

Why



**econfloor** ?

P O L S K A S P. Z O.O.

# 3-Layered Floors

# The floorboard

– a natural floor designed to make full use of the properties of wood

The floorboard is a product known in Europe as “engineered wood” or a multi-layered floorboard. It originates in Scandinavia, where the locals have learned that solid wood floors, although beautiful, start working immediately after laying due to the effects of varying air humidity, which can lead to them drying out, bulging and creaking. In response to this challenge, the practical Scandinavians have created a product, which combines the beauty of natural wood with resistance to deformation caused by changes in humidity. And this is “engineered wood”. The combination of a surface layer made of hard solid wood — oak, ash or birch — with two layers of pine attached in opposition forms a 100% wooden, naturally beautiful and durable floor which is resistant to changes in humidity. This solution is so effective that it even enables multi-layered floors to be laid over underfloor heating.



**Deciduous** woods are used for the decorative **surface layer**, for example oak, ash, beach, sapella, jatoba and merbau.



**Coniferous** woods such as pine are used for the **middle** and **bottom** layers.

1

## SURFACE (DECORATIVE) LAYER

- forms the external, functional part of the floorboard. This layer may be made from three strips attached together, reminiscent of a traditional parquet. This is called a 3-strip floorboard. Made from a single solid element, and looking like a solid wooden floor, it is called plain floorboard (see picture). The decorative layer is made of wood from deciduous trees.



ARRANGEMENT OF THE TOP LAYER – the strips of the top layer are arranged in one or three rows.

2

## MIDDLE (INSIDE, STABILISING) LAYER

– is located between the upper and lower layers. This layer is made of wooden slats from coniferous trees with plywood.



ARRANGEMENT OF THE MIDDLE LAYER – the strips of the middle layer are arranged perpendicular to the elements of the top and bottom layers to form a stable cross structure.

## BOTTOM (STRESS-RELIEF) LAYER

– is the layer of the floorboard touching the flooring. It is made of strips or facing floorboards of coniferous wood.



ARRANGEMENT OF THE BOTTOM LAYER – the elements of the bottom layer are arranged parallel to the top layer.

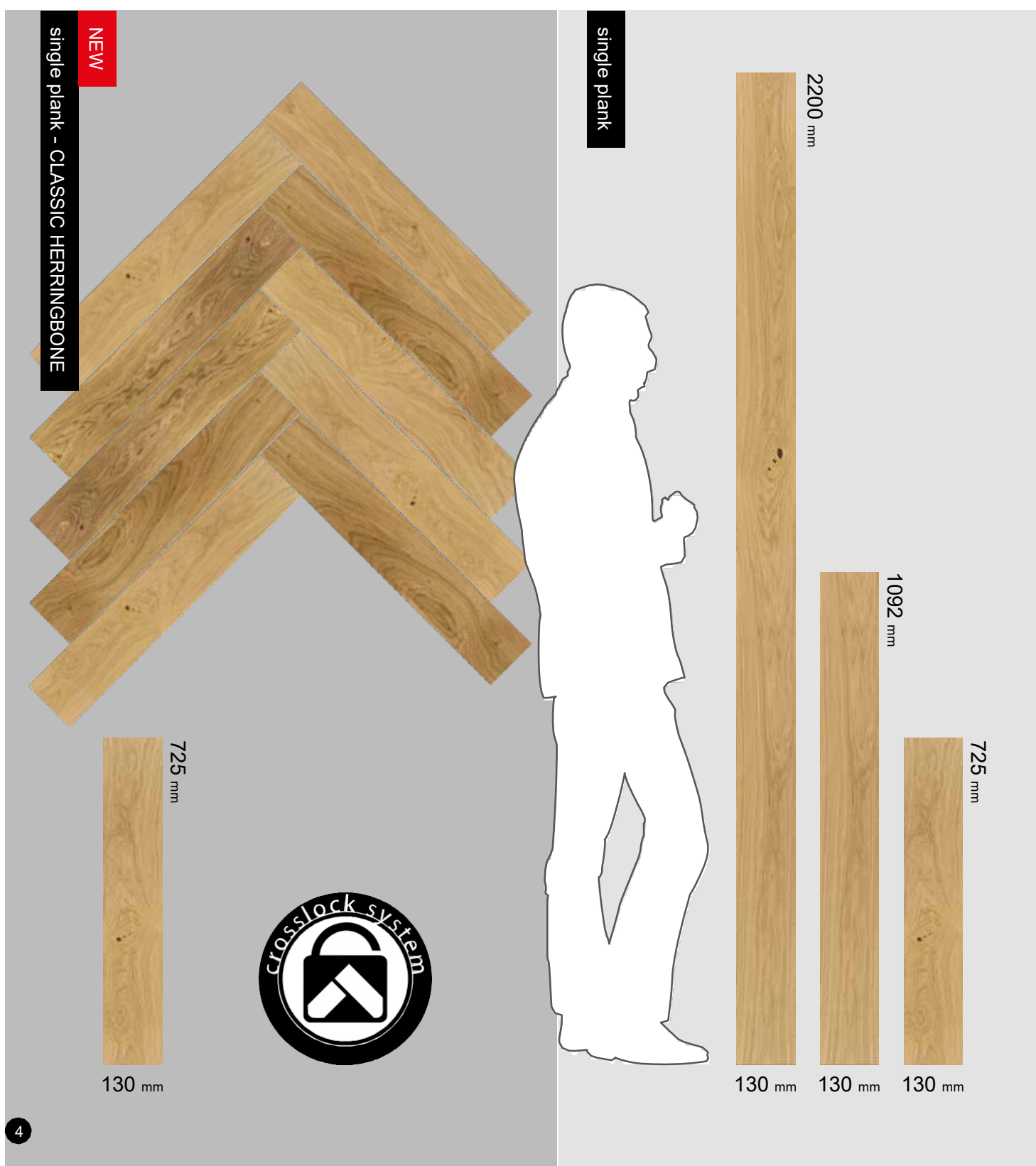
4

Joining the three layers of the floorboard in a stable cross structure, using a durable and solid resin-based adhesive bond, ensures that layered floors are perfectly suited for laying over underfloor heating systems.



