



# Facts

## about Rappgo Wide Plank Wooden Flooring

The wear layer of Rappgo's wide plank single strip flooring boards is always taken from the heartwood of the tree. The vibrant and original structure of the wood is best represented there. The surface is varnished or oiled.

The middle layer reduces the boards natural tendency to swell or shrink. For 10.5 and 14 mm thick pine boards, with a width of 185 mm, we use a transverse layer of solid wood. For 14 mm thick boards of all wood types and a width of 130—205 mm, plywood is used. For 23 mm thick boards of all wood types and a width of 194—205 mm, a special flooring quality chipboard is used.

The bottom layer of the board is called the barrier layer, the task of which is to neutralise any tension in the wearing layer and provide the whole composite construction with a greater level of stability.

### THE ADVANTAGES OF A MULTI-LAYER CONSTRUCTION

Do you know the functional difference between a multi-layer board and a solid wood board? It's a question of stability in form and shape. Wood is a living material and from a technical point of view, is hygroscopic (i.e., it readily absorbs moisture from the air), which means that the wood strives to maintain the same level of relative humidity as the ambient air. With a high ambient humidity level, the wood swells and with low ambient humidity, it shrinks. This movement, which is natural for wood, often creates gaps and cracks in solid wood during the heating season.



To minimise the occurrence of cracks and gaps and achieve a form-stable construction, taking, for example, cleaning and maintenance, into account, we have developed a three layer construction for wide plank flooring boards. By gluing three different layers of wood together, with the different layers at an angle of 90° to each other, a stable construction is achieved and the natural movements of the different layers is minimised. The result is a board that is stable in form with a minimum of gaps between the boards.



Multi-layer board several layers.

The illustrations above show the principle differences between solid flooring boards and Rappgo's wide plank flooring

boards, with their multi-layer construction.

The solid board can tend to become convex in shape so that it is raised in the middle of the board or becomes concave so that it dips in the middle and gaps occur along the



longitudinal joints. This tendency to become either convex or concave is a huge disadvantage when the boards need to be sanded. An unnecessary amount of wood must be sanded off to achieve a flat surface to the boards. It is consequently something of an exaggeration to state that solid wood boards can be sanded more times than a multi-layer board.

A multi-layer board is stable in shape and form, which reduces the risk of becoming concave or convex in shape, so that the board remains flat. The floor can be sanded without an unnecessary amount of wood being sanded off. A multi-layer board can therefore be sanded a number of times, precisely like a solid board.



Solid flooring board—solid wood, right the way through

A solid wood flooring board is wood, right the way through. This used to be the only type of flooring board available. A multi-layer board is built up of three different layers, which provides certain technical advantages in terms of form stability.

Our range		Pine	Yellow Pine	Spruce	Larch	Birch	Oak	Beech	Maple	Ash	White Ash	Merbau	Walnut
Rappgo Original		●	●	●	●	●	●	●	●	●	●	●	
Rappgo Life							●	●					●
Rappgo Rough							● <sup>2)</sup>						
Rappgo Coffee							●			●			
Rappgo Nautic							●				●	●	
Rappgo Nordic		●											
Surface finish	Untreated	●	●	●	●	●	●	●	●	●	●	●	●
	Varnished	●		●	●	●	●	●	●	●	●	●	●
	Natural oiled	●		●	●	●	●	●	●	●	●	●	●
	White oiled				●	●	●	●	●	●	●		
	Lyed	●		●									
	Lyed and white oiled	●	●	●									
	Brushed	●		●	●		●						
Wearing layer mm 3,6–4		●	●	●	●	●	●	●	●	●	●	●	●
Thickness mm	10,5 <sup>1)</sup>	●											
	14	●	●	●	●	●	●	●	●	●	●	●	●
	23	●		●	●		●						
Width mm	130/140						●	●			●	●	● <sup>2)</sup>
	174/185	● <sup>1)</sup>	●			●							● <sup>2)</sup>
	194/205	●		●	●		●	●	●	●	● <sup>2)</sup>	●	● <sup>2)</sup>
Length mm	1800	● <sup>3)</sup>	●	●	●	●	● <sup>3)</sup>	●	●	● <sup>3)</sup>	●	●	●
	2000	● <sup>3)</sup>	●	●	●		● <sup>3)</sup>		●	● <sup>3)</sup>	●	●	●
	2400	●	●	●	●	●	●	● <sup>4)</sup>	●	●	●	●	●
Weight per m <sup>2</sup> approx.	10,5	5 kg											
	14 mm	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg
	23 mm	14 kg		14 kg	14 kg		14 kg						
Brinell value, (hardness) approx.		1,9	2,3	1,2	2,2	2,5	3,7	3,4	4,8	3,6	3,6	4,9	3,4
Suitable for under-floor heating		●	●	●	●	●	●			●	●	●	●

1) Only Nordic quality width 185 mm.w

2) Due to availability.

