Close

How we work

"From concept through to design and final installation, we work with Architects, Designers, Contractors and Clients to achieve unique designs, treatments, colours and finishes on our engineered wood flooring."

We start work with the designers at the conceptual stage where they have basic plans and need to design interiors that are unique and imaginative.

We do not just "sell" engineered wood flooring we help to design textures, colours and hues to create unique interiors that help the designers and clients. We have done this on a large number of prestigious developments and are now considered one of the leading companies developing new wood floor products to match a client's expectations and requirements.

We manufacture all our own flooring and have some secrete treatments that are unsurpassed in the current market place. Sustainability is always at the forefront of our thinking and procurement and our dedication to the supply chain and timely deliveries is paramount.

We have created light fumed oak boards with designers and carried out tests over two months to get exactly the right hue and look to meet everyone's expectations. We are not a company that sells standard products we pride ourselves on being innovative and creative using the latest techniques to help us achieve people's dreams. Everyone walks on a floor and it is one of the first things they see and its quality and durability should also be considered.

We can even help door and carpentry manufacturers match our floors for the complete package. It is important that all aspects of a design are considered to include the building and light. Natural light has a huge impact on designs and colours depending how much there is. New apartment blocks now have varying requirements and it is imperative that as much natural light falls on the floor and is reflected in the right way.

Wood Species:

We will not import exotic wood for floors such as teak and Brazilian Walnut and other species that are not fully authorised. We can create "look alike" floors by using coloured oils. We only supply Oak, American Black Walnut and Canadian Maple where we know the source and can follow our due diligence system all the way back to the forest owners. We are FSC certified and also follow the Responsible Purchasing Policy of the Timber Trade Federation where they have stringent due diligence rules.

American Black Walnut (Juglans nigra): We buy our American Black Walnut from Missouri Walnut, LLC. which has all the accreditation schemes available.

Canadian Maple: We only supply FSC Canadian Maple in a prime grade so you do not get black streak that occur when the tree grows and takes up minerals and iron oxides from the soil.

Oak: There are over 600 species of Oak but the main ones are Quercus Robur (English Oak or French Oak — Europe, West Asia) Quercus Alba which is the White Oak.

European Oak has an elegant look which is full of character and with more grain change and colour variation than American or North East Asia including Russian White Oak. The colour of the oak can range from light tan to deep brown shades and will deepen to a more medium "honey" over time. There will be wild grain, pin knots and burrs in this oak flooring which are attractive and add more character to the boards. This is an acceptable appearance in the timber. European oak flooring has many characteristics which can blend well with modern and historic interiors. It is sourced from all over Europe.

White oak is the general classification for a majority of the oak species. The oak timber from the Southern states of America comes from a large number of species which have a wide variation in the colour, grain, knots, density and character markings.

Northern regions across the globe has less species, therefore there is a more consistent and uniform colour and appearance. These regions include North USA, Canada, North East Asia and Siberia. As with the European oak the colour of the oak can range from a light whitish colour to a tan and down to deep brown shades but does not deepen to a medium "honey" over time.

Grading Of Oak: We are very different than any of our competitors and the details below explain how we grade our raw material.

The method we use for grading our wood flooring is unique to us and more selective than the industry standard. There are BS standards for grading timber which is BS EN 942 and numerous others. However having worked with Architects, Designers and Developers for more than 10 years we have developed our own system for different species and this document explains how we grade and select the raw material prior to production.

Although we are very particular when selecting raw material it must always be remembered that trees are individual just like us. The colour variation, knots and grain is very dependent on the weather and other factors during a growing season. The nutrients taken in by the tree such as iron oxides and other local geographical properties in the soil will have a big impact on how the tree matures.

As mentioned there are over 600 different species of Oak which have matured across the Globe. Generally we talk about Red Oak, White Oak and European Oak. European Oak generally grows faster than the white Oaks of the very northern forests of Russia and North America including Canada. Hard Maple comes from the very north regions of Canada.

