

Laying manual

Stand May 15th, 2023



Patio decks

On publication of this laying manual all former manuals and confirmations are no longer valid. All information in this manual corresponds to the latest level of technology and is based on careful examinations and experience. Liability and claims cannot be deduced or made. Subject to modification. This laying manual was carefully compiled for you. We can assume no liability for any mistakes that may have been made. Print colours may differ.

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A HEARTY WELCOME

Welcome to our NATURinFORM world. We are very happy that you have decided to use our products.

This laying manual was created to give you the best possible information on our products and it is regularly being developed further and updated for you. It contains all the information you will need on the material, its characteristics, the planning basics, and the right application.

You can find the current (and valid) version of this laying manual on the internet at www.naturinform.com

*Thank you very much for trusting in NATURinFORM.
Best regards,*



*Horst Walther
Founder and Managing Director*

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IMPORTANT LAYING INFORMATION

for long durability

- ✔ The underlying surface must be capable of carrying a load and be designed so that rain and water can drain or run off.
- ✔ The underlying construction must always be protected from water logging and direct contact to the ground (constructive protection).
- ✔ You must maintain a gap to fixed building parts.
- ✔ You must ensure back ventilation. Keep gaps and spaces to fixed building parts, as these are extremely important for the wood polymer material's durability. Do not seal joints.
- ✔ It is very important for durability that the complete surface can be aired sufficiently. The minimum construction height when using the joint profile tube is 8 cm. You are therefore not allowed to seal the surface, or respectively the underlying construction, at the sides.
- ✔ The surfaces have to be mounted with a deck slant of at least 1.5 to 2 %. If you are mounting solid decks, the slant can be reduced down to 1 % upon consultation..
- ✔ The minimum gap between the decks is achieved by using the laying aid. Always use the laying aid from the mounting bracket kit. There is a special laying aid for the patio decks: EXCLUSIVE, URBAN and RESISTANT ^{PRO}.
- ✔ Do not fill gaps between the underlying construction and the decks, so that warm and cold air can be exchanged. Good ventilation prevents water logging.
- ✔ Lay base profiles in such a way that the maximum deck overlap is 8 cm.
- ✔ Patio decks are on principle produced oversized / longer length. They are cut to size precisely at both ends during the laying process on site.
- ✔ Honeycomb profile decks must always be covered using end caps and must not be mounted at lawn level.
- ✔ Hand over the assembly manual to the owner of the building.
- ✔ On laying you must always take the local situation and building regulations into account. The technical execution must be done according to the expert regulations O2BDZ and the brochure patio and balcony flooring GD Holz. The special attributes of the characteristics typical for our WPC material are described in this manual and must also be adhered to.

EXPERT'S TIP

A patio is a construction that will last for decades and will delight its owner for a long time. This means that it needs to be constructed correctly, made of high quality decks, and it must be assembled expertly. Take time to plan it and only use professional quality. The underlying construction is extremely important!

Here are a few more details that I always stick to when I am planning a patio, based on my experience.

*The ideal height of the complete assembly is circa 15 cm
Create the surface with a 2 % slant if possible
Assemble the underlying construction on adjustable feet
Use gravel as an underlying surface*

***This will result in perfect patios with maximum durability and happy customers.
Have fun bringing your personal favourite spot to life!***

TESTED CHARACTERISTICS



Member of the Qualitätsgemeinschaft Holzwerkstoffe e. V. Berlin

As a member of the Qualitätsgemeinschaft Holzwerkstoffe e.V. Berlin, NATURinFORM GmbH is a driver of ensured quality products. We test the resulting high demands on a daily basis internally and regularly also at external testing institutes with very good results. Our wood composite material quality consists to 100 % of German wood fibres with the PEFC certification and the binding agent we use is freshly produced PE.



PEFC-certified: HW-PEFC-CoC-0286-18

HW-Zert GmbH, notified by PEFC Deutschland e. V. , has confirms that NATURinFORM GmbH uses a company monitoring system that conforms with the Chain-of-Custody-Requirements for PEFC programmes for the Endorsement of Forest Certification according to the standard PEFC ST 2002:2020 in the currently valid version (see also www.pefc.org).



Resistance check against wood destroying fungi - Durability Class 1 (extremely durable)

In the field of Process Engineering Holzwerkstoffe of the Fraunhofer-Institut für Holzforschung Wilhelm-Klauditz-Institute WKI, Braunschweig, the resistancy of our wood composite material decks was tested in February 2012 following DIN/TS 15534 1 (2007), or respectively, DIN ENV 12038 (2002). The evaluation was performed according to the test for woods (DIN CEN/TS 15083 1) with the result - Durability Class 1 - extremely durable.



Reaction to fire - Class E

The ift Rosenheim GmbH tested POPULAR for its fire behaviour according to DIN EN 13501-1 with the result Class E. This is very comparable to wood.



Test „Toy safety

Part 3: Migrating certain elements“ - DIN EN 71 3:1994

The Fraunhofer Institut für Holzforschung Wilhelm-Klauditz Institut WKI, Braunschweig tested COMPACT in February 2013 for „Toy safety“. The test report confirms that the tested material conforms to the limits according to DIN EN 71 3:1994 „Toy safety - Part 3: Migrating certain elements“.



Slip resistance test - DIN 51130

Our brushed deck surfaces are especially slip resistant, when they are cleaned regularly even when they are wet - and therefore are very well suited for public areas (swimming pools, kindergardens, hotel patios, etc.). The following results were achieved in individual tests at the TÜV Rheinland/LGA:

COMPACT	finely striated R12 / Blockstripes R13
COMPACT plus	finely striated R9 / Blockstripes, embossed R10
ROBUST	finely striated R11 / wood grain R12
NATURELINE	finely striated R11 / wood grain R12
POPULAR massive	finely striated R13 / widely striated R13
STRONG	finely striated R12 / wood grain R12
SMART	one-sided embossed R10
SMART NATURELINE	one-sided embossed R10
EXCLUSIVE	one-sided embossed, matte R11
URBAN	one-sided brushed, longitudinal R11 / crosswise R12
DIE RESISTANT pro	one-sided structured, brushed R13



Environment product declaration according to ISO 14025 and EN 15804

EPD from the Institut Bauen und Umwelt e.V. (IBU). „Together with the VHI we are active in sustainable building with EPDs for WPC patio decks and WPC facade elements at IBU.“ (Association of the German Wood Composite Industry (Verband der Deutschen Holzwerkstoffindustrie e.V.))

Find this and even more **films** online!

Do you use Facebook?