# Flooring structure

single plank – the face is not divided into visible rows of strips (appearance reminiscent of a solid floorboard)





NEW

2200 mm

1800 mm

1092 mm

155 mm

155 mm

155 mm

2200 mm

1800 mm

1092 mm

180 mm

180 mm

180 mm

2200 mm

1092 mm

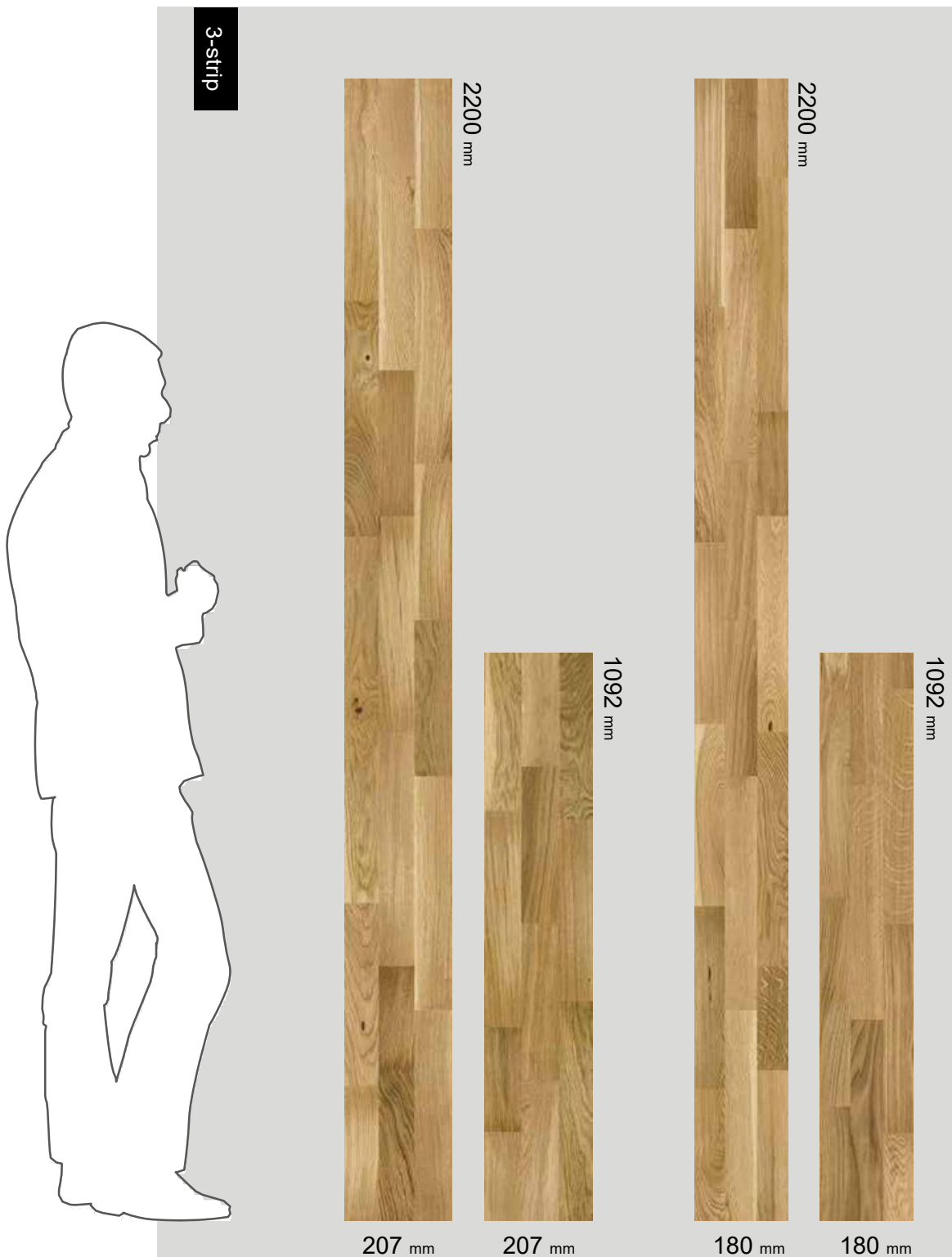
207 mm

207 mm

## Flooring structure

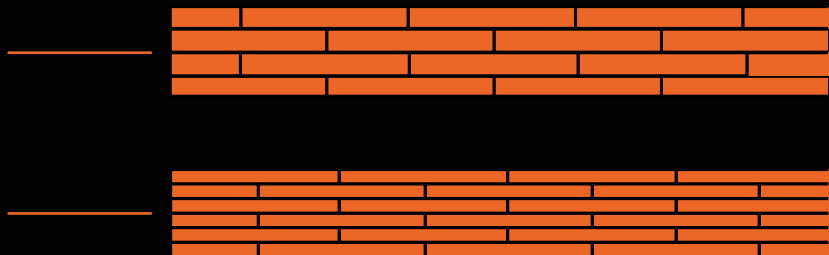


**three-strip** – with three rows of strips across the width of the floorboard (appearance reminiscent of a traditional floor)

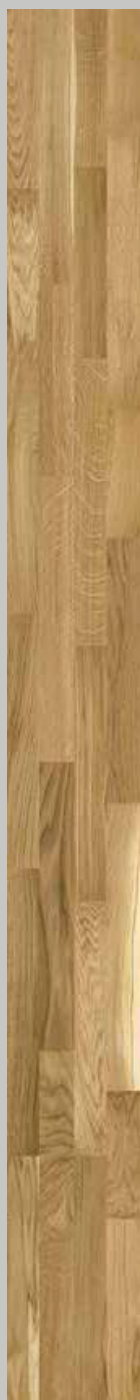


**four-strip** – with four rows of strips across the width of the floorboard (appearance reminiscent of a traditional floor)

**six-strip** – with six rows of strips across the width of the floorboard (appearance reminiscent of a traditional floor)



