Real Oak Floors guide to Wooden Flooring

Wood flooring is a beautiful thing to have in your home. Most floors will last a lifetime if laid properly and maintained regularly. To ensure you have all the information you require before choosing your floor and deciding on the laying methods we have prepared this simple guide From choosing the best floor for your home, installing with underfloor heating or moisture problems to fitting tips and maintaining your floor.

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1. HOW TO CHOOSE YOUR WOOD FLOOR

There are a number of points to check when choosing new wood floors and some of these will depend on the type of floor available to you:

1. What is your Sub Floor (existing floor)
2. Do you have under floor heating?
3. Is the room a south facing conservatory or basement (below ground level)?
4. Are you fitting in a bathroom or kitchen?

SUBFLOOR

Your subfloor is very important as this will need to be flat, dry and suitable for laying a wood floor on.

For **timber floor subfloors**, you must ensure that your floor is flat and that it is free from any type of woodworm or rot. All boards should be securely screwed or nailed down before laying a new wooden floor otherwise boards will start to creak. When you have a timber floor you can nail, glue or float your wood floor (glue tongue and groove together and use an underlay between the two floors)

Chipboard and Plywood – Please note that chipboard is not strong enough to nail a wood floor down on (it is fine for gluing or floating). The chipboard easily disintegrates over time therefore the nails in the floor would work loose. Ply board is suitable and can hold nails. Marine ply is recommended for use with a wooden floor. For **laying onto joists**, you need to check that these are also free from woodworm or rot and that they are level enough to lay boards onto. Most of the time the existing floor will simply have been pulled up so the joists will be ready to have the new floor laid on top. However you must ensure that all nails have been either pulled out or hammered in fully so they do not protrude. When laying onto joists it is worth remembering that all the solid wood floors and structural engineered floors come with tongue and groove on all 4 sides. It is not necessary to have the ends of the boards finishing on the joists like the original pine floors. The strength of the boards coupled with the tongue and grooves ensure that the flooring is sturdy without finishing on the joists. When laying onto joists you need to nail the floors down.

For **concrete floors**, When you have an existing or old concrete floor you need to ensure that the floor is flat and is dry. The best way to check the concrete floor for moisture is to use a moisture meter which can be hired or purchased. Existing older concrete floors will not have a damp proof course laid below therefore it is imperative to check for moisture as the concrete can look and feel dry but may still be carrying too much moisture for the wood flooring. The floor also needs to be level – the amount of height difference allowed in the concrete is + / - 2mm per square metre. There should be no more than this if gluing the flooring down direct, however if using an underlay there is more scope for height difference that can be absorbed by the underlay (NB. too much unevenness in floating floors can cause a bouncy floor). A Damp proof course is recommended to be laid over the concrete to ensure that there is no moisture issues after your new wood floor has been laid. For a newly laid concrete floor you need to follow the following drying times – 1” per month or 1mm per day. The concrete will feel dry a long time before this but it will not be safe to

lay as there will still be too much moisture for the wooden flooring. A damp proof course should have been laid below the concrete – if this is in place, no further dpm will be needed, otherwise a DPM is recommended to be laid over the concrete.
Asphalt or Bitumen floors are generally bitumen floors. Asphalt is a mixture of bitumen and minerals and therefore cannot be glued or nailed onto. Asphalt is often mistaken as the terminology in Europe is different to USA. In USA asphalt is used to tarmacadam the roads however this is a different product to asphalt in the UK. The asphalt creates a dpm so no moisture can come through so it does not need to be checked for damp if it is in good condition. However it is best to check for cracks and any areas that are uneven as this would need to be levelled and cracks re-covered or checked for damp. You can float a wood floor over asphalt floors. If you have an old parquet floor which has been glued down with bitumen, you would need to remove all existing bitumen before gluing any loose blocks back down.

Existing **Tiled** floors – whether they are quarry tiles or ceramic tiles are often stuck down very sturdily. Where possible it would be best to take the tiles up as you would have a much wider choice of installation methods, however this is a very messy and time consuming job. If laying over tiles the following must be taken into consideration. The floors need to be checked for damp – especially with quarry tiles as moisture levels can be high. If the tile surface is uneven, they can be overlaid with plywood to even them out – these can be glued down directly to the tiles. If using 18mm ply the new wooden flooring can be glued, nailed or floated using an underlay. It is also recommended to use a damp proof membrane where possible to ensure no damp comes through to the wooden floor. If you are floating the floor and the tiles are even, it is possible to use a dpm sheet, underlay and float the floors without using ply.