You can watch these films at „NATURinFORM“. If you use your smartphone, you can even have the assembly tips directly at your construction site.



EFFECTIVE



STRONG



FLEXIBLE



PATIO CONSTRUCTION



CREATIVE



CORRECT CLEANING



JOINT PROFILE TUBE



SMART



EXCLUSIVE

OUR EXPERT

MICHAEL LEITSCH

Application technology NATURinFORM (carpenter)

Benefit from a real expert's competence! You can find helpful tips in the green coloured boxes from our experienced tradesman Michael Leitsch. As a planner and fitter he has more than 20 years of experience in assembling and mounting NATURinFORM products. In this manual he has put together some important information for you on how to best prepare and some simple steps for mounting NATURinFORM's products.



Expert's tip

I recommend using a gravel layer as a ground surface, so that rain water can drain off easily and it can dry quickly. Dirt and leaves that fall through the joints can rot rapidly. If the ground underneath is compact, I always put in individual parts that can be removed, so that it is possible to clean the water-leading surface easily. You have to keep a big gap between the ground surface and the flooring surface in both cases, though.

Measuring tolerances

The ordered length is always slightly longer due to production - from 1 to 3 cm. Measuring tolerances in width and thickness (3 mm to 12 mm) are possible. If different deck lengths are ordered, it is possible that there can be deviations in colour.

Surface and accessory quality

The composition of our products is tested and is always the same. The products are weatherproof and can carry high weights.

Correct expert assembly

Read the assembly manual and contact your sales person or us if the construction is extraordinary or you are not sure of the feasibility. Please always note that there are special requirements for roof gardens and public areas, as there are certain adaptations that need to be made.

Assembly principle

Constructive protection is the most important factor! (Avoid standing liquids, enable quickest drying possible).

The right surface underneath

The ground below must be load-bearing and compact. If the surface is closed (slabs, film, metal), then it must be slanted. If there is a layer of gravel then it is most important that it can drain and that it is durable in frost. If necessary, a root protection fleece can be added. If there is a film cover, then a cork pad must be inserted between the swivel foot and the cover as isolation (to prevent plasticiser migration).







DELIVERY RANGE

Decks and special accessories

Solid patio decks	EXCLUSIVE				URBAN
	Solid deck in 4 different widths				Solid deck
Deck thickness	approx 21 mm	approx 21 mm	approx 21 mm	approx 21 mm	approx 21 mm
Deck width	approx 245 mm	approx 200 mm	approx 162 mm	approx 140 mm	approx 162 mm
Deck width (incl. 7 mm or 5 mm* joint)	*approx 250 mm	*approx 205 mm	*approx 167 mm	*approx 145 mm	*approx 167 mm
Standard lengths 3 m, 4 m, 5 m, 6 m	●				●
Special lengths possible from 2 m to 13 m	●				●
Surface brushed on both sides					one-sided brushed
Surface structure - finely striated					
Surface structure - block stripes					
Surface structure - wooden grain					
Surface structure - embossed	●				
Brown, anthracite, grey					
Dolomite grey, lava grey, basalt grey	●				
Nature, black brown					
Oak, amber, chestnut brown, graphite grey	Oak, amber and chestnut brown				
Walnut brown, graphite grey, granite grey	Terra brown				
Sisal, clay, Tabacco, linen, pebbel					●
Special colours - from 100 square metres	●				●
Maximum gap (clearance underlying construction)	max. 40 cm				max. 40 cm
Weight per square metre	approx 24,4 kg	approx 23,5 kg	approx 22,8 kg	approx 22,4 kg	approx 24,6 kg
Weight per deck metre	approx 6,1 kg	approx 4,7 kg	approx 3,9 kg	approx 3,2 kg	approx 4,1 kg
Loadability kg/per dm ²	600 kg/dm ²				600 kg/dm ²

Accessories	Requirements per square metre				
	EXCLUSIVE	EXCLUSIVE	EXCLUSIVE	EXCLUSIVE	URBAN
Mounting bracket set stainless steel /V4A (PU 100)	11 brackets	13 brackets	14 brackets	16 brackets	14 brackets
First-/Last bracket set (10 brackets)	as necessary				as necessary
Support system bracket set (Support-System-ALU) (PU 100)	11 brackets	13 brackets	14 brackets	16 brackets	14 brackets



Special accessories					
	EXCLUSIVE	EXCLUSIVE	EXCLUSIVE	EXCLUSIVE	URBAN
Cover cap, 2 per deck (PU 10)					
Glue (PU 1 Piece)					
Joint profile tube level (PU 50/100 m)					
Joint tube insertion aid (PU 1 Piece)					
Gap piece (PU 50)					
Special screw - hardened stainless steel/V4A 5x60 mm (PU 200)					
Special patio construction drill (PU 1 Piece)					
Patio screw, 5.5x80 mm (PU 200)					




SMART	STRONG	NATURELINE	ROBUST	COMPACT	* POPULAR ^{massiv}	RESISTANT ^{pro}
Zero degree deck	Load-bearing deck	Solid deck	Solid deck	Solid deck	Solid deck	Co-extruded
						
approx 19 mm	approx 38 mm	approx 21 mm	approx 21 mm	approx 21 mm	approx 26 mm	approx 23 mm
approx 139 mm	approx 140 mm	approx 140 mm	approx 140 mm	approx 139 mm	approx 139 mm	approx 138 mm
approx 146 mm	approx 147 mm	approx 147 mm	approx 147 mm	approx 146 mm	approx 146 mm	*approx 143 mm
•	4 m	•	•	•	in 4 m / 6 m	in 4 m / 6 m
•		•	•	•	•	
				•	•	one-sided brushed
	finely striated	•	•	•	•	
				•		
	•	•	•			
•						one-sided structured
•	•		•	•	•	sand, umbra, gravel
basalt grey		basalt grey				
					black brown	
•		•				
Terra brown			Terra brown		stone grey	
•	•	•	•	•		
max. 40 cm	max. 80 cm	max. 40 cm	max. 40 cm	max. 40 cm	max. 40 cm	max. 40 cm
approx 19,6 kg	approx 44.1 kg	approx 23 kg	approx 23 kg	approx 21.7 kg	approx 25,9 kg	approx 25.9kg
approx 2,8 kg	approx 6.3 kg	approx 3.2 kg	approx 3.2 kg	approx 3.1 kg	approx 3.7 kg	capprox 3.7 kg
400 kg/dm ²	700 kg/dm ² , clearance gap 0.8 m	600 kg/dm ²	600 kg/dm ²	600 kg/dm ²	800 kg/dm ²	600 kg/dm ²
16 brackets		16 brackets	16 brackets	16 brackets	16 brackets	16 brackets
as necessary		as necessary	as necessary	as necessary	as necessary	as necessary
16 brackets		16 brackets	16 brackets	16 brackets	16 brackets	
		Ø 14 mm	Ø 14 mm	Ø 14 mm	Ø 18,5 mm	
		1 piece	1 piece	1 piece	1 piece	
	as necessary					
					50 screws*	
	as necessary				1 piece	
	as necessary					

* Popular^{massiv} may only be laid after approval!