4-strip



2200 mm



1092 mm

207 mm

207 mm

6-strip



2200 mm



1092 mm

180 mm

180 mm

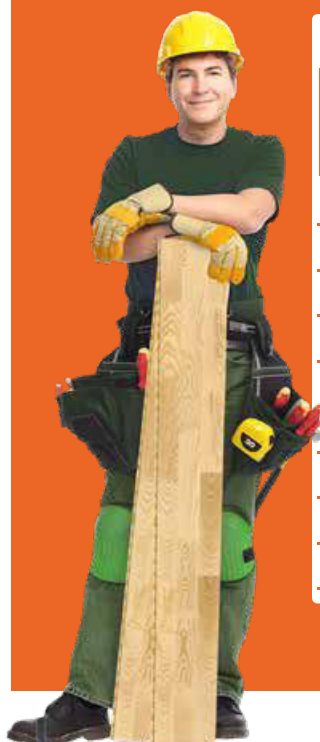


Floorboard length (mm)	Floorboard width (mm)	Floorboard thickness (mm)	Packaging type	Number of m <sup>2</sup> in a pack	Number of m <sup>2</sup> on a pallet	Pack weight (kg)
2200	130	14	7 x 7 = 49 packs	2,00	98,00	17,13
1092	130	14	7 x 7 = 49 packs	0,99	48,51	8,52
725	130	14	7 x 7 = 49 packs	0,65	31,85	5,66
2200	155	14	6 x 8 = 48 packs	2,38	114,24	20,60
1800	155	14	6 x 8 = 48 packs	1,95	96,60	16,90
1092	155	14	6 x 8 = 48 packs	1,18	56,64	10,30
2200	180	14	5 x 8 = 40 packs	2,77	110,80	23,70
1800	180	14	5 x 8 = 40 packs	2,26	90,40	18,45
1092	180	14	5 x 8 = 40 packs	1,37	54,80	11,80
2200	207	14	5 x 8 = 40 packs	3,18	127,20	26,07
1092	207	14	5 x 7 = 35 packs	1,58	55,30	13,04
2200	207	10	5 x 8 = 40 packs	4,09	163,60	24,31

- Floors based on a layered construction have greater stability on the subfloor than solid floorboards. In practice, this means less risk of deformation caused by changes in humidity and temperature. This means the floor can be laid using the floating method, without attaching it to the subfloor.
- Engineered wooden flooring is 100% natural, healthy and not allergenic product.
- This leads to further convenience for the customer, as assembly is simple and can be done without help. When necessary, it is no problem to remove and replace floorboards damaged during use.
- If customers decide that the best solution for them is to glue down the floor, because they want the wood to be encumbered as little as possible, then in this particular case it is most definitely possible.
- The aforementioned structure which affects the stability of the wood means that floors prepared in this way are perfectly suited for laying over underfloor heating and do not excessively absorb heating the way solid floors do.
- A single plank floor looks similar to a traditional solid floor. It presents itself particularly well in modern and traditional interiors.
- A multi-strip floor is elegant and traditional. This is the perfect proposition for customers seeking a floor which looks like a traditional parquet, but with a new designer approach to colour.



## Comparison of a 3-layered floor with other floor coverings



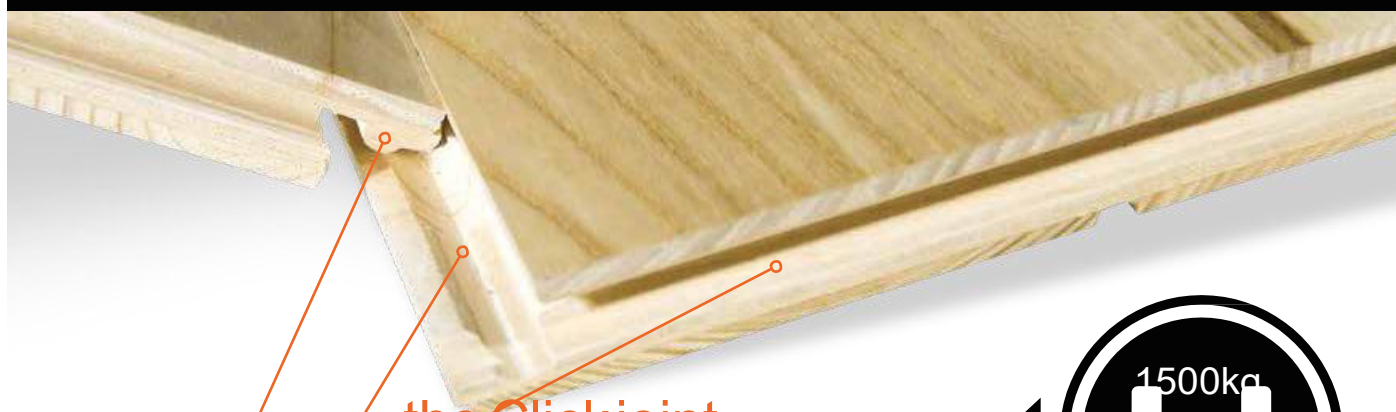
BENEFITS OF THE FLOOR		FLOORBORD	SOLID FLOORBOARD	LAMINATED PANELS
1	100% wood	YES	YES	NO
2	attracts less dust	YES	YES	NO
3	floating assembly (easy)	YES	NO	YES
4	adhesive (silent floor)	YES	YES	NO
5	underfloor heating	YES	NO	YES
6	can be renovated (by sanding)	YES	YES	NO
7	spot repairs are possible	YES	YES	NO
8	easy floor care	YES	YES	YES
9	warm, healthy floor	YES	YES	NO
10	stable (cross structure)	YES	NO	NO

## Types of joints used

Its tensile strength along the longer edge of the floorboard is 1,500kg, which allows the floor to be laid over underfloor heating systems, and to be used as an element of the sport floor.

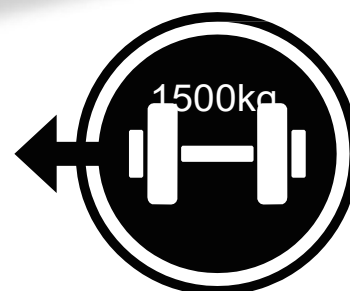
5Gc – this is the ideal solution for frontal joint technologies in floor assembly. These systems are based on a modern frontal lock construction and the use of a special polypropylene tab or tongue with fibreglass added.