If the subfloor is not suitable, then consider laying ply throughout the area to level it off (18mm ply is needed when the floor is very uneven, although a thinner ply can be used) or lay the floor as a floating floor using underlay.
If a concrete floor is uneven, consider using a self levelling compound or a screed to level off, alternatively you can ply out the area as above or lay the floor as a floating floor using underlay.
If you need to apply a damp proof course this can be done either by a dpm sheeting or by using a DPM epoxy resin spread over the floor.

Please note, for existing timber floors, the new boards must be laid at 90 degrees from the existing floor – if you want to lay the boards in the same direction then you must ply out the area first. This creates a sturdy floor that cannot move or be prone to creaking.

UNDER FLOOR HEATING

There are two types of underfloor heating available for use with wooden floors – the wet pipe system (where hot water is run through pipes in a screed / base in the floor) or the electric system – which comprises either the carbon mats which lay over your sub floor or the cable kit which needs to be laid within a screed. The simplest one to fit if you are deciding to have underfloor heating is the carbon mat system. The mats are laid out over a 6mm depron insulation board and connected to a thermostat on the wall. The radiant heat can be a primary or secondary heat source (except in conservatories where it is recommended to have an alternate heating system for very cold days). It comes in a 130watt for standard installation or

160watt for colder areas such as conservatories.
If you have, or are going to have under floor heating it is recommended to use an engineered board rather than a solid. This is due to the stability in the engineered boards. As the boards are made up of either blockboard or cross ply backing which stops the oak from moving with the fluctuating temperatures and humidity. Any engineered board (with any type of real wood top layer) can be used with underfloor heating.
If a solid board is to be used, the width of the board should not be more than 5 times the thickness of the board – however this still does not guarantee a problem free floor as movement will still be present in these boards.
The reason for this is due to the movement from solid boards which can affect the floor, causing cupping and warping of the boards. Real Oak Floors cannot guarantee any solid floor used with under floor heating.

SOUTH FACING CONSERVATORIES AND BASEMENTS

As with under floor heating, there is a great level of difference with the temperature and humidity in conservatories and basements, therefore an engineered board is recommended for these areas.

BATHROOMS AND KITCHENS

Wood floors can be put in bathrooms and kitchens but please note the following advice:
For **kitchens**, the best floor to use is an unfinished floor which can be sealed once laid – this will ensure that the joints are protected better from spills and splashes. However an oiled floor can be used but it would be best to apply a second coat of oil once laid to ensure the joints have more protection. – for kitchens in regular use or with little ventilation an engineered floor is recommended due to the humidity.
For **Bathrooms**, an engineered floor is recommended and it is also best to lay an unfinished floor which can be sealed once laid – this will ensure that the joints are protected better from spills and splashes. Wood floor is not recommended for use in bathrooms where there are small children (where there is a higher tendency for splashes) and it must be noted that the life of the floor is not as great in bathrooms due to the moisture. Bamboo floors are better suited for bathrooms as they do not expand or contract with moisture.

2. WOOD FLOORS – BOARD TYPES AND FINISHES

ENGINEERED AND SOLID BOARDS

One of the most commonly asked question is "which boards should I get, engineered or solid?" Generally the answer depends on the type of room you have – see section 1 for specific details.
Engineered boards have come a long way in the last few years so it is now impossible to tell whether it is a solid flooring or engineered flooring once laid. Gone are the days when the engineered boards are all three strip boards and very thin – there is now more choice than ever before in the sizes and finishes of the boards.

Solid boards are suitable for most situations with the exception of under floor heating, south facing conservatories, below ground rooms (ie cellars) and bathrooms. In all of these circumstances, engineered boards are recommended. Solid boards are made up from just one piece of timber throughout – just as its name says. All the solid boards now come with tongue and groove on all 4 sides and these boards can be bevelled or unbevelled. The best installation methods for solid boards is to either nail down, glue down to the sub floor or stick down using either adhesive underlay or the underlay with gaps for adhesive to glue down. Solid boards are usually planks however it is possible to get solid boards made with 2 strips. 3 strips and "finger jointed" which basically means that the width of the plank is made from just one plank however there will be a number of these end to end to make a longer plank.

