

# Technical information



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# Technical information

## 1. General information

### 1.1 Validity

This technical information is valid for WPC floor boards, LIGNODUR terrafina® type, consisting of floor boards, sub-structure profiles, installation and starter clips, end caps, aluminium end profiles, WPC corner profiles as well as various fixation aids. LIGNODUR terrafina® floor boards must only be installed using the accessories of the terrafina system.

### 1.2 Applications

LIGNODUR terrafina® floor boards and sub-structure profiles are designed to be used as floor covering, such as for terraces, balconies, stairs, roof gardens, promenades, as pool and pond edges or as jetty planks (stresses on planks from below caused by waves or boats etc. must be avoided). Any different application must be considered improper and may lead to damage to property or harm to people. The profiles should not be used for cantilever constructions, because an official technical approval has not been applied for. Please check prior to use, if LIGNODUR terrafina® is suitable for the intended application. Consult an approved stress analyst, where required.

### 1.3 Quality/ eco-balance/ efficiency



LIGNODUR terrafina® is developed in Germany and produced using high-tech production plants. Various regular controls during the production process, comprehensive laboratory tests as well as voluntary checks conducted by independent institutes provide permanent compliance with desired quality standards.



LIGNODUR terrafina® meets the quality and inspection requirements of the quality label "Qualitäts- und Prüfbestimmungen für Holz Polymer-Werkstoffe" issued by the independent quality association "Qualitätsgemeinschaft Holzwerkstoffe e.V."



In 2008, our hollow chamber boards were certified as one of the first. After the enhancement of the range in 2011, our massive boards received the quality certificate.

Our massiv XL floor boards likewise received the quality certificate in 2013.

LIGNODUR terrafina® is made only of domestic



soft wood from sustainable forestry. Our products are PEFC certified. Tropical wood is not used. Therefore, we actively contribute to the preservation of the forests worldwide.

The main raw materials are of German origin, a fact that shortens transport routes. The proportion of fossil raw materials of LIGNODUR terrafina® is only about 20%. By choosing the extrusion process, energy consumption is reduced. LIGNODUR terrafina® is 100% recyclable in the production process without quality losses.



This has been confirmed by independent research institutes. Its high life expectancy and the lack of coatings and oils make LIGNODUR terrafina® floor board system a highly efficient terrace flooring system and a very ecologically responsible product seen over the long term.

## 2. Product information

### 2.1 Description

LIGNODUR® is a PVC-based material containing wood flour (wood-polymer compound) with a wood proportion of more than 50%. This material group combines the stability of wood fibre and the longevity of synthetic materials. High-quality stabilizers and pigments provide an excellent resistance to weathering. The wood fibres used as well as the surface, which is roughened during a special brushing process, endow the product with its mechanical properties as well as its optics and haptics.

Compared to wood, LIGNODUR terrafina® is not only dimensionally more stable and requires less maintenance, but it is also more resistant to weathering. The floor boards are friendly for bare feet, as they are free from cracks and splinters. They are very anti-slip, even when wet (R12).

Low dimensional changes due to moisture, high resistance against modification caused by mould and mildew, resistance to salt water as well as self-extinguishing properties complete the advantages of the innovative material.

The intelligent click and clamp system allows a quick installation. The invisible mounting clips produce a small joint. The profiles can be installed at almost any angle relating to the sub-structure.

LIGNODUR terrafina® floor boards are available as hollow chamber boards or as massive profiles.

The elegance product line is available in coarse structure in 4 colour shades. The massiv product line offers the smooth design in 6 colour shades and the shipdeck design in 3 colour shades. In case of optically larger spaces, we added the profile

massive XL profile to our range. This wider profile comes in the surfaces fine structured and plain, in 6 appealing colour shades.

**2.2 Technical data** (extract from the Technical Data Sheets – available in full at [www.terrafina.de](http://www.terrafina.de) – as at 21 November 2016)