Crosslock – is the latest joint which facilitates the arranging of the Classic Fir Floor Pattern in a clean, quick and easy manner. Its profile allows the installing of the above-mentioned pattern without the need for both the right- and left-side woodblocks at the same time.



### the Click joint

an original by technicians



1. THE GROOVE – is the **slit** located on the shorter and/or longer edge of the floorboard. The tongue is placed (pushed) in here during assembly.
2. THE TONGUE – this is the **protruding** part of the floorboard located on the shorter and/or longer edge of the floorboard enabling them to fit together during installation.

The tongue and groove may be made of plywood or HDF.



## 5Gc joint

- quick and easy assembly, even in difficult-to-reach places
- a click confirms proper shutting
- simple assembly of floorboards trimmed at an angle
- does not require additional tools for assembly and disassembly



## Crosslock joint

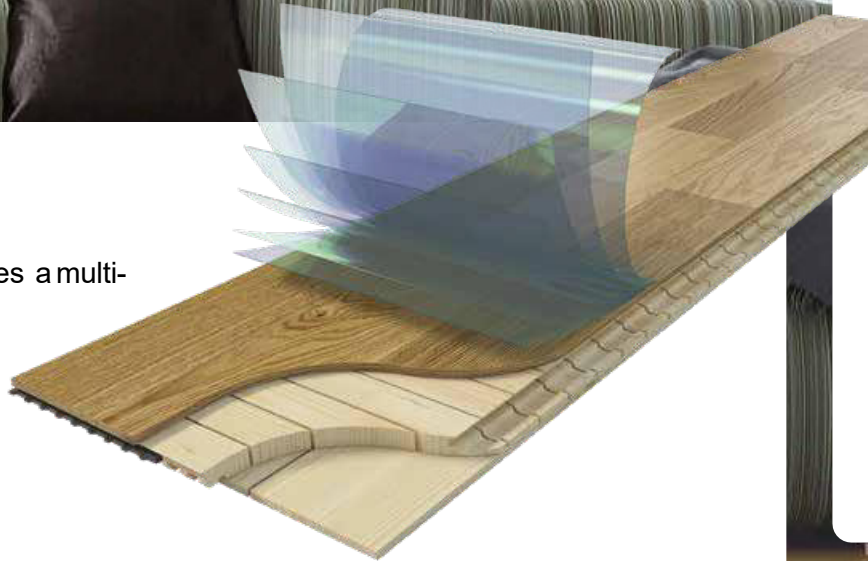
- a clean, quick, and easy assembly without using specialist tools
- an arrangement system which does not require using both right and left woodblocks
- no risk of damaging the joint during assembly



# Types of finishing used

## lacquer

The lacquering technology for the floorboard uses a multi-layered coating of acrylic lacquer hardened by UV rays. The floor is coated with up to 7 layers of a lacquer system by leading producers in the industry.



### EXAMPLES OF ROOMS

PROFESSIONAL LACQUER	<p>The lacquer's abrasion resistance is defined as 7,000 cycles in the Taber test. This means that this lacquer is at least twice as resistant as others on the market. It can therefore be used even in public buildings.</p> <p>~20° gloss on the Gardner scale.</p>		living room, bedroom, children's room, hall, kitchen, offices, public facilities
SEMI-MATT LACQUER	<p>~20° gloss on the Gardner scale.</p>		living room, bedroom, children's room, hall, small offices (e.g. notary office)
TEXTURE HIGHLIGHT LACQUER	<p>~20° gloss on the Gardner scale.</p>		living room, bedroom, children's room, hall, small offices (e.g. notary office)
MATTE LACQUER	<p>~9° gloss on the Gardner scale.</p>		living room, bedroom, children's room, hall, kitchen, offices, rooms with animals (matte lacquer on a brushed surface)
HIGH GLOSS LACQUER	<p>~95° gloss on the Gardner scale.</p>		living room, bedroom





Along with all its unique mechanical properties, the floorboard is also fully ecological, and safe for the natural environment and the user. It can be laid in children's bedrooms without the slightest worry. The floor can of course be subjected to partial or complete regeneration, which means it can be enjoyed for many years.

## Resistance to intensive use – abrasion

What does this mean in practice?

When selecting a lacquer for rooms in public facilities where greater foot traffic can be expected, choose a floor finished with professional semi-matte or matte lacquer. Any mechanical damage on such surfaces will be less visible than on highly polished lacquers. On a brushed surface finished with matte lacquer, any minor scratches which may appear will be far less visible than on a floor without a brushed surface.



Floors finished with high-gloss lacquer are not recommended for intensively used places. On this lacquer, light reflecting from the floor surface gives the impression that every scratch is much more visible. Lacquers with high gloss are more recommended for living rooms, for example, where there is not so much movement passing through.

# Types of finishing used

## Key test

It often happens that a customer does a key test on laminates and on wooden floors, claiming indignantly that the floor is scratching. This is true, but would lacquer on a car pass this test? Of course not, there is no chance of any lacquer standing up to this type of action.



## Microclimatic conditions

The wood is appropriately hard, healthy, and above all natural. This is why it also slightly expands/shrinks under the influence of a room's microclimatic conditions. For this reason uses floor lacquers which harmonise perfectly with the wooden floors



## Laminate and lacquer

What would happen if something hard, like a mug or pan, fell on the floor and the lacquer did not have sufficient flexibility? Wood will naturally yield to the force, but when the lacquer does not yield along with it, this results in the lacquer cracking. So lacquer on wood cannot be compared with laminates.