DELIVERY RANGE

Decks and special accessories






























Honeycomb profile decks	COMPACT	COMPACT ^{plus}
	Honeycomb profile deck	Honeycomb profile deck
		
Deck thickness	approx 21 mm	approx 21 mm
Deck width	approx 139 mm	approx 139 mm
Deck width (incl. 7mm joint)	approx 146 mm	approx 146 mm
Standard lengths 3 m, 4 m, 5 m, 6 m	●	●
Special lengths from 2 m to 13 m possible	●	●
Surface brushed on both sides	●	●
Surface structure finely striated	●	●
Surface structure block stripes	●	embossed
Surface structure - wooden grain		
Surface structure - embossed		
Brown, anthracite, grey	●	
Dolomite grey, lava grey, basalt grey		
Nature, black-brown		
Oak / amber / chestnut brown, graphite grey		
Walnut brown, graphite grey, granite grey		●
Sisal, clay, Tabacco, linen, pebbel		
Special lengths - from 100 square metres	●	
Maximum gap (clearance between underlying construction)	max. 40 cm	max. 40 cm
Weight per square metre	approx 14 kg	approx 15,4 kg
Weight per deck metre	approx 2 kg	approx 2.2 kg
Loadability kg/dm ²	400 kg/dm ²	400 kg/dm ²

Accessories	Requirements per square metre
 Mounting bracket set stainless steel/V4A	16 brackets
 First-/Last bracket (10 brackets)	as necessary
 Support system bracket set (Support-System-ALU) (PU 100)	16 brackets

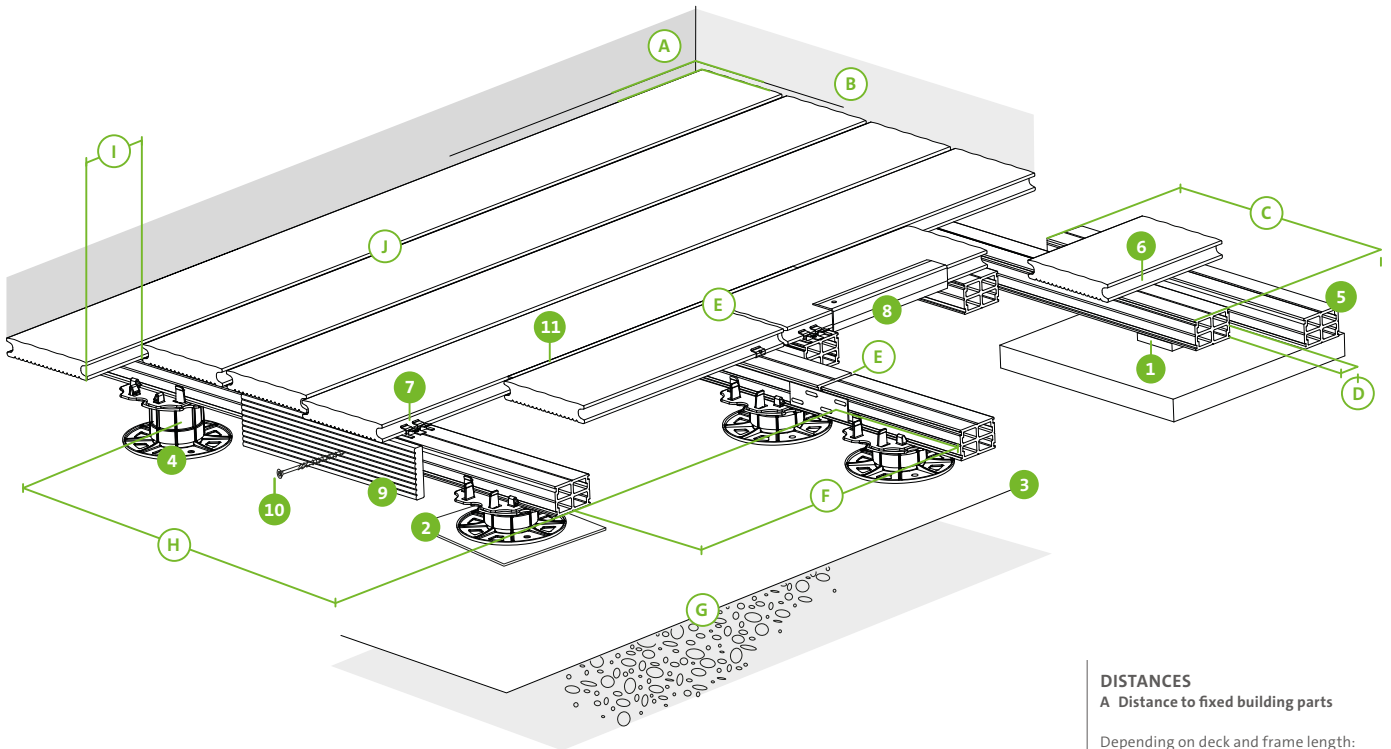
Special accessories	Requirements per square metre
 Cover cap, 2 per deck (PU 10)	as necessary
 Glue (PU 1 piece)	as necessary
 Joint profile tube level (PU 50/100 m)	Ø 14 mm
 Joint tube insertion aid (PU 1 piece)	1 piece
 Gap piece (PU 50)	
 Special screw - hardened stainless steel/V4A 5x60 mm (PU 200)	
 Special patio construction drill (PU 1 piece)	
 Patio screw, 5,5x80 mm (PU 200)	