Solid wood boards are the original boards and can be sanded down time after time. They can give a more rustic look (especially unfilled boards) as the knots can go right through the boards. The solid boards can also be adapted to make steps and other accessories without the worry of the ply showing at the edges. The solid wood floors move more than engineered boards so you will find that when the central heating is on in the house and the humidity is lower, you will see gaps appearing between the boards. However once the heating is turned off and the humidity is normal, these gaps will disappear.

The **engineered boards** are more sturdy and are less prone to movement due to the structure of the board. They are made up of a layer of real wood glued down onto a blockboard or cross ply backing – usually between 10 – 22mm thick. The layers of real wood vary from 1mm – 8mm (the usual size is 4 – 6mm).
The backing is stable and does not move with differing humidity or temperatures. With the thinner layer of real wood on the top, the ply stops the real wood from moving, therefore preventing it from cupping or warping.
The thicker (15 - 21/22mm thick) engineered boards can also be nailed directly onto joists making them just as adaptable as the solid wood.
The boards are available in planked wood, two strip or three strip. Due to the stability the widths of the boards can be wider than the solid wood – currently we have available up to 450mm widths in the engineered board which can be laid with the safety that they will not have movement over time.

There is a myth with engineered floors that they are not as long lasting as solid boards as they cannot be sanded down as much as the solids. However it is only possible to sand down solid boards to the start of the tongue and groove which is

usually around 5-7mm from the top of the board. Therefore the engineered boards with a 6mm can be sanded the same number of times and even the 4mm have almost as long a life span.

UNFINISHED, OILED OR LACQUERED?

The finish of the board is purely a matter of choice and does not depend on the room type.
All the finishes available are hard wearing and durable, it is only the final look that changes:

Pre-Lacquered Floors
Boards which come pre-lacquered have been factory finished with around 5 coats of lacquer to give a hard wearing and perfectly smooth finish. Most of the lacquers are a satin finish however there are some matt lacquers now available. No maintenance needs to be done on these floors – only the usual cleaning.
Lacquer is another word for varnish – they are the same finish. Lacquer sits on the top of the wood floor giving it a protective coat. The sheen on lacquered floors can vary from high gloss to a matt – almost oiled look floor.

Oiled Floors
The oiled floors have a much more natural appearance. The oil soaks into the floor leaving the grainage showing through so the boards feel like natural wood. The oiled floors need maintaining around once per year. One bonus of oiled floors is that if there is a particularly nasty stain in the floor, you can spot sand it out and re-oil which is not possible with pre-lacquered boards. The yearly maintenance on the floors is required to keep them in pristine condition – if this is kept up then they will never need to be fully sanded down as spot sanding will keep the marks out.

Unfinished Floors
When you purchase the floor unfinished it gives you the widest choice of finish – you can sand it down once it is in place (if required), then you can choose to stain it, oil or lacquer. The beauty of having the seal of your choice also means that when you need to spot sand an area and refinish, you will be able to match the finish perfectly as you have the original finish.

Stained Floors
A lot of the stains can be oiled or lacquered over the top, however the woca oils are an oil and colour in one, meaning that when the stain is on, the boards are finished. There is a large choice of stains to use on the floor boards from white washed finished to a very dark antique look finish. Purchasing an unfinished floor gives you the option of staining the boards once the floor is laid so you can check that the colour is correct for the environment.

Brushed floors The brushing process of wooden floors gives a much rougher feel to touch. It enhances the grain more than the normal sanded floors. The effect is similar to wire brushing the wood floor along the grain – it leaves a grained board which will take a much deeper stain than a similar sanded floor.

Aged Flooring
These boards have been aged by using distressed boards - usually with dents, chips and a generally "used" look to them. They are not perfect therefore they look as if

they have been in the house for a long time. These boards are normally oiled rather than lacquered as this gives a more natural and original look. The edges of the boards are often uneven bevelled for an authentic look.

