant distance of 400 mm and do not use rotating nozzle). It is important to get all dust from the decking to significantly reduce effect of water-dust spots (see Properties of the Material).

PREVENTIVE PRECAUTIONS

• For TOP deck boards, it is especially important to ensure perfect drainage and easy ventilation of the decking. Therefore, ensure that the gap between the boards stays without dirt. Remove dust, leaves, pine needles, etc. from the decking by sweeping or rinsing.

• We recommend washing the decking twice a year (in spring and autumn) with soapy water. Use a hard brush (brush the boards gently in the longitudinal direction) followed by rinsing the entire surface of the decking with a stream of clean water (you can also use the pressure washer).

• Avoid the formation of dirt, scratches and stains. Grease and oil stains must be removed as soon as possible.

• Avoid contact of the decking with direct fire and protect it from embers. For location of a fireplace or grill on the decking, we recommend installing a non-flammable surface.

REMOVING THE DIRT AND STAINS

• Avoid using aggressive solvents and thinners. Do not paint WoodPlastic® products with stains, paint, wax, oil, varnish or other similar products, if they are not approved by the manufacturer.

Tab. 3 – Removing common dirt and satins from WoodPlastic® decking.

Type of dirt	The cause and reason	The method of removal
Normal dirt	Dust and ash in the air, mold, pollen, etc.	Use common household cleaners (or special product for WPC decking) with scrub brush or pressure washer and after rinse.
Color stains	Red wine, concentrated fruit juices, soft drinks, etc.	Immediately rinse the surface of the boards with fresh water, then brush lengthwise and rinse again.
Greasy spots	Oils, fats, sunscreen products, grilled foods, etc.	Immediately rinse with clean water, then use a degreaser (soap or a special product for WPC decking) and scrub brush or pressure wash the stain and then rinse with clean water. The remainder of the stain (if some exist) will disappear within a few weeks when exposed to UV light and rain.
Resistant stains	Stains from mold, fungus, moss, leaves and other organic material.	Use cleaners containing chlorine. Before using cleaning products, rinse the decking. Apply the cleaner and let it work, then rinse the treated area with clean water. Always follow the instructions and precautions on the cleaner packaging.
Water-dust spots	Slowly evaporating water keeps dust or pollen on the surface of the decking mostly in the partially sheltered areas (like around and under patio furniture, planters, eaves, etc.)	Rinse with clean water then use common household cleaners. Scrub and brush lengthwise and rinse again. These areas need to be cleaned on a regular basis to avoid staining.
Yellow shade of board surface	Maturation of the wood component	This is a natural process of board surface maturation after exposure to sunlight and water. Yellow shade of the surface gradually disappears. The process can be partially accelerated by frequent rinsing.
Surface scratches	Movement of the furniture, rocks, etc.	Clean the surface with scrub brush lengthwise and rinse. If the scratches are visible you can use very light grade sandpaper sponge (for STAR and STYLE designs) or scotch brush (FOREST and RUSTIC designs) to gently remove the scratches lengthwise and rinse.
Burned areas	Embers from the grill, cigarettes	Clean the surface with scrub brush lengthwise and rinse with fresh water.

PROPERTIES OF THE WOODPLASTIC® MATERIAL

• Maturation of the wood component – during the first weeks or months after installation, depending on the intensity of sunlight, rainfall and the season, there is a maturation of color in the surface of the deck boards. It is the leaching of tannin from the wood component in WPC material. Wood-plastic composite material is a blend of wood (60%) and HDPE (40%). Tannin as a natural part of any type of wood. Due to leaching of tannin, which is caused by water and sunlight, in the first weeks or months, boards temporarily change their color shade, usually yellow tinge. This process over time, with exposure to sunlight and rain will return to the original shade.

• Water dust spots - are caused by slow evaporation of the water and dust or pollen stays on the surface of the decking mostly in the partially sheltered areas (like around and under patio furniture, planters, eaves, etc.). These areas need to be cleaned on a regular basis to avoid staining.

• Under some specific weather conditions the Woodplastic® decking may accumulate static electricity. This is a common physical phenomenon for materials consisting of polymers. The polarity and strength of electrostatic charge varies depending on the types of touching materials, surface roughness, temperature etc. This phenomenon is not predictable. Accumulation of static electricity on the WPC decking may occur in windy weather and low relative humidity. The intensity varies depending on the climate and age a decking. The appearance of static electricity on the WPC decking carry no health risks, and its occurrence is not eligible reason for complaint

PROPERTY	TEST METHOD	VALUES
Flexural strength	EN 310, conditions according to EN 15534-1:2014, 7.3.2.	21,7 MPa
Shrinkage (100°C, 60 min, longitudinal direction)	EN 479, conditions according to EN 15534-1:2014, 9.3	0,02%
Impact strength (resistance to impact by falling mass in cold)	EN 477, conditions according to EN 15534-1:2014, 7.1.2.1	0% damaged
Slipperiness - coefficients of friction	ČSN 74 4507	Static on dry surface: 0,50
		Kinetic on dry surface: 0,62
		Static on wet surface :0,61
		Kinetic on wet surface: 0,51
Swelling in water (28 days, 20 °C)	EN 317, conditions according to EN 15534-1:2014, 8.3.1	1,00%
Swelling up after moisture resistance test by cycling	EN 317, conditions according to EN 15534-1:2014, 8.3.1	1,10%
Flexural strength after moisture resistance test by cycling	EN 321, conditions according to EN 15534-1:2014, 7.3.2., EN 310	20,3 MPa
Coefficient of Thermal Linear Expansion	EN 15534-1:2014, 9.2	2,9*10-5 °C-1
Reaction to fire for decking profiles	EN 11925-2, EN ISO 9239-1, EN 13501-1+A1	Dfí - s1

PROPERTY	VALUES
Density	1210 kg/m^3
Surface Hardness (Janka test method)	127 MPa, very hard wood, according to ČSN 49 1
Termite resistance	No attack in the initial state and also over time
Resistance to fugus N34/EN318	Very durable material, the aging tests do not affect the durability

DIMENSIONAL TOLERANCE		
LENGTH: +/- 10mm	WIDTH: +/- 2 mm	THISCKNESS: +/- 1 mm

Warranty on the Woodplastic® deck boards TOP

A 25 year warranty applies to all WoodPlastic products against: wood-destroying fungi, rot and insects under normal conditions. For all other cases, the standard warranty of 60 months applies.

This guarantee means that we will replace damaged products. If your product is not produced anymore, it will be exchanged for a similar. Under this warranty, you cannot claim any additional financial or other compensation. All work and related costs are excluded from the guarantee.

This warranty does not apply to:

- Color fastness - The Woodplastic® products have UV protection. However, it is a wood product and, therefore, may over time experience color changes as a result of exposure to sunlight and humidity.
- Maturation of the wood component.
- Water dust spots.
- Normal wear and tear.
- Occurrence of static electricity.
- Problems caused due to poor preparedness of the foundation and lack of drainage etc.
- Failure to follow installation instructions – the warranty does not apply to WoodPlastic products that have not been installed in accordance with the installation instructions supplied with our material. Or products that are used for purposes other than those specified by the manufacturer.

Manufacturer

WPC – WOODPLASTIC a.s.

Bukovany 181

257 41 Týnec nad Sázavou

Czech Republic

web: www.woodplastic.eu

e-mail: info@woodplastic.eu

tel.: +420 241 403 291