	<b>elegance</b>	<b>massiv</b>	<b>massiv XL</b>
<b>Floor boards</b>			
Dimensions	146 mm (+2/-0) + 4 mm joint	146 mm (+2/-0) + 4 mm joint	196 mm (+1/-1) + 4 mm joint
Deck width	150 mm	150 mm	200 mm
Height	25 mm (+-0,5)	21 mm(-1/+0)	21 mm(-1/+0)
Weight	2,4 kg/m	3,9 kg/m	4,4 kg/m
Standard lengths	4000 / 5000 mm	<b>smooth</b> 4000 / 4500 / 5000 / 5500 / 6000 mm	4000 / 5000 mm
		<b>shipdeck</b> 4000 / 5000 / 6000 mm	
<b>Sub-structure high WPC</b>			
Width x height	80 x 35 mm	80 x 35 mm	80 x 35 mm
Standard lengths	4000 / 6000 mm	4000 / 6000 mm	4000 / 6000 mm
<b>Sub-structure flat WPC</b>			
Width x height		60 x 17 mm	60 x 17 mm
Standard lengths		4000 mm	4000 mm
<b>Sub-structure high aluminium</b>			
Width x height	70 x 80 mm	70 x 80 mm	70 x 80 mm
Standard lengths	6000 mm	6000 mm	6000 mm
<b>Sub-structure flat aluminium</b>			
Width x height		55 x 17 mm	55 x 17 mm
Standard lengths		4000 mm	4000 mm
<b>Variable construction heights</b>			
with sub-structure profile WPC 80 x 35 mm	60 mm	56 mm	56 mm
with sub-structure profile WPC 60 x 17 mm		38 mm	38 mm
with sub-structure profile WPC 70 x 80 mm	105 mm	101 mm	101 mm
with sub-structure profile WPC 55 x 17 mm		38 mm	38 mm

**2.3 Surface quality**

The surfaces are additionally roughened during a special brushing process which endows the floor board with its natural wooden optics and haptics. The fine structures obtained from the brushing of the floor boards can be partially smoothed by high pressure from hard objects. This is visible in a darker colour tone. In such a case, the structures can be freshened up by carefully roughening them with sandpaper (see the cleaning recommendations). The floor boards should be uniformly brushed in one direction. The wooden particles rise during the brushing process. In order to achieve a uniform colour finish to the laid surface, the individual boards should be installed in the same direction.

Due to its roughened structure, the LIGNODUR terrafina® floor board is rated R 12 (=safe-very safe) in the anti-slip classification, and, thus, is suitable for use in wet barefoot areas as well

as public areas (slip resistance as per DIN 51130 in work rooms and work areas with increased risk of accident, class R 12, slip resistant for wet, barefoot areas as per DIN 51097, class C). This slip resistance also applies to the smooth surfaces of the models massiv and massiv XL. In the long run, this requires maintenance according to the instructions.

**2.4 Colour/ colour development**

The floor board colour may change slightly over the years – without, however, losing its colour character. Given the high proportion of natural substances, certain fluctuations in texture and colour are inevitable. The positive effect is a vivid appearance of the surface.

In case of larger areas, we recommend that the boards from different batches are mixed together and laid half offset or

in composite running. The manufacturing process distributes the fibres in height in the plastic and seals and dries them. The temperature created also colours them slightly. The subsequent brushing process exposes the wood fibres on the surface and features, normally characteristic of natural wood, are adapted to a smaller extent. In the course of weathering the wood ingredient Lignin is released. As Lignin reacts with the UV radiation of the sunlight, the colour of the wood fibres at the surface turns stronger

or more yellowish immediately after mounting. Colour differences resulting from the production process adapt widely during this time.

The greatest colour differences result in the first few weeks after laying. However, different than wood products, the colour change does not proceed in the same way. The discolouration of the wood caused by rain washing out the Lignin red-