DELIVERY RANGE

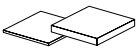
Universal accessories

Universal accessories		Unit	Requierment per square metre (ca.) depending on UC
	Base profile WPC 2.0 40 x 60 mm, with click function	4 m	2,5–3 m
	Profile amplifier (only for basic profile WPC 2.0)	4 m	as necessary
	Profile connector, aluminium 1,5 x 30 x 100 mm (for Base profile WPC and System profile ALU)	2	as necessary
	Base profile ALU 22,5 x 40 mm, with click function	4 m	2,5–3 m
	Profile connector, plastic 22,5 x 40 mm (for Baseprofile ALU)	10	as necessary
	System profile ALU 39 x 39 mm, with click function	4 m	2,5–3 m
	Profile connector, aluminium 1,5 x 30 x 100 mm (for Base profile WPC and System profile ALU)	2	as necessary
	Mounting bracket with an oblong hole, 20 x 34 x 30	4	as necessary
	Support-System-ALU: Support profile ALU 60 x 100 mm	4 m	2,5–3 m
	Support-System-ALU: Border profile 50 x 104 mm	4 m	as necessary
	Support-System-ALU: Support profile connector 74 x 50 mm, 25 cm lang	25	as necessary
	Support system bracket set	100	as necessary
	Bigthy screw 5.5 x 25 inox	50	as necessary
	Corner Cover- ALU 35 x 30 mm	2,7 m	as necessary
	Patio construction angle	10	as necessary
	Adapter for transverse bracing	20	as necessary
	Border board - WPC, in standard colours	4 m	as necessary
	Rubber / Cork pads 3 mm / 10 mm	25	as necessary
	Cork base 200 x 200 x 3 mm	10	as necessary
	Patio foot S, 33 – 48 mm	20	approx 4–5 pieces
	Patio foot M, 43 – 68 mm	20	approx 4–5 pieces
	Patio foot L, 68 – 118 mm	20	approx 4–5 pieces
	Patio foot XL, 118 – 218 mm	10	approx 4–5 pieces
	Load distribution plate, 6 x 210 x 210 mm	20	as necessary
	LED-ground spotlight set à 1 Watt Ø 50 mm	3	as necessary
	LED-ground spotlight set mini 0.25 Watt, Ø 25 mm	5	as necessary
	Plant fleece (1.6 x 10 m) sufficient for ca 15 m²	1 piece	as necessary
	Terrace ground grid of aluminium 140x20 mm - Length 4 m	1 piece	as necessary
	Fixing set 144 x 20 x 16.5 mm	2 piece	as necessary

UNIVERSAL ACCESSORIES

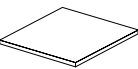


BASES / HEIGHT ADJUSTMENT



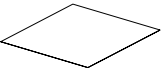
1. Rubber pad
60 x 60 x 3 / 10 mm
Made of EPDM, levelling material for solid surfaces.
minimum 6–8 pro m²

Cork pad
60 x 60 x 3 / 10 mm
Made of self-adhesive cork, free of softening agents, useable directly on PVC, levelling material for solid surfaces.
minimum 6–8 pro m²



2. Cork base
200 x 200 x 3 mm
made of cork, free of softening agents, useable directly on PVC, layer between patio feet and underground e.g. for foil sealing.

SURFACE PROTECTION



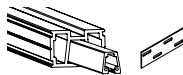
3. Plant fleece
1.6 x 10 m
As bottom layer on e.g. gravel layer for protection against unwanted growth.

CONTINUOUSLY ADJUSTABLE PATIO FEET



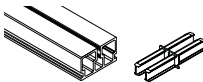
4. terrace feet
with click function on all substructures, self-levelling. Bearing foot: 14 cm
s: 33–48 mm, adjustable
m: 43–68 mm, adjustable
l: 68–118 mm, adjustable
xl: 118–218 mm, adjustable

BASIS-SUB-CONSTRUCTION



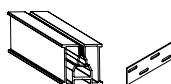
5. Base profile WPC 2.0
40 x 60 mm, pieces à 4 m
To click on patio foot, excessive strain up to max. 60 cm or 100 cm depending on the type of application. minimum 2.5–3 m pro m²

Profile connector
aluminium, 1.5 x 30 x 100 mm
For endless laying of the profiles.



Base profile ALU
22.5 x 40 mm, pieces à 4 m
To click on patio foot, excessive strain up to max. 65 cm, depending on the type of application. Suitable for WPC, wood

Profile connector
plastic, 22.5 x 40 x 120 mm
For endless laying of the profiles.



Base profile ALU
39 x 39 mm, pieces à 4 m
to click on patio foot, can be used on both sides, excessive strain up to max. 110 cm, depending on the type of application, one side

with a screwing duct for mounting brackets, one side for profile drill screw (inspectorate approval), suitable for WPC, wood

Profile connector
aluminium, 1.5 x 30 x 100 mm
For endless laying of the profiles.

FIXING THE BOARDS



6. First-/Last bracket
made of stainless steel, black for mounting the first and last deck to the substructure.



7. Mounting bracket set
made of stainless steel / V4A, black for mounting decks to the substructure.

Requirements per square metre
URBAN: 14 pcs.
EXCLUSIVE: 14 pcs.
EXCLUSIVE large: 11 pcs.
RESISTANT pro: 16 pcs.
SMART: 16 pcs.
STRONG: 16 pcs.
NATURELINE: 16 pcs.
ROBUST: 16 pcs.
COMPACT: 16 pcs.
COMPACT plus: 16 pcs.



10. Special screw
5 x 60 mm
Made of Inox stainless steel V4A
To attach covers or the border profiles. It is not intended to be completely screwed to patios.

CAPS / BORDERS

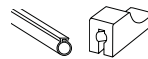


8. Finishing border
35 x 30 mm, pieces à 2.70 m
Made of aluminium anodised, to cover the longitudinal borders of the deck, fluted surface, with counter-sunk holes



9. Border board
68 x 15 mm, pieces à 4 m
to cover the underlying construction underneath the decks, available in 5 standard colours, gap border panel to last deck 1 cm

SPECIAL ACCESSORIES



11. Joint profile tube
ø 14 / 18.5 mm, like rubber
To optically seal the deck surface, size varies according to deck type (min. 8 cm set-up height must be kept to), tube can not be used with all deck types.

Insertion aid
Makes rational and even mounting easy.



12. End cap
21 x 139 mm
Necessary! Matches in colour (except for special colours) as a finish for the honeycomb profile decks, also as a protection against water.

Glue
To support cover cap attachment with honeycomb profile decks.

DISTANCES

A Distance to fixed building parts

Depending on deck and frame length:
for 3.00 m ≥ 1.0 cm
for 4.00 m ≥ 1.5 cm
for 5.00 m ≥ 2.0 cm
for 6.00 m ≥ 2.5 cm

B Wall of the building

Always lead rainwater away from the building wall at a degree of a minimum of 1.5% to 2.0%. (Exception: SMART also 0% is possible here)

C Overlapping base profiles

A minimum of 2 decks widths or directly screwed only one deck's width

D When overlapping gap between the base profiles

max. 10 cm

E Longitudinal joints in the underlying construction

with longitudinal joints there must be an air gap of min. 7 mm planned between the profiles

F Distance between the base profiles

for all honeycomb profile decks and massive decks maximum 40 cm

G Underlying surface

10 cm compressed drainage (gravel/grit) or solid surface (e.g. existing patio decks)

H Distance between the height-adjustable swivel feet

Or concrete slabs with plastic pads under the base profile described in point 5.