Grading Of Prime Maple AB Grade: ***Acer saccharum***

We only use prime Maple raw material because when growing, Maple will collect iron oxides and other nutrients into its structure as well as having effects from pests, which can turn out to be black streaks and other defects in the wood fiber also the heart wood at the middle of the tree is always reddish as below.

The picture to the right shows the boards cut from a single tree we will only use the first two (1 & 2) boards to manufacture our Prime Hard Canadian Maple Engineered Flooring. Sometimes we will include board 3 but the rest with mineral defects we use elsewhere.

Grading of Walnut: ***Juglans nigra, Family: Juglandaceae ABCD Grade:***
Commercial names: Virginia Walnut (UK); Walnut (USA). **Other names**: Canaletto, Black Hickory Nut, Canadian Walnut, Walnut Tree ; We use all of the walnut raw material we get as it is a limited resource for legally harvested timber. This means there will be knots, burls and swirly grain. The heartwood is a rich dark brown to purplish-black, and we cut out the majority of the very white sapwood to keep a warm rich colour throughout our Walnut Flooring. The picture below shows the sort of effect you will get with our walnut flooring. The little white streak is the small amount of sap wood you will get which is less than most suppliers.

Grading of American and Russian White Oak: *Quercus alba*

White Oak raw material comes in grades from A to F. A grade is very straight and uniform with no colour variation; to F where there are “shakes” and “splits at the end and large dead knots that have fallen out and a large variation in colour.

As we manufacture all our own wood flooring we are able to select out very carefully the raw material in the following grades. Not only do we select out according to the size of the knots we also select the colour variation, using the darker coloured raw material for our darker coloured oiled, fumed and carbonized boards and the consistent light colours for our select grade wood flooring. We use the CDEF grades for our antique wood flooring and heritage darker oak boards to ensure we use all our raw material.

We grade our American and Russian White Oak as follows and the price will depend on the grade, finish, length and width and thickness of the board and top layer, AB grade is the most expensive, with normal CDE grade the least expensive.

Light Oak Prime and Select grades:

AB: prime grade with little or no colour variation, no knots with a fairly straight regular grain

ABC Select: little colour variation with consistent grain with a few small knots

ABCD Light: some colour variation and mixed grain with some sapwood and knots

Antique and Darker Oak wood flooring grades:

ABC Dark: colour variation with some sapwood and live knots coloured oiled boards

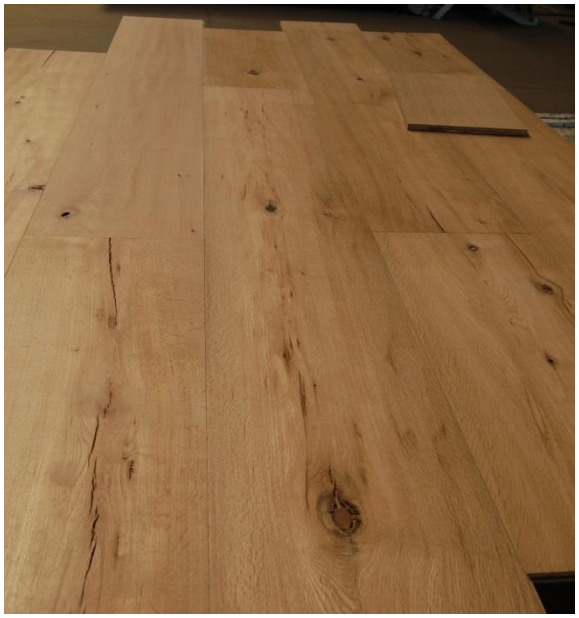
ABCD: large colour variation live knots mainly fumed oak finishes

CDEF: large colour variation, larger live and dead knots, splits and shakes we make all our antique wood flooring from these grades. Some examples of the raw material we get are shown below:

Raw Material Before Selection

AB grade Lighter Tones

AB Grade Darker Tones



This is ABC Select Grade Russian Oak

This is CDEF Grade Antique Oak

White Oak from the northern regions of North America North Asia and Siberia in Russia grow very slowly so grain and colour variation is more regular and cleaner than European Oak which grows much faster. It also has a lot less knots than European Oak, for example our Select ABC grade would be like a prime European Oak grade or “Grade 1” as we call it.