Smoked or fumed Oak floor boards give a darker look with lighter streaks - generally giving a darker, older look which can be used with "distressed" boards or just on its own. These also give the appearance of the original floorboards - originally found in barns where the cattle had been - the ammonia from the animals urine turned the oak a darker colour which gave it the original look. These days a more modern "fumed with ammonia" or oven baked process is used to smoke the boards!

Thermo Treated flooring – Thermo flooring is similar to smoked oak as it is treated using a heating process which colours the wood. It turns the wood a different colour to smoked oak – usually more red-black than brown-black.

Brushed and Burnt oak is made by literally burning the top of the board, giving an antique look and darker colour to the boards. The boards have firstly been brushed to give a rougher feel to sanded boards.

FITTING METHODS AND THE TOOLS YOU WILL NEED

Handling and Storage

It is essential that you unload your wooden flooring in dry weather – never unload in the rain as the moisture could cause the planks to warp. Your wood flooring should be stored n a dry place at room temperature and if possible should be raised off the ground. You should store your wood flooring in the room that it will be laid for a minimum of 1 week for solid oak so that it has time to acclimatise to the humidity and temperature of the room. Engineered oak does not require acclimatising therefore it does not need to be left.

Preparing to lay your flooring

The most dangerous enemy of a hardwood floor is moisture. You must ensure that the sub floor is dry. This is especially true when laying a hard wood floor in a new build property where concrete floors will still contain a high level of moisture. Your solid wood flooring should have been allowed sufficient time to acclimatise to the conditions of the room in advance of installation.
Any timber – existing flooring, joinery or battens – should have a moisture content of no more than +2% above the moisture content of the new floor. It is advisable when laying onto existing timber that you ensure it is treated against fungal or insect attack. Concrete or screed should contain a damp proof membrane and have a moisture content of no more than 5%. This is in practice almost impossible to achieve and so additional precautions should be taken to prevent moisture reaching the new floor.

Concrete or screed will take approximately 1 day per mm thickness to dry or 1month per 25mm of thickness to dry naturally to a moisture content of 5%. The deeper the concrete slab the longer the period – for example a 150mm slab will probably take around 6 – 8 months to dry back to a safe moisture level.

The ambient conditions in the room should be around 40 – 50% humidity and a temperature of 15 – 25 degrees at the time of laying the floor. Never store the floor in a room that is wet, outside or in a garage where it could pick up moisture.

Solid Wood Floors

The best fitting methods for solid floors are to either nail down to the subfloor (secret nailing through the tongues) or glue the floor down directly to the subfloor.
For **nailing** down directly the flooring nailers are best used as these will automatically fire the nails at the correct angle (nailing is not suitable for chipboard floors – these should be glued down instead)
For **gluing** the boards down direct a special heavy duty adhesive needs to be used – this is applied with a trowel over the whole floor.
Floating the floor is not recommended for solid wood in normal circumstances.

Engineered Wood Floors

The most common fitting method for engineered floors is the floating method – this is done using and underlay laid over the existing floor and then gluing the tongue and groove of the engineered floor together. This way the whole new floor is "floating" from the original floor. The underlay is used to cushion the floor and to stop any echo noise that occurs when there is a space between the two floors.

The adhesive used for floating the floor is a basic PVA wood adhesive.

The **underlays** available vary depending on the thickness and quality required.
The basic 2mm or 3mm foam underlay is fine for general floors, as it absorbs the extra noise and cushions the new floor.
Fibre boards are not recommended for real wood floor as there is too much movement and they disintegrate too easily.
The sound insulation underlays such as the silent floor gold, timbermate excel and depron are very dense and act as sound insulation as well as a cushion for the floor. These are especially good for flats etc where minimal noise is essential.
The Envoy multi adhesive underlay has a sticky side which sticks the new floor together – you peel back the backing as you go and it instantly holds the floors in place. It is also recommended to glue the edges when using the adhesive underlay. This underlay is very popular with DIYers.
When floating floors you will notice a small amount of movement or "bounce" in the floor – this is normal for floating floors as they have not been stuck down to the sub floor.

Engineered boards can also be glued down directly to the sub floor or nailed over an existing timber floor. The thicker engineered boards (18 – 22mm thick) can be nailed down directly to joists as they are structural boards.