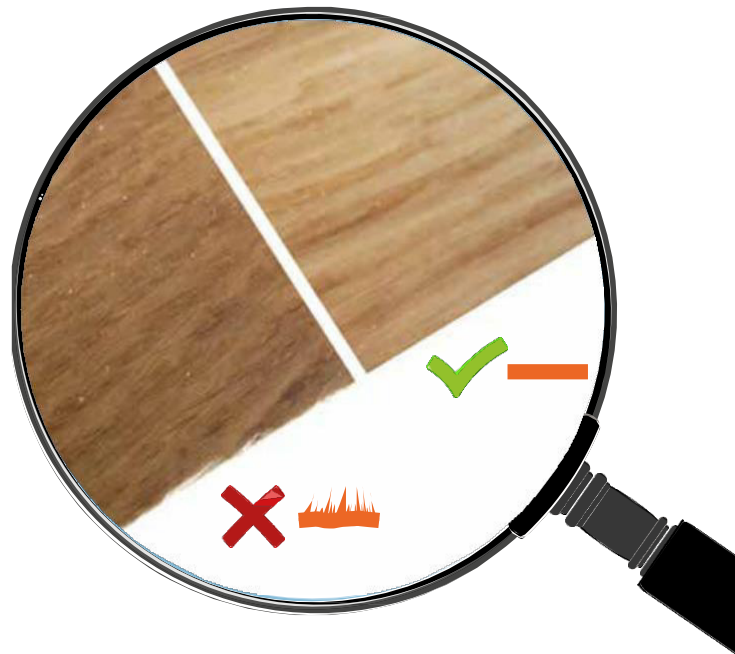
The lacquer test is mainly concerned with its resistance to abrasion and elasticity. These two parameters are of the utmost importance for users of wooden floors.





## Lacquering after bevelling

One basic advantage of the floorboard is the technical possibility to lacquer floorboards after milling. The construction of the joint enables lacquering after milling, which contributes to the durability of the lacquer coating on the edges of the floorboard. Most profiled lock floorboard products do not offer this possibility. This results in microdamage occurring earlier on the edges of floorboards. The sharp floorboard sides wear more quickly during use, and are vulnerable to wiping and crumbling.



## Advantages of lacquered floors:

- resistant and durable:
- appropriately flexible:
- the lacquer yields along with the floorboard:
- excellent adhesion
- low surface tension:
- a high gloss lacquer
- the unique quality
- ecological and healthy:
- easy to take care of
- ecological

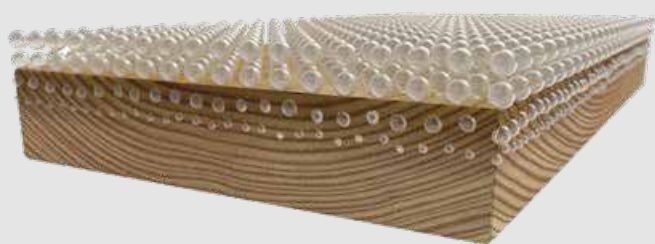


## Oil

Oiling brings out the beauty of the wood, retaining its natural appearance, texture and surface grain pattern. On an oiled floor you can feel the delicate texture of the wood, its grain will be legible to the touch of your hand. The floor of this type are characterised by a variety of fiand colours of the decorative layers and correspondingly — a great number of possible applications and an abundance of arrangements in very varied interiors. In time, oiling a floor emphasises its character.

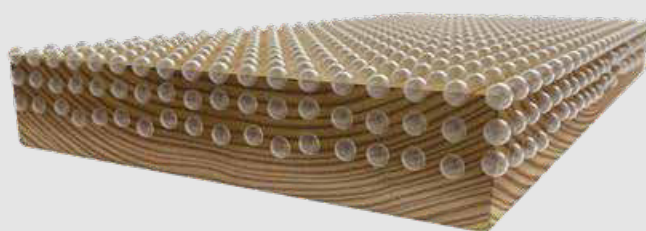
Produces floors with two types of oil finishing by leading European manufacturers:

- UV oil coated floors,
- natural oxy oil coated floors.



### UV oil finished floors

UV oil forms a protective coating on the surface of the wood, increases its resistance to dirt, impregnates it and protects it against damp, as well as highlighting the natural traits of the wood. It is hardened very quickly using UV light during the production process. Some of the oil penetrates into the structure of the wood, with the rest forming a delicate layer on its surface. The floor should be oiled periodically while it is in use. The frequency of the oiling will lessen significantly with time. More information in the floor care section.



### Floors finished using natural oil, known as oxidation oil (OXY)

The natural oil penetrates into the structure of the wood, impregnates it and protects it against damp, in a more visible way than UV oil. The oil slowly enters the wood structure, then hardens over about 7 days after application. It is recommended to apply Wax Care Plus (natural oil) to the surface of the floor immediately after laying it. More information in the floor care section.



# Advantages of oiled floors:

- acquire a unique appearance
- anti-static surface
- exceptionally durable
- renovation does not require sanding
- spot repairs
- easy everyday care and maintenance





# Types of finishing used brushing

The choice is enriched by a fine variant of the floorboards with a specially brushed decorative surface. Brushing a floorboard involves mechanically removing soft fibres from the surface layer using steel brushes. This process takes place on the production line before lacquering or oiling.

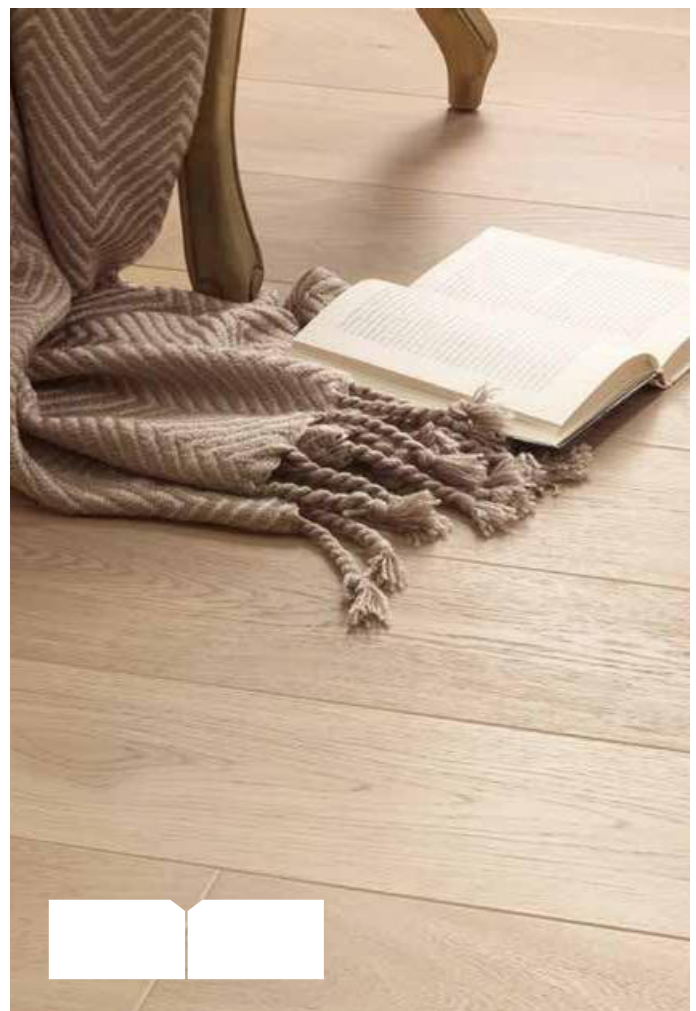
## Advantages of brushed floors: :