3) Only with click system RappLoc.

4) Beech only in 140 mm width.

#### WOOD TYPE HARDNESS

Different types of wood, by their very nature, have different degrees of hardness. Hardness is measured in accordance with the Brinell method – the Brinell EN 1534-2000 standard. The measurements are carried out by pressing a metal ball, 10 mm in diameter, against the finished surface of the floor plank, with a pre-determined force, 100 kg, and for a certain period of time. The indentation that remains is measured and defined in accordance with the standard and is called the Brinell value. This value is an average value of a several measurements. The higher the value, the harder the flooring.

With reservations for changes of the assortment.

## EXAMPLES OF OUR DIFFERENT SURFACE TREATMENT METHODS



Oak, untreated



Oak, varnished



Oak, natural oiled



Oak, white oiled



Oak, brushed, oiled



Pine, untreated



Pine, varnished



Pine, natural oiled



Pine, lyed



Pine, lyed, white oiled

Examples of other treatments/methods we use are staining, pigmentation, thermo-treatment, etc

## UNDER-FLOOR HEATING UNDER WOODEN FLOORS

It is becoming increasingly common to heat rooms or even complete homes by means of under-floor heating. As houses become better and better insulated the possibility of installing a low-temperature under-floor heating system becomes a reality.

When it comes to wooden flooring, a water-born system (as opposed to electrical) is most suitable.

Generally speaking, electric under-floor heating is not recommended for wooden floors. It is more difficult to regulate the temperature of electrical systems so that it is difficult to completely eliminate the risk of cracks, the loosening of veneer and similar.

Should you select an electrical under-floor system make sure that the supplier or manufacturer of the system guarantees the suitability of the system for wooden floors.

You must also carefully follow the floor laying instructions that we at Rappgo include with every floor supplied, which will inform you about the types of wood that do not function well in conjunction with under-floor heating. This particularly applies to beech and maple. These woods shrink and swell more than other types of wood, which can cause damage to the floor. Such damage is not considered to be a manufacturing fault and cannot be accepted as cause for a claim. We therefore do not recommend beech and maple in conjunction with under-floor heating.

**Whenever underfloor heating is selected, it's most important to not exceed 27 degrees C on surface level (not even under carpets or furnitures). It's further most important that the RH\*) is kept between 30–60% at any time.**

*If you carefully follow our floor laying instructions, where we supply more detailed information relating to under-floor heating, our flooring will function perfectly satisfactorily with a suitable under-floor heating system.*

\*) relative humidity

## INDOOR CLIMATE

A good indoor climate is essential for both your health and your floor. With a good indoor climate, relative humidity should be somewhere between 30–60 %. During the heating season, our heating systems reduce the natural humidity of the air of our indoor climate. Particularly in the winter time, this reduction in humidity can be so great that the humidity sinks below the recommended levels. Open log fires and stoves also speed up the de-humidification of the indoor climate.

Apart from the fact that a low air humidity affects the mucous membrane and can lead to different forms of bronchial problems, it also dries out our wooden floors and can, in the worst scenario, lead to cracking of the wear layer.

To counteract low air humidity it is possible, using different methods, such as air humidifiers and with green potted plants, to supply the air with humidity during the driest periods of the year.

## CARE AND MAINTENANCE OF RAPPGO FLOORING

Stop dirt at the entrance! If possible, make sure that there is a shoe scraper outside and an effective door mat inside the main front door and preferably, outside the front door too. This applies to all types of floors. Large and specially designed shoe scrapers should always be on hand when it comes to public premises, which should thereby entail lower cleaning and maintenance costs.

Fit furniture and table legs with protective pads that protect the floor against scratches. Wheels on office chairs, for example, cause a great deal of wear on unprotected flooring. Use an acrylic sheet, for example, to protect the floor in such environments. Lay a soft rug, blanket or similar, under heavier furniture when moving it on the floor. If at all possible, avoid walking on the floor with stiletto heeled shoes.

## VARNISHED RAPPGO FLOORING

Rappgo wide plank flooring is varnished at the factory with a formaldehyde-free, UV hardened acrylic varnish. This means that your floor is effectively protected against the majority of possible occurrences.

The surface repels dirt and it is normally sufficient to vacuum regularly and to wipe the floor now and then with a damp cloth or floor mop. You can also add a small amount of mild, ammonia-free, synthetic cleaning fluid, with a maximum pH value of 8, to the water. Do not use products that contain wax on varnished surfaces. Be careful to ensure that you wring out the cloth or mop well. Damp wipe only, that is to say, after wiping, the floor should dry within a maximum of 30 seconds. **Never use wet cleaning methods on a wooden floor.** Protect the wooden floor from all forms of water and spillage – immediately wipe up and dry any spillage. In areas where there is a risk of water on the floor; for example, in the kitchen, halls and similar areas, we recommend that an extra coat of varnish be applied once the floor has been laid.