I Overhang

Projection of the plank beyond the substructure max. 8 cm

J 7.5 mm gaps between two decks

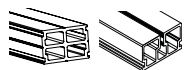
SMART approx. 139 x 19 mm
STRONG approx. 140 x 38 mm
NATURELINE approx. 140 x 21 mm
ROBUST approx. 140 x 21 mm
COMPACT approx. 139 x 21 mm
COMPACT plus approx. 140 x 21 mm

5 mm gaps between the decks

URBAN approx. 162 x 21 mm
EXCLUSIVE approx. 162 x 21 mm
EXCLUSIVE (different widths)
RESISTANT pro approx. 138 x 23 mm

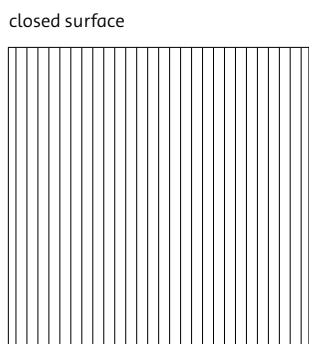
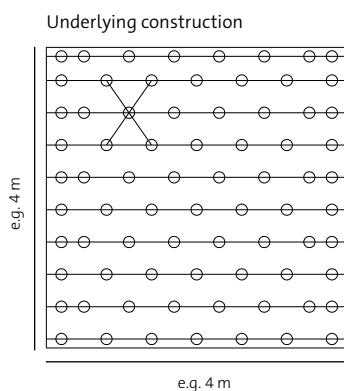
CALCULATING REQUIREMENTS

Calculation for a sample area of e.g. 4x4 m



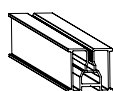
→ Option A

Underlying construction with Base profile WPC 2.0 40x60 mm or Base profile ALU 22,5 x 40 mm



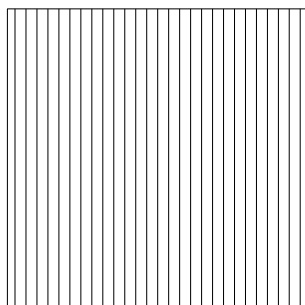
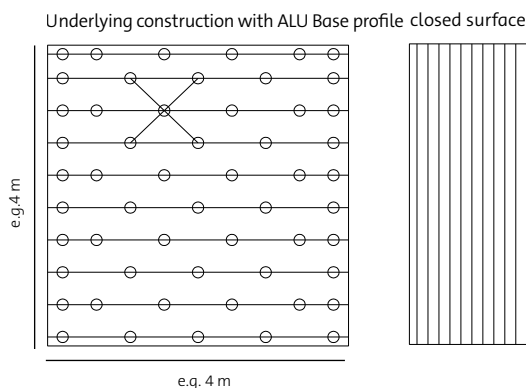
necessary accessories

Base profile 10 pieces / 400 cm	40 rm
Decks, e.g. Robust (139mm+7mm joint) = Dimension 14.6 cm, 27 pieces / 400 cm	108 rm
Adjustable feet (ideal set up in x-shape)	75 pieces
Mounting bracket A2 or A4	260 pieces
First-/Last bracket set	20 pieces



→ Option B

Underlying construction with System profile 39x39 mm



necessary accessories

System profile 10 pieces / 400 cm	40 rm
Decks, e.g. Robust (139mm+7mm joint) = Dimension 14.6 cm, 27 pieces / 400 cm	108 rm
Adjustable feet (ideal set up in x-shape)	55 pieces
Mounting bracket A2 or A4	260 pieces
First-/Last bracket set	20 pieces

Information on Options A and B: *If you are planning on attaching covers please plan a bigger underlying construction surface. If there is going to be a lot of pressure, e.g. from large flower pots, you must always have an additional underlying construction in those places. For roof gardens with extra insulation on the roof, architects and building owners must discuss the best way to spread the load. If there is no attachment to the underlying surface then you must create a stiffened / torsion-resistant construction.*

Use our new PATIO CONFIGURATOR

It will make your calculations much easier to do and will help you get a quick overview. You can find the patio planner on our homepage www.naturinform.com

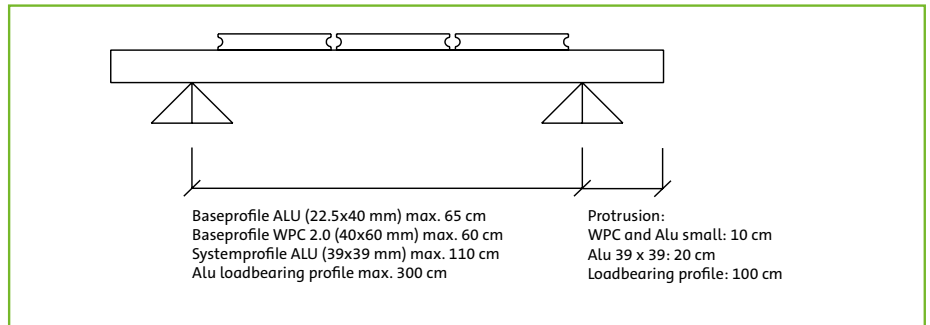
Every patio is unique - in shape, regarding the surface underneath, and the situation on site. This means that the material requirements are never quite the same from one patio to the other. On page 6-8 you can see the general requirements per square metre in a table.