- originality and uniqueness,
- brushing emphasises the wood grain pattern,
- the effects of use do not show up so much on a brushed floor,
- traces of scratches are far less visible in rooms where there are animals.

## bevelling

There are three possible variant of bevelling on floorboards:

- four-sided bevelling – milling an individual floorboard on four sides,
- four-sided micro-bevelling – subtly milling an individual floorboard on four sides,
- two-sided bevelling – lateral milling of an individual floorboard on two sides.
- two-sided micro-bevelling – subtly milling an individual floorboard on two sides,





## staining

Produces stained floor in lacquered and natural oiled floor may be stained one colour, or with two thanks to the latest technology.

When a double stained floorboard is produced, the natural structure of the wood is brought out in the brushing process. It is then accented using coloured putty, and finally the whole floorboard is covered with the selected colour range of stains, protected with lacquer or oil. The unique appearance of the floorboard obtained in this way gives it an exceptional aesthetic character.

It should be remembered that matching the colour of the lacquer to other wood products, such as stairs, does not involve a colour range like RAL, but is done by visually selecting colours.

When choosing the colour of natural oil, contact a Sales Representative who has a table with the numbers of repair oils which enables oiling to take on a colour very similar to the other wooden elements of the interior arrangement.





# Floor selection

## Oiled or lacquered floor?

No microfilm forms on the surface of an oiled floor, as natural oil penetrates inside the wood. Scratching which arises during the natural process of usage directly affects the wood structure and is less visible.

Oiled floors are even recommended for rooms which are used intensively, and for commercial premises such as hotels, restaurants, theatres or concert halls, as well as places where there are animals and a risk that the floor will be scratched.

An oiled floor gives customers the satisfaction of being able to repair the floors themselves quickly and easily, e.g. spot repairs of scratches by sandpapering. After this treatment, the floor just has to be re-oiled.

In a shop or mall where thousands of people daily cross the floor, it takes just one night to enhance the appearance of an oiled floorboard. Just coat it with oil in the evening and it will be ready for use in the morning.

Lacquered floors are easy to maintain. A wide selection of lacquered coatings of various polish enables a floor to be matched perfectly to any interior. Professional lacquer, the winner of the Swedish quality test, is marvellous for heavily used rooms in public amenities.