This shows the colour variation in an ABCD mix grade which has been fumed

Above you can see an ABCD oiled board

Grading of European Oak: ***Quercus robur***

European Oak is a different species than white oak even though people say they have white European oak it will always be darker and we select out in two grades as below. Due to the nature of the raw material it is general smaller and has a lot more knots and colour variation that Russian and American White Oak.

Grade 1: some colour variation with a little sapwood but very few if any knots

Mixed Grade: colour and grain variation, live and dead knots

Mixed grade European Oak natural oil

Grade 1 Quarter Sawn Parquet European Oak

Most of our products on the web site will show a picture of it fitted but always remember even though we are very selective in our grading wood is a natural product and will always have its own character and ambience no matter how careful we are.

Engineered Wood Flooring: the new stable way of using wood for flooring

There are many types of engineered flooring where the top layer is the expensive wood like Oak or Walnut and the bottom layer is either high quality or cheaper versions where budget is a constraint, these are listed below:

Three Layer Same Species

3 layer all Oak or Walnut where there is a top layer and bottom layer of the same species with the grain in the same direction and a middle layer of the same species with the grain going in the opposite direction. These engineered boards are very stable but more expensive.

Engineered with Plywood Back

Multi-layered plywood back which is either Birch or Eucalyptus or Poplar mixed with Birch and is normally 9 layers for 20mm thick boards or 7 layers for 15mm boards.

Three layered Engineered using Soft Wood

3 layers where the top is Oak etc., and the middle and bottom layers are spruce which is softwood with open grain and we advise against this especially with Oak that has a much tighter grain, this should only be used for thinner engineered boards.

Three layered Engineered using Poplar (fast growing hardwood)

3 layers where the middle and thin bottom layer is normally Poplar which is a fast growing wood, this is the cheapest version of an engineered and should only normally be used in boards up to 15mm thick.

There are many processes that can be used on Oak which include the following:

Brushing where the softer grain is brushed out leaving a textured surface

Deep Brushing to create a rough surface

Cross Sawn where the surface looks like it was cross cut 200 years ago

Antique Finish where we hand work the surface of the boards following the natural contours of the grain and knots to create a masterpiece that looks so authentic that listing officers in grade 1 listed buildings have approved the boards as replacements.

Smoking where the boards are sealed in a chamber with heavy smoke introduced to create a warm brown colour

Carbonising where the boards are heated to an extreme temperature removing all moisture and creating a deep very dark brown or black colour and then some moisture is introduced back into the board for stability before it is glued down to the backing boards. These boards are perfect for Medical floors etc.

Fuming where the top layers are layered in a heated sealed chamber and then Ammonia is introduced which changes the tannins in the wood to create a warm deep fumed colour.

Finishes: these range from traditional Industrial lacquers to Fire Resistant and anti slip mat lacquers through to UV oils (where the oil is cured with UV lamps) to natural plant oils.

We have also helped develop a natural Enviro Raw Timber finish which does not change the colour of the timber.

Natural oils normally leave a very mat finish which can be enhanced by using hard wax oils which contain caruba wax to give a satin like finish and can even be buffed up to give a low gloss finish.

Colours: these can be achieved in many ways apart from the “PHYSICAL” treatments above. We have developed natural coloured oils with Timberex and have the primary colours as additives for the natural plant oils to create a unique palette of colours which soak into the wood grain which means they can be easily repaired and re-treated to always look good.

Veneer Manufacturing

Different methods of veneer manufacture

Different cutting and slicing methods to process raw timber are used to produce different visual effects. Logs of a given species, cut by different methods will produce a variety of appearances**.**