UNDERLYING CONSTRUCTION

SUPPORT POINTS



UC with height adjustable swivel feet



The support point must be able to carry the burden of the surface reliably and permanently and spread the weight onto the underlying surface. There are several options for this:

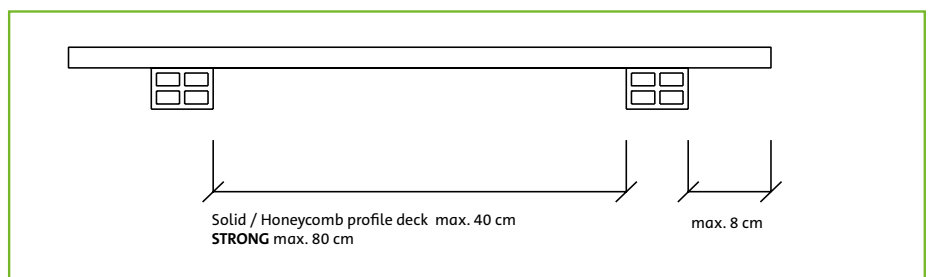
- On a compact surface (tiles, film, sheet metal, plaster) you can place cork or rubber pads, or adjustable feet respectively, depending on the height. On gravel, concrete slabs (e.g. 4x4x40cm) are suitable to spread the weight, and a cork or rubber pad is suitable as a base for the underlying construction. Instead of concrete slabs you can use segment blocks, too.
- The ideal option is to use adjustable patio feet that are available from 2.5 to 17 cm. The distance between one support point to the other depends on the option you choose. An X or 5 distribution is the best, as shown in the requirement calculation on page 11.
- With roof gardens we recommend you use a stiffened construction.

EXPERT'S TIP: I have been working with adjustable feet for a very long time, regardless what kind of surface is underneath. They are extremely quick to use, can be adjusted to the millimetre, you can calculate precisely, and NATURinFORM delivers top quality products that I can rely on!

UNDERLYING CONSTRUCTION



Base profile made of WPC

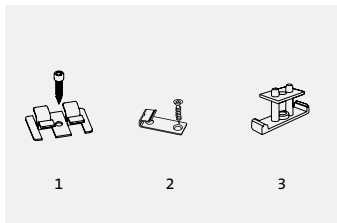


- WPC or Alu base profile in different sizes.
- The underlying construction does not have to be attached to the surface underneath.

Should the underlying construction be mounted in a fixed way, the decks must only be attached using the brackets or system connector (they must not be screwed on), so that the surface can shrink and expand at any time. The decks are laid on at least three substructures (multi-span beams), even with short decks.

PLEASE NOTE WHEN LAYING COMPACT (HONEYCOMB PROFILE) OR COMPACT^{plus}: When using honeycomb profile decks shorter than 2 m, the outermost base profile must be forced down or anchored. This also is valid for construction at floor level.

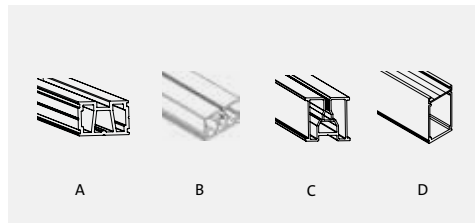
ATTACHMENT



Attachments (B)

Attachments

1. Mounting bracket set
2. First-/Last bracket set
3. Support system bracket set



Underlying construction (UC)

Underlying constructions

- A. Base profile 2.0, 40 x 60 mm
- B. Base profile ALU 22,5 x 40 mm
- C. System profile, 39 x 39 mm
- D. Alu loadbearing system 100 x 60 mm

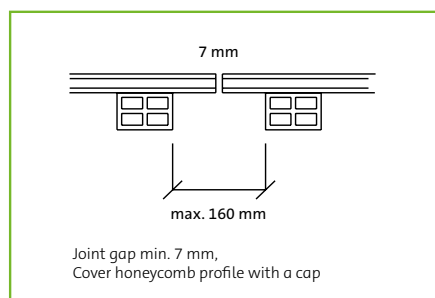
There are different options to mount the underlying construction:

- **Mounting bracket set of stainless steel / V4A (1)** on Baseprofile WPC 2.0 and ALU, and system profile ALU (A, B, C)
- **First-/Last bracket set V4A (2)** on Baseprofile WPC 2.0 and ALU, and system profile ALU (A, B, C)
- **System connector set (3)** for ALU loadbearing system (D)

LONGITUDINAL JOINTS



Deck longitudinal joint



Longitudinal joint of the substructure with profile connector

- Always lay the joints on two underlying construction elements and note protrusion.
- With longitudinal joints in the underlying construction you have to keep a large enough distance to fixed building parts. Additionally you have to leave at least 1 cm space with longitudinal joints. Use the aluminium profile connector with slotted holes, so that linear expansion is guaranteed.

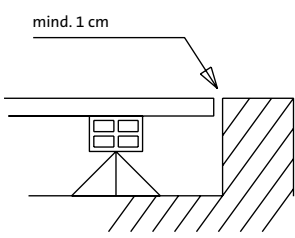
EXPERT'S TIP: I recommend using decks for the complete length of the patio. NATURinFORM has special lengths on offer - up to 13 metres, absolutely unique!

UNDERLYING CONSTRUCTION

FIXED BUILDING PARTS



Fixed building parts



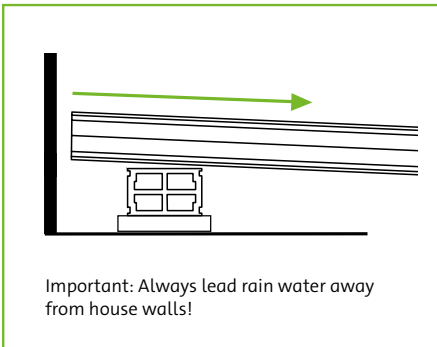
mind. 1 cm

Distance to fixed building parts (on both sides), depending on the deck and frame length at a laying temperature of ca. 20 degrees Celsius.

with 3 m	≥ 1.0 cm
with 4 m	≥ 1.5 cm
with 5 m	≥ 2.0 cm
with 6 m	≥ 2.5 cm

If you are using a joint profile tube you have to create double-sized border joints. As an alternative you can use a floor grid (drain grid) made of aluminium that ensures better ventilation from behind.)

SLANT



- Patios must always be built at a slant of 1.5 to 2 %. If you are using the honeycomb decks, the slant must run in the same direction as the decks - the solid decks may also be laid horizontally to the slant. Honeycomb profiles may not be built at the same level as the bordering lawn or stone surface.
- If you are using solid decks, it is possible to decrease the slant down to 1 % upon consultation. But you must make sure that it is possible for water to drain and that no water can get blocked beneath the patio decks.

LAYING DECKS

Step by step



1. After aligning the underlying construction, which is possible using diverse material (swivel feet, rubber or cork pads, depending on the underground surface), we start laying the decks.

EXPERT'S TIP:

The decks are produced and cut to size with an extra length. This means they are always slightly longer than stated and not 100 % at an angle. I therefore always cut each deck on both sides prior to laying. Please also note the arrows in the groove and lay all decks in the same direction.



2. **Important:** Set the torque on the cordless screwdriver.

Mount the First-/Last bracket onto the respective underlying construction using the screw supplied.