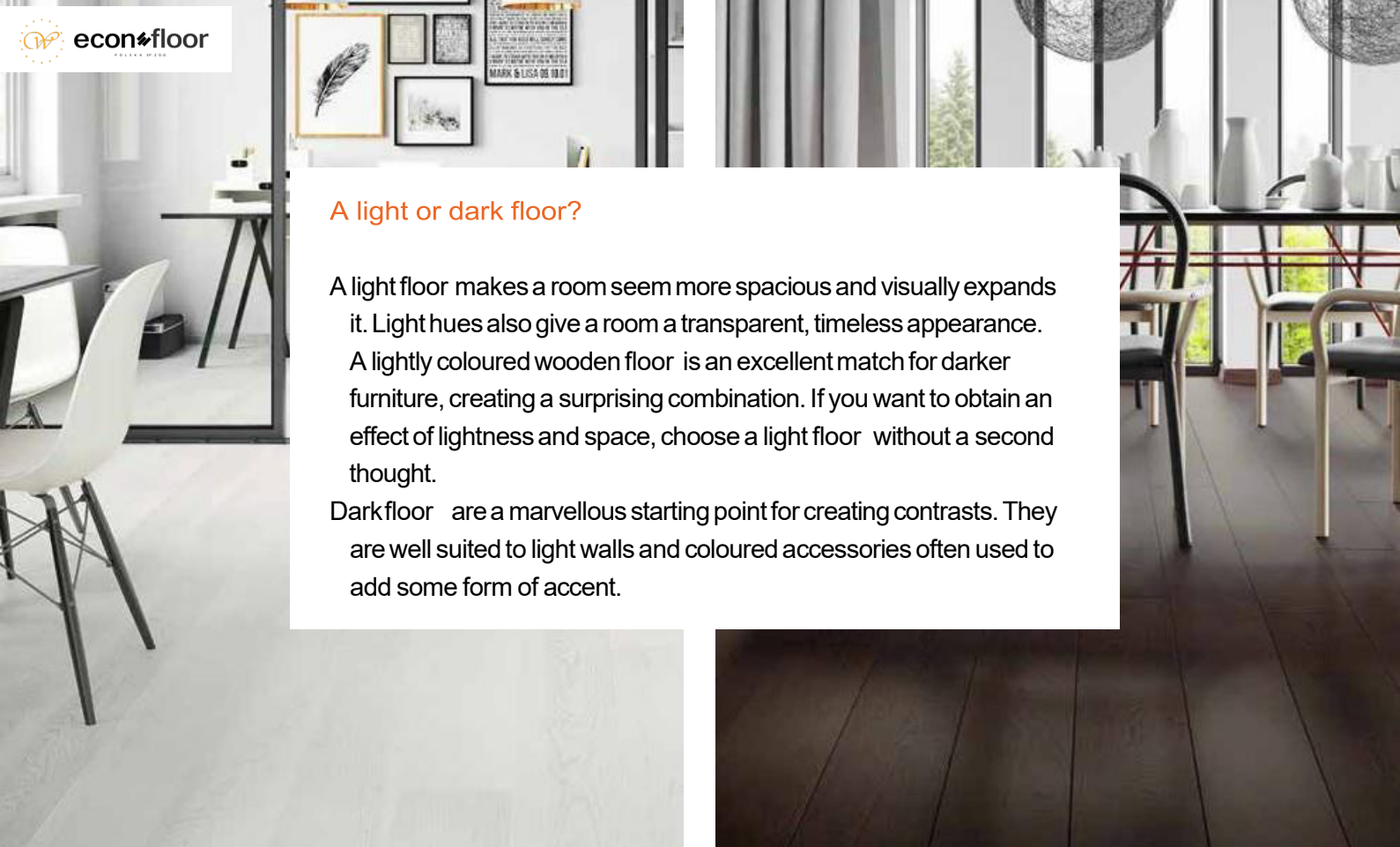


Comparison of oak floor finishings in lacquer and oil

Lacquer

Oil

A lacquered floor may differ from an oiled one in its degree of gloss.



### A light or dark floor?

A light floor makes a room seem more spacious and visually expands it. Light hues also give a room a transparent, timeless appearance.

A lightly coloured wooden floor is an excellent match for darker furniture, creating a surprising combination. If you want to obtain an effect of lightness and space, choose a light floor without a second thought.

Dark floor are a marvellous starting point for creating contrasts. They are well suited to light walls and coloured accessories often used to add some form of accent.

## Practical benefits of a econfloor polska Sp.z.o.o

- 100% natural – 100% wood,
- a ready floor – factory finished: lacquered or oiled, no additional investment\*,
- the floor can be laid in two ways: by the floating method or by gluing it to the subfloor,
- assembly: simple (can be done independently), clean (no mess in the home), very quick, without gluing the joints, no need to scrape down immediately after laying or to lacquer the surface,
- the floor is ready for use immediately after laying,
- the wooden floor can be combined aesthetically with a ceramic floor,
- more efficient floor heating – the optimum thickness of the floorboard means better heat conductivity,
- a warm, safe and healthy floor,
- low cost of laying the floor – compared to a traditional parquet,
- the aesthetics of the laid floor – perfect appearance thanks to the stability of the cross construction,
- the floor can be chosen according to how intensively it will be used,
- the thickness of the surface layer enables renovation to be carried out on the floor,
- it can be dismantled and re-laid somewhere else,
- care: an easy floor to keep clean,
- it can be laid on underfloor heating even when the heating is electrical,
- the floor causes no allergic reactions, regulates the room's micro-climate, does not attract static like laminated panels



\*In the case of floors coated with natural oils, Wax Care Plus is advised to be applied to the surface after laying.



## Wood type

The types of wood used to produce the surface layer of floorboards are European or exotic deciduous wood. Every type of wood has a unique character, colour scheme, grain pattern and hardness. These are the characteristics which should guide you when choosing a wood for a floor.



oak



ash



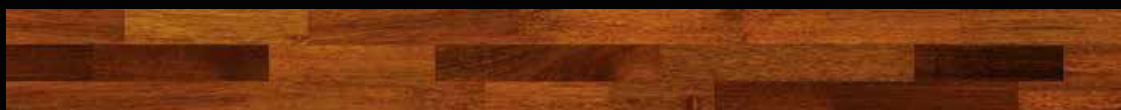
beech



sapele



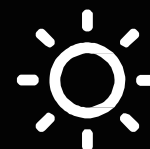
jatobá



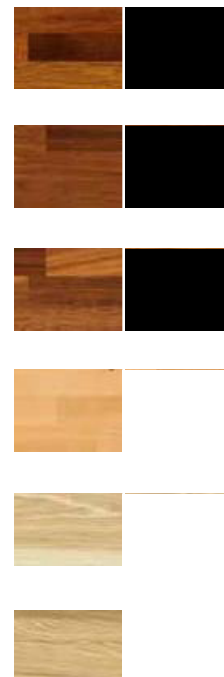
merbau



# Change in the appearance of wood due to the effects of light



Wood is a natural material, and the intensity of its original colour changes under the influence of sunlight. The change in colour of the wood surface takes place over time, and usually becomes permanent after about 12 months. This change depends on the type of wood and intensity of the light. Individual types of wood are subjected to a greater or lesser degree to the colour change process, the speed of these changes also varies. Light wood types, such as ash or birch, take on a yellow colouring, while the exotic species merbau and sapella darken considerably. These changes are a natural process and are unavoidable. No care agent for lacquered or oiled wooden floors will prevent this process.



When choosing a floor, pay attention to how the sunlight will fall in a given room. Wood types which easily change colour should not be used in rooms with the greatest amount of sunlight, because discolourations arise where sunlight falls, e.g. under rugs and furniture, in shaded places. The wood types most sensitive to changes in colour are the exotic species, so after laying a floor from such a wood, try to ensure that the sunlight affects the floor equally and evenly in the whole room.

Floor users who are aware of this phenomenon will not be surprised by changes appearing on their floor.

**Seller! Make the customer aware that the sample book at the sales point may change the colouration not only due to sunlight, but also from the oxidation of the oil used in finishing the product.**

## Top layer classification

A wooden floor is a **natural product** in which every floorboard has a **unique appearance**. When deciding to buy one, the customer must be aware that the colour and intensity of the characteristics of the wood may differ from the sample book at the sales point. In order to reduce the variation of individual floorboards, has divided them into classes. This kind of selection of wood is simply a way of sorting the floorboards systematically according to strict guidelines. Customers thus have the possibility to choose the class of floor when buying. It is important to inform them that the classification of the surface layer of the floor only concerns the appearance of the floor and **does not affect its quality**.

The fewer natural properties of wood, the higher the price of the product. This is because the amount of raw material from which very similar floorboards can be obtained is less and must be more painstakingly selected. At the other extreme are products with a very rustic appearance whose properties, such as core strips, are unique. For this reason the price of these floorboards will be similar or even higher than that of top class floorboards.



single plank

**SELECT**



Small amount of natural wood characteristics:

- similar colouring • sporadic pin knots • no sapwood
- no cracks • silver grains acceptable.