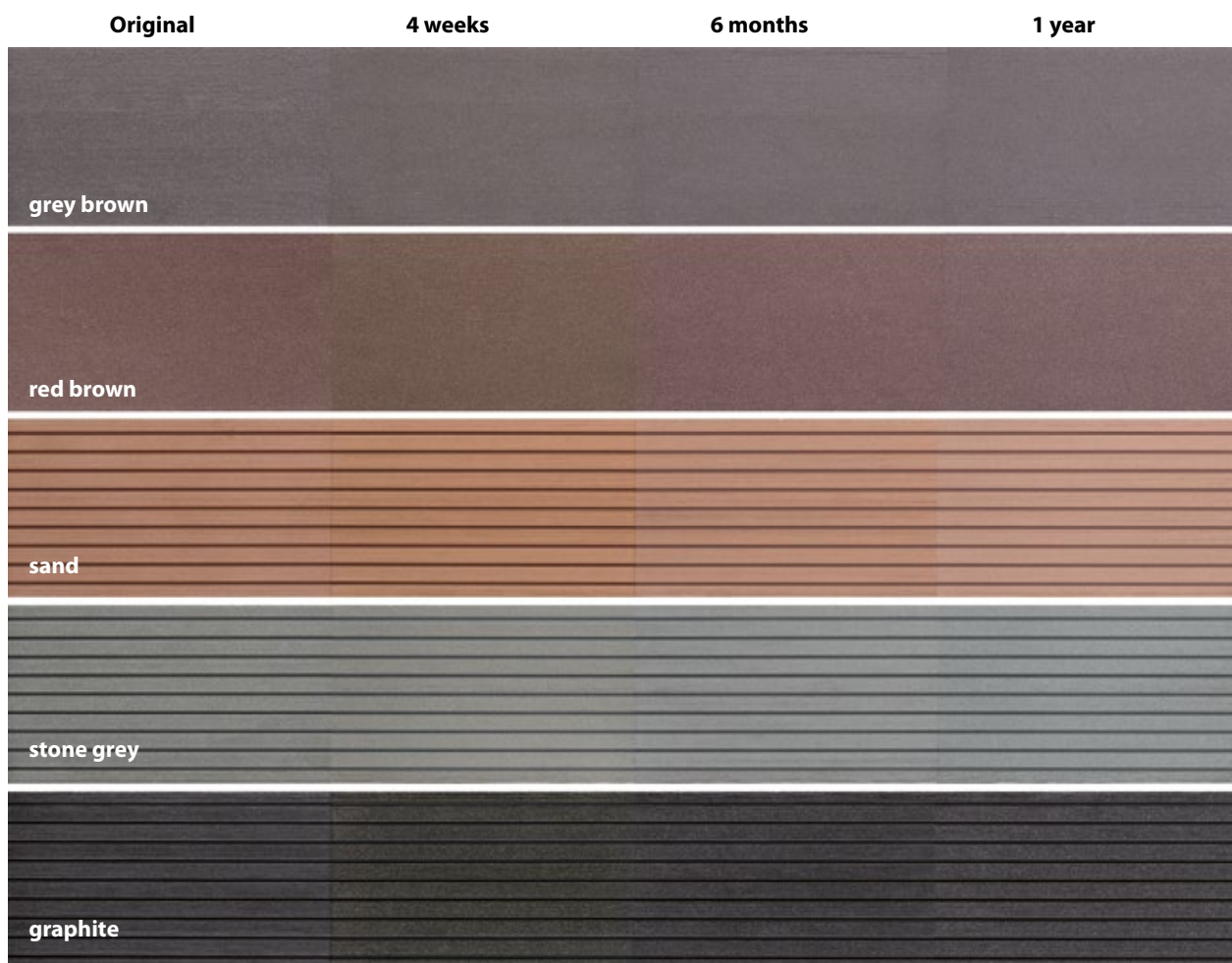
uces over the course of weathering (approx. 6 months) and the wood particles go through the natural process of greying. The colour impression is greyer, although it does not turn completely grey as full wood would. These natural processes are unavoidable due to the high wood proportion of the LIGNODUR® material. Depending

on the weather conditions during the first few months after mounting as well as the alignment of the terrace, the weathering process may take different courses.

Covering terrace boards causes different weathering conditions on the surface. This can not only lead to colour changes, but also cause damage to the surface of the boards. It is preferable not to permanently cover the boards in order to avoid such effects.

If additional boards need to be mounted at a later date, these

**2.5 Weathering time** · Weathering of **massiv** smooth and **elegance** coarse structure floor boards



will first show a different tone of colour, but will adapt almost entirely later.

## 2.6 Thermal properties

Irrespective of the chosen colour, the LIGNODUR terrafina® floor boards are subject to warming by solar radiation – like other building materials. Please consider this when using it as a bare-foot floor board, above all in unfavourable locations with high permanent solar radiation and low air circulation. The warming of the surface has no impact on either the mechanical properties or the capacity of the floor boards.

## 2.7 Chemical properties

LIGNODUR terrafina® floor boards do not contain toxic constituents or softeners, or heavy metals like lead or cadmium. It is categorised as durability class 1 and is thus more resistant than many types of wood. LIGNODUR terrafina® floor boards are resistant to chloric and salty air and are therefore suitable for pool and maritime uses.

## 3. Practical information

### 3.1 Maintenance and care

Unlike wooden terraces, LIGNODUR terrafina® floor boards do not require an annual protective painting (oil or glaze).

As all surfaces become constantly soiled by environmental influences, the terrace boards should be cleaned regularly depending on their degree of soiling. Basic cleaning in accordance with our cleaning recommendations is required at least every 6 months. Make sure that green infestation does not start (formation of algae and moss) on the surface. Heavy soiling can nevertheless become visible – due to the wood particles lying open on the surface. These particularly include fatty and oily foodstuffs and substances that discolour (such as red wine and mustard). As a matter of principle, soiling should be removed as soon as it is discovered.