## NATURAL OILED RAPPGO FLOORING

It is important to differentiate between wooden flooring treated with UV hardened oil and flooring treated with traditionally applied natural oil.

With the former (UV hardened oil) a mixture of varnish and oil is used, which gives a thin layer that merely lies on the surface of the board. The oil does not permeate into the wood and can be more likened to a varnished floor in this respect.

Should a board be worn and in need of repair, it will be difficult to achieve the same appearance or nuance on the repaired area

as the remaining area of the floor. It will have a tendency to appear somewhat patchy.

At Rappgo we oil our flooring in the factory, using only traditional oiling techniques and natural oils.

The oil is allowed permeate into the wood in order to provide the required protection. At the same time, a beautiful depth to the grain of the wood is achieved, which provides a pleasant, natural feeling of wood.

By means of traditional oiling techniques the best conditions are created should simple improvements be required (such as damage repair) as well as with maintenance oiling.

Rappgo uses a vegetable oil with linseed oil and sunflower oil as the base. The oil has been tested and approved by the German "Institute of Building Biology + Ecology Neubeuern (IBN)".

In order for an oiled floor to last for many years to come, it is important to treat the floor immediately after it has been laid. **In both public and domestic environments we recommend that, immediately after laying, the floor should be treated with maintenance oil. Thereafter, the floor should be treated with soft flooring soap.** With the correct treatment, the floor will be much easier to clean and at the same time it will be more hard-wearing, as the soft soap, apart from cleaning the floor, builds up an invisible wear layer that protects the surface of the wood. This makes the floor much more resistant to dirt.

## DIFFERENT FLOOR LAYING ALTERNATIVES

### FLOATING (RAFT) FLOOR. FOR 10.5 MM AND 14 MM BOARDS

By gluing the tongued and grooved boards together, along the grooves, the floor can be laid as a "floating raft" on a covered load bearing surface. It is extremely important that the recommended air space is left both length and width-wise. The floor will shrink and swell most along its width (i.e., at right-angles to the grain/length of the board). Never lay this type of floor more than 8 metres in width and then leave a 12 mm expansion space at each side. Calculate on an expansion space of 1.5 mm per meter of width. Longitudinally, the calculation for this expansion space can be somewhat lower.

*Our 14 mm flooring with plywood core, can also be screwed down to the underfloor. In that case, you only add glue to the board end.*

### NAILED OR SCREWED FLOORING. FOR 23 MM BOARDS

Such boards are nailed or screwed through the tongue of the board down into a batten or joist below. The battens or joists should be at centres of a maximum of 60 cm. Do not glue along the lengths of the boards and do not glue the boards to the battens or joists. However, all board ends should be glued. It is not necessary for joints to lie on the battens or joists. Note though, two adjacent boards should never have joints in between the same battens or joists.

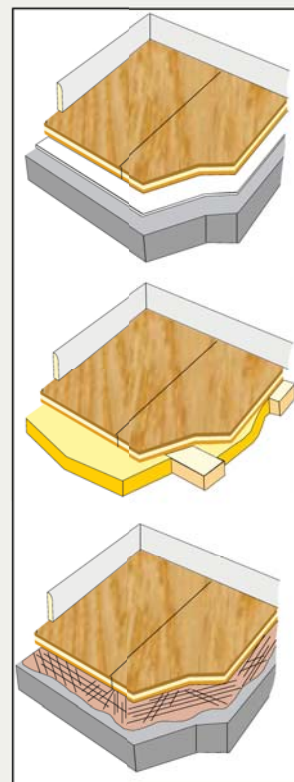
### GLUED DOWN FLOORING. FOR 10.5 AND 14 MM BOARDS

The method of gluing down flooring to the underlying surface is often used when larger floor areas are being laid, where fewer expansion joints are required and/or to minimise the sound of walking on the floor. It is important that the underlying surface has a relative humidity of a maximum of 60 % and that the boards themselves have a humidity quotient of approx. 8 %.

The whole of the underlying surface should first be treated with adhesive filler. Thereafter, the flooring boards are glued down and pressed onto the underlying surface. This method, in part at least, counteracts the wood's natural movement during different climatic conditions and it is also possible to lay a 10 metre wide floor without the necessity of expansion joints.

*Store the flooring boards in dry, unopened packaging, for at least 48 hours in the environment where they are to be laid. Open the packages, one at a time, as required, during the laying procedure.*

*For further information relating to laying, under-floor heating, stain removal, etc., please read the comprehensive instructions supplied with all deliveries. Information can also be found on our web site, [www.rappgo.se](http://www.rappgo.se) .*



#### THE COLOURS OF DIFFERENT TYPES OF WOOD IN PRINT AND ON SAMPLES

Due to the fact that wood is a living material, where each flooring board is unique, no photograph or sample can give an exact impression of colour, grain, knots or nuance. We hope that our brochure has given you some inspiration and a little more general awareness of the possibilities of a wooden floor.

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