Slide in the first patio deck. Decks that are cut to width can also be screwed on using the special screw visibly, but always pre-drill and sink it. Without pre-drilling and sinking the material can split and stand up.



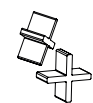
3. **Important:** Set the torque on the cordless screwdriver.

Insert the first mounting bracket or system connector and screw it on.



4. The laying aid must be laid on the decks as in the picture on the left (with EXCLUSIVE, URBAN and RESISTANT^{PRO} decks note the specific laying aid!) Then set up the next deck, insert the stainless steel bracket, and screw it on.

The gap between the decks is given by the mounting aid, so that the bracket has a bit of extra room that allows the deck to expand and shrink.



EXCLUSIVE, RESISTANT^{PRO}, URBAN

are mounted using a new laying aid! The laying aid is supplied in every delivery and enables a small gap of only 5 mm.



5. Lay the last row of decks as in step 2 and exchange individual decks later as on page 16. Please make sure when planning only to use complete widths.

LAYING DECKS

Step by step

EXCHANGING INDIVIDUAL DECKS AT A LATER POINT IN TIME



Fixed building parts



If decks have to be removed, e.g. to insert floor lighting, then they have to be able to be removed at a later point in time. Using a long bit it is possible to take out individual decks and to attach them again. Simply loosen the screws in the brackets along the deck and lift the two decks up.

Inserting decks again:

- Put the brackets onto one of the two decks that you have laid down next to each other. Insert the second deck and press both down onto the underlying construction. Then simply screw them back on. Finished.

EXPERT'S TIP: *This is how you can mount the final deck invisibly in a surface using the end bracket!*

JOINT PROFILE TUBE



Insertion aid for joint profile tube for quick and easy installation.



EXPERT'S TIP: *The joint tube can expand or contract due to the material. To avoid this, we recommend fixing the ends or joints with an adhesive over a length of approx. 10 cm. I recommend the Sikaflex 111 adhesive in black.*

- If you use the joint profile tube you, have to make double-sized border joints. Or you can use a floor grid of aluminium that ensures better ventilation from behind.
- There must be a slant of 1.5-2 % in the running direction of the joint profile tube.
- Cut off the joint tube with an excess of ca. 10 cm at the end of the deck. **Only adapt the length of the tube to the length of the decks afterwards (after some weeks)**, as the tube will expand in the outside temperature and will only shrink again after a while.

*Insert the joint profile tube from the top to achieve a gap-free and non see-through floor surface. Please note the minimum construction height of 8 cm underneath the decks. **Please make sure that there is sufficient ventilation from behind when using the joint profile tube***

COVERS

Different options



Boards, decks or other materials, such as stone or sheet metal can be used. As the height that needs to be covered differs and depends on the situation, we can only show recommendations.

Border cover using a solid deck - Option 1

- Solid decks are suitable for bends. Tip: Ideal for steps and details, such as when you need to cut around drain pipes or columns.



Border cover using a solid deck - Option 2

- Saw the border either plane or protruding (use a mitre cut). Please keep an expansion gap! Always pre-drill and sink.
- Recommendation: Use NATURinFORM's special drill. It sinks the 5x60 mm special screw of stainless steel (or stainless steel V4A) with a depth stop. It is highly elastic and has a small head.



Border cover with border angle - ALU

- The finishing border is used to cover the longitudinal side of the decks. It serves to cover the edges of the groove.



Border cover using a board

- The board (68 x 15 mm) is available in all five deck colours. It is an addition to all previous cover options. You have to mount a base profile as a surface in the shadow joint under the deck surface. The board can then be fixed onto it using the special screws.
- Keep enough distance to the wall and other fixed building parts. You have to make sure that ventilation is possible throughout the complete construction



Border cover using terrace ground grid (drainage grid)

- terrace ground grid (140x20 mm, Length 4 m) guarantees better ventilation when using a joint profile tube.
- Can be used as the first deck along a window front as protection against rising water, e.g. heavy rain.
- Use the special fixing set to fix it.



Border cover with caps (only for honeycomb profile decks)

- Caps in the same colour as the patio decks to beautifully cover the ends of the decks and to protect them from wet. Always cover decks on both ends.
- The upper seam of the cover can be fixed using the glue supplied! The lower side must not be glued.

SCREW CONNECTIONS

Solid deck, e.g. Strong



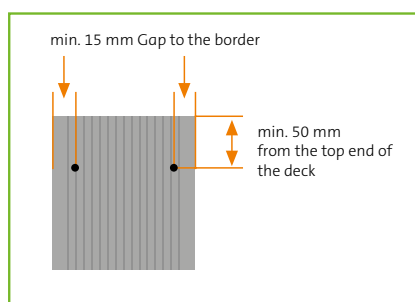
Image 1



Abb. 2



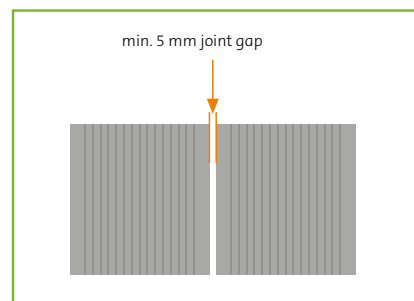
Abb. 3



Drawing re. image 3



Abb. 4



Drawing re. image 4

PREREQUISITES

It is possible to use screws with NATURinFORM's solid WPC patio decks if the following prerequisites are given:

- ✓ **Only solid decks are being used**
- ✓ **Always pre-drill and sink.** Recommendation: NATURinFORM's special drill sinks and has a depth stop.
- ✓ **Use NATURinFORM's special screws.** The 5x60 special screw made of stainless steel or V4A is very elastic and has a small head. Thus it is ideal for patio construction. If you are mounting the STRONG deck, you must use the patio screw 5.5x80. The special screws and the patio screws for STRONG are not suitable for Alu underlying constructions!
- ✓ **Floating installation of the underlying construction** If you use screws to visibly fix the solid decks, the underlying construction must never be connected permanently to the underlying surface.
- ✓ **Use two screws per deck support point**
- ✓ **Leave a gap of at least 50 mm to the top end of the decks when you use screws.**
- ✓ **Keep a joint gap of at least 5 mm between the decks**
With a joint spacing of 5 mm, the use of the joint profile tube is no longer possible
- ✓ **The special screws must be at least 15 mm away from the side edge**
- ✓ If you are laying larger surfaces, or are using different deck lengths, we recommend a consultation on NATURinFORM's application technology.