Tools

For **nailing** floors you will need a flooring nailer, paslode nail gun or similar. You do not need an underlay or glue with this method.
For **Gluing** floors down directly to the sub floor you will need the adhesive and a trowel. The tongues and grooves do not need to be glued and no underlay is used.
For **floating** the floors you will need an underlay and PVA wood glue for the tongue and grooves.

FITTING ACCESSORIES

An expansion gap of 10 – 15mm must always be used to allow for expansion of the boards. This expansion gap can either be covered with skirting (when the skirting has been taken off before installation or the existing wood floor has been removed leaving just the joists), beading or edge profile.
The skirting should be either glued, or screwed and plugged (using solid oak plugs to blend with oak skirting). The beading can be nailed or glued using the 2 part instant bonding adhesive. The edge profile can be either nailed or glued using standard PVA wood adhesive.

The fitting kit (push block and pull bar) is useful when fitting, the floor fitting tension strap is also useful when floating the floor as it keeps the boards together.

It is always useful to have a filler to fill any small gaps or nail holes in the floor – it helps to finish the floor off. The filler is available either pre-coloured to match your floor or ready to mix with sawdust from your floor. This is also used when some boards need to be surfaced nailed - countersink the nails and fill the holes with the filler.

The radiator pipe rosettes are perfect for covering the holes where the radiator pipes go – the holes need to be larger than the pipe as this pipe will change temperature frequently.

Thresholds and reducer ramps are perfect for filling in between different floors and varying floor levels – these come in solid wood or aluminium depending on your choice.

The fitting accessories are the items that finish your floor off so please make sure you have all the necessary items to give your floor the "professionally fitted" look.

Summary:

This guide to Real hardwood flooring is suitable for anyone thinking of getting a real wood floor. Whether you want an oak floor, walnut floor or just solid oak skirting boards, this guide will give you all the advice you need. There are explanations of solid and engineered flooring and this guide is appropriate for all wood floors including oak, walnut, wenge, ash, beech, merbau, bamboo, maple, jatoba, teak, mahogany infact all hardwoods plus softwoods including pine flooring.

CLEANING AND MAINTAINING YOUR FLOOR

The main rule for cleaning your floor is NEVER WET MOP YOUR FLOOR. It is also Important to use the correct floor cleaning

The cleaning and maintenace of your floor will depend on the finish you have:

LACQUERED FLOORS
The daily cleaning consists of vacuuming or sweeping up any dust or dirt (including any loose stones which may have been brought in from outside) and spray mopping the floor – this can be done by using one of our spray cleaners and a dry mop. The floor is sprayed with a fine mist and wiped off with the dry mop. This will be just enough moisture to get rid of any spills or stains without putting too much moisture in the floor.
If the floor is starting to look worn or dull, you can use the following products:
Bona Freshen up – this will give the floor a clean and will freshen up its appearance by bringing a sheen back to the lacquer.
Bona polish – this can be used to put an extra "coat" on the floor – especially If you have a lot of small scratches in the floor – you can apply up to 5 coats before needing to remove the polish (with the bona polish remover) and recoating.

OILED FLOORS
The daily cleaning of vacuuming or sweeping up any dust or dirt (including any loose stones which may have been brought in from outside) and spray mopping the floor – this can be done by using one of our oil floor spray cleaners and a dry mop. The floor is sprayed with a fine mist and wiped off with the dry mop. This will be just enough moisture to get rid of any spills or stains without putting too much moisture in the floor.
If the floor is starting to look worn or dull, you can use the maintenance oil to freshen it up – this treatment will need to be done once per year to protect the wood and to ensure that the oil coating has not worn off.
Each of the oil manufacturers have their own cleaning and maintenance products. Use the maintenance and cleaners according to the oil you have on the floor.

SCRATCHES AND STAINS
If you have large scratches in the floor, these can be filled using one of the floor fillers or repair kits. Alternatively, if this does not work the area can be spot sanded and re-sealed. This process is easy if you have an oiled floor or a floor lacquered after fitting, however if you have a factory finished lacquer it would be advisable to do some test areas that are usually hidden from view with various lacquers to check you can get the finish.