Moreover, most stains are removed by natural weathering, such as rain and sunshine, so that most stains get washed away within a couple of weeks. In case surfaces are not or hardly exposed to weathering (rain), the stains may remain over a long period, unless they are treated immediately.

Never use aggressive agents, brushes or scotch spoons, as the surface may get mattified and appear brighter.

Stubborn, ordinary stains on terraces may be removed using the terrafina cleaning set. Please also see the detailed instructions in our cleaning recommendations.

## 4. Transport/ storage

Each of the profiles are shrink-wrapped in foil. They are delivered with an edge protector made of cardboard. Please always make sure that the foil is not damaged during storage.

Up to the installation, the floor boards and sub-structure profiles have to be stored packed, even and dry. The maximum distance for crane arm racks is 1 cm. Humidity (such as condensation water) may not penetrate into the packaging. The top layer of floor boards should be turned with the visible side downwards to prevent colour changes

If humidity penetrates due to damaged packaging, the foil should be removed completely and the profiles be allowed to dry with sufficient ventilation. Improper storage may lead to irreversible deformation. This particularly applies to hollow chamber boards.

## 5. Processing/ assembly

Please observe the detailed information given in our installation instructions:

- a. Installation instructions for **massiv** WPC floor boards – sub-structure
- b. Installation instructions for **elegance** floor boards
- c. Installation instructions for adjustable feet
- d. Installation instructions for **massiv** aluminium sub-structure

### 5.1 Processing

LIGNODUR terrafina® may be sawn, milled and drilled using standard wood working tools. Clean cut surfaces, burr removing and the like are necessary, especially for adherents. Please treat the surfaces with primer first rough the surfaces with coarse sandpaper and use the LIGNODUR hybrid mounting adhesive, afterwards. In order to adhere properly at low temperatures, keep the adhesive at room temperature and the parts need to be fixed firmly.

## 6. Disposal

LIGNODUR terrafina® is 100% recyclable. Oddments may be disposed of with household or industrial waste. Larger quantities may be disposed of with bulky waste or taken to recycling centres directly. Residues of LIGNODUR are treated as matured timber of class III, hence, as biomass fuel. The waste code is: AW200138. In case of doubt, contact your city / municipal administration to ask about recycling or disposal in an appropriate manner.

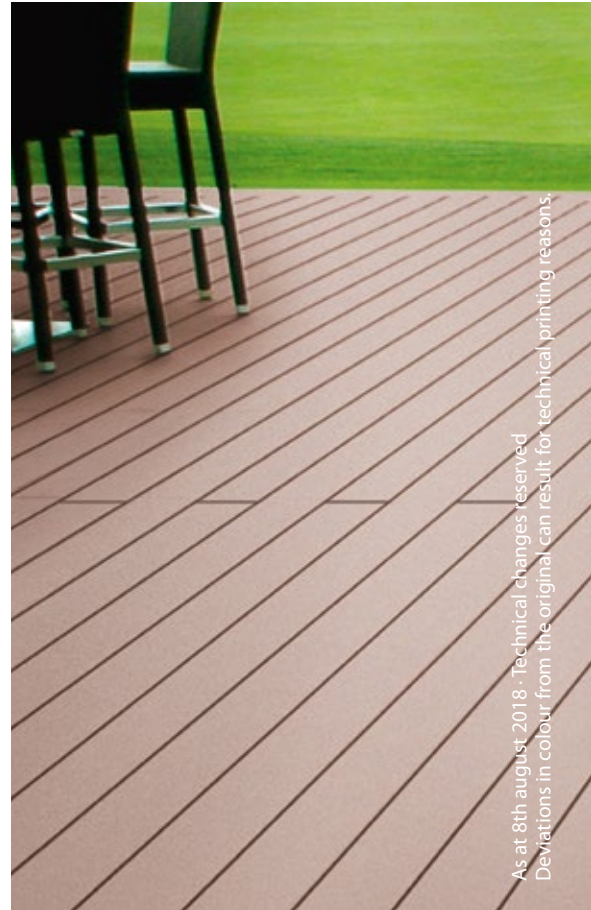


## **7. Validity**

Our installation instructions, technical information and brochures are based on current technical knowledge and are subject to modification and adaptation to technical progress without notice.

In case of doubt, please get in touch with your trade dealer or contact us directly at:

**[terrafina@moeller-profilsysteme.de](mailto:terrafina@moeller-profilsysteme.de)**.



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