With fixed underlying constructions:

You must insert a distance strip between the underlying construction and the deck (image 4). It ensures that the decks can expand without putting a strain on the screw connection and also that the highest amount of ventilation required is possible.

USEFUL INFORMATION

General information

The laying manual must always be submitted to the building owner and be kept as long as is required, as there is important information on cleaning and maintenance. If products that require general construction approval are used then the requirements of the abZ must be completely adhered to when laying.

Storage information

Please make sure when laying that the goods are stored from delivery until and during assembly in a protected way and are protected from humidity. All parcels must always be stored on a level surface and be stored with an even burden.

Product characteristics

The wood composite made by NATURinFORM is a material combination made of 70 % wooden fibres of pine and spruce, ca. 30 % food-safe PE, UV stabilizers and colour pads. Due to the high percentage of wood the product acts like such, with changing colour caused by weathering.

Advantages

Our decks made of wood composite are non-slippery and barefoot friendly - without splinters or tears. Life quality is already increased by its easy maintenance. You can save time, work and money, as annual oiling or painting is unnecessary. Special lengths from 2 m to 13 m are possible.

Colour development

In general, all of our products go through a maturing process that is triggered by light, air, sun, location, and humidity. This colour change can proceed, depending on the weather impact, and where the product is laid. The alternation of sunlight, shade, and humidity, can lead to a change in the colour, for example, so that the WPC profile decks become lighter, depending on the exact utilization and set up of the product. These colour changes due to weathering are typical for the product, as for the natural product wood, and are not a defect, but a normal product feature due to the high percentage of wood. Due to the high percentage of wood the products' colour behavior is very similar to that of the natural product wood. Different kinds of weather impacts, i.e. if part of the surface is covered by a roof, can lead to different colouring developments.

Please note that the shades of our ColourEdition decks can change slightly due to weathering and natural maturing processes. This is because of the high percentage of wood, which, as a natural product, can change its colouring. In production this means that we process a quality that is as even as possible. However, fluctuations in the high-quality raw material may nevertheless result in differences in colour when different batches are installed. This does not affect the durability and is therefore not a reason for complaint.

You can find the individual colour maturity of our products on the respective product page at www.naturinform.com

Impact of chlorine or salt water

Chlorine and salt water have no negative effect on the characteristics of NATURinFORM's patio decks, facades, and privacy shields. tested according to DIN EN ISO 9227:2017-07. When laying a patio, stainless steel V4A mounting brackets must be used, instead of standard stainless steel brackets.

Temperature effect

Wood composite materials can react to temperature fluctuations with visible expansion and shrinkage behaviour. Therefore, you need to incorporate expansion joints and appropriate distances in your fixed components. The decks should be laid with brackets, so that the individual decks can be moved with ease.

Impact of Insolation

On hot days, and in areas sheltered from wind, it may not be possible to use with direct skin contact, due to high surface temperatures.

Loadbearing construction element

Use Popular solid with general construction approval Z 10.9 484 for load-bearing constructions.

Water stains

On partially roofed terraces, water stains may form in the transition area between roofing and open space. Rainwater is flushed through the covering to the roofing and dries off later. Dust particles are thereby dampened and then dry out, remaining on the surface. On the open area, which is constantly exposed to sun and rain, this effect is not very strong and is due to the manner of construction. There is no impact on the quality and it is therefore not a reason for complaint. The water stains can usually be removed using clear water and standard cleaning tools.

Wood Pockets

NATURinFORM products consists of approx. 70% wood fibres, which are specially treated, dried and fed into the manufacturing process. In this raw material there may be low inclusions of other natural fibres, such as bast (the transition layer from bark to wood), for example. As a result of weathering and humidity, these particles can become visible on the surface.

Electrostatic charge

An electrostatic charge can occur when relative humidity is low and there has been a longer period of aridity. By using a ground cable between the surface and a balustrade, wall, or anything equivalent, it is possible to avoid electrostatic charges.

Durability

Long-term durability is directly related to the well-planned and quick-drying substructure. It is important to avoid strain on the material through heat build-up or permanent waterlogging. Please take into account that dammed-up water can occur in roof terraces causing the substructure to be submerged in water.

Maintenance and care

Cleaning NATURinFORM products is absolutely uncomplicated using water. Slight dirt can easily be brushed off with a hose and broom or scrubbed. If there is more dirt it is possible to use a high pressure cleaner (not a steam cleaner) with a maximum of 80 bar, from a distance of at least 20 cm to the material. Because of the polymer particles our wood composite products are simple to maintain. Painting or oiling to extend its life expectation is unnecessary. With difficult stains, such as fat or soot, please use our specially developed biologically degradable cleaning agent.

Installation direction

In the manufacturing process, the deck surfaces are brushed, which creates a fibre direction. Failure to observe the deck fibre direction during installation may lead to varied colour impressions due to banding. The lateral grooves of the decks are marked with arrows for orientation to facilitate visually uniform laying.

Ventilation / Avoiding water-logging

A slant of the surface away from the building helps water to run off quickly and for the decks to dry. It is decisive that the surface is cleaned regularly and that the joints are kept clear.

It must be ensured that the material can dry rapidly within the underlying construction due to the given gaps to fixed building parts and the underground surface. Water-logging must be avoided. Especially if you are laying the decks using a joint profile tube it is prerequisite that there is a fully ventilated complete construction around the whole area. The minimum construction height is 8 cm (from the underground to the lower border of the deck.)

Disposal

It is recommended to dispose of WPC-Leftovers in bulk rubbish collectors or waste facilities. This may be chargeable. Alternatively, NATURinFORM's customers can return their products (sustainable return policy.)

Return option

We are proud to be able to present you a quality product that is fully ecological and sustainable. In our production process we only use wooden fibres from suppliers that have been awarded the PEFC certification. These are wooden products from sustainable forestry that meet ecological standards. The certification acknowledging that our NATURinFORM WPC decking profiles meet the high quality standards of the Qualitätsgemeinschaft Holzwerk confirms not only the technical and health safety of our products, but also their environmental compatibility.

We are also able to recycle our WPC products by feeding them back into our production procedure to reuse them in an environmentally friendly and sustainable way. Therefore we are happy to take back our original NATURinFORM WPC products if you deliver them to our factory Redwitz an der Rodach, Flurstrasse 7, after we have checked that the product is clean, free of charge.

As there is no legal liability for us to do so, and this is a voluntary and non-binding take-back option, we recommend you get in touch with us before returning your used WPC products to guarantee a smooth procedure. By acting with an ecological conscience you are contributing to an environmentally-friendly production cycle.

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