Select



single plank

**FAMILY**



Minor amount of natural wood characteristics:

- varied colouring • small diameter healthy and filled knots
- sapwood appears on the edges of one- or two-sided floorboards
- small filled cracks.



Family

single plank

**VARIOUS**



Any amount of natural wood characteristics:

- any colour • healthy and repaired cavities of greater diameter than the Family class
- sapwood appears freely on the floorboard surface
- repaired cracks the same as the Family class.



Various

single plank

## COUNTRY



Large amount of natural wood characteristics:

- any colour • healthy and filled knots of greater diameter than the Family class
- sapwood appears on the floorboard surface
- filled cracks the same as the Family class.



Country

single plank

## VINTAGE



Very large amount of natural wood characteristics:

- distinct pattern in the vicinity of the core • any colour • healthy and filled knots of the same diameter as the Country class
- sapwood appears freely on the floorboard surface
- filled cracks the same as Country.



Vintage



3-strip

## SELECT



Small amount of natural wood characteristics:

- similar colouring of strips
- sporadic pin knots
- no sapwood
- no cracks.



Select

3-strip

## FAMILY



Minor amount of natural wood characteristics:

- varied colouring of strips
- small diameter healthy and filled knots
- sapwood appears on the edges of strips
- small filled cracks on strips.



Family



3-strip

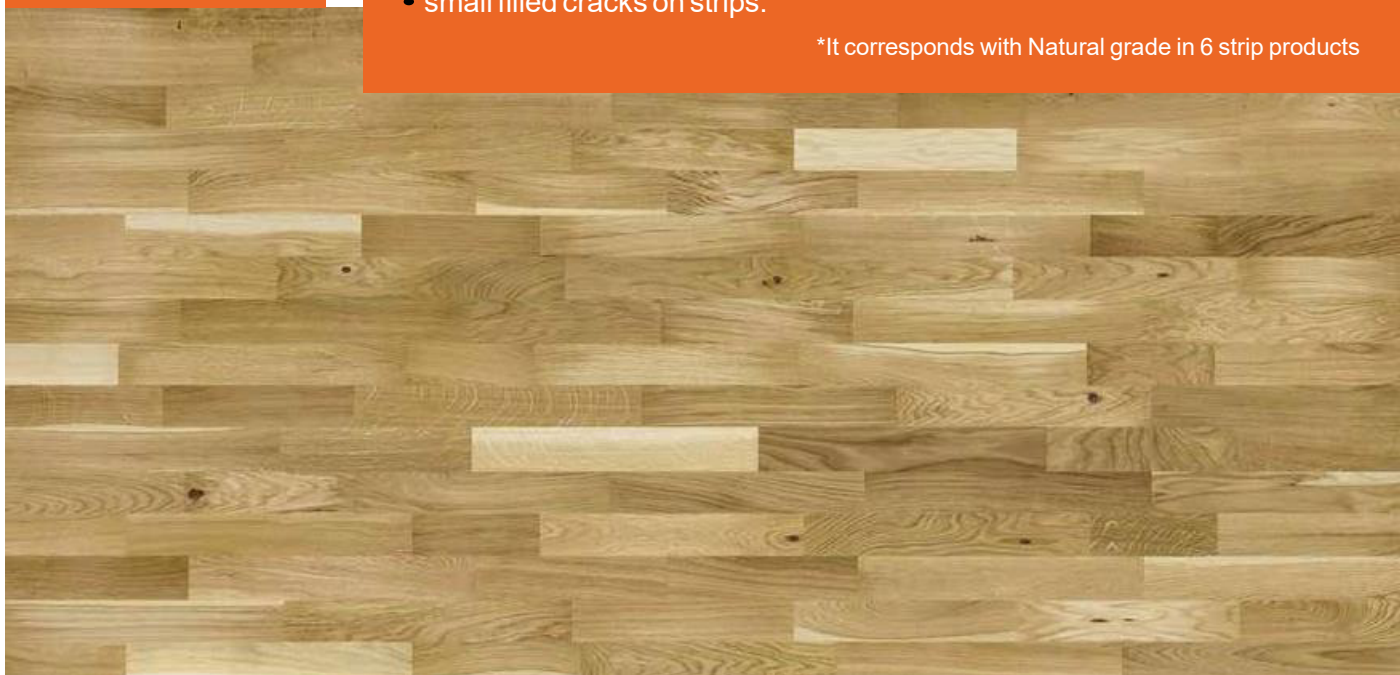
**STANDARD\***



Large amount of natural wood characteristics:

- permissible strips of higher classes: Select, Family
- any colour of strips
- medium diameter healthy and filled knots (larger than the Family class)
- sapwood may appear on the entire surface of the strip
- small filled cracks on strips.

\*It corresponds with Natural grade in 6 strip products



Standard

3-strip

**VARIOUS**



Any amount of natural wood characteristics:

- any colour of strips
- medium diameter healthy and filled knots (larger than the Family class)
- sapwood may appear on the entire surface of the strip
- small filled cracks on strips.



Various

# Warranty conditions

The Warranty Card is available for download

The warranty applies to wooden floorboards with a three-layered construction.

The validity period of the warranty runs from the purchase date and is:

- 30 years for the Senses collection,
- 25 years for the Tastes of Life collection,
- 20 years for other catalogue Products (Pure, Decor and Life catalogue series),
- 5 years for non-catalogue and catalogue sale items,
- 5 years for Products (regardless of the collection or series) installed in public facilities in the understanding of the provisions of the Ordinance of the Minister of Infrastructure of 12.04.2002 regarding the technical conditions which should be met by buildings and their locations (Journal of Laws 2002, no. 75, item 690).

The warranty covers:

- the durability of floor surface layer when used normally and as intended,
- structural stability of individual elements,
- quality of the finish of parts (dimensions, matching of parts) in accordance with standard EN 13489:2004 "Wood Flooring - Multi-layer Parquet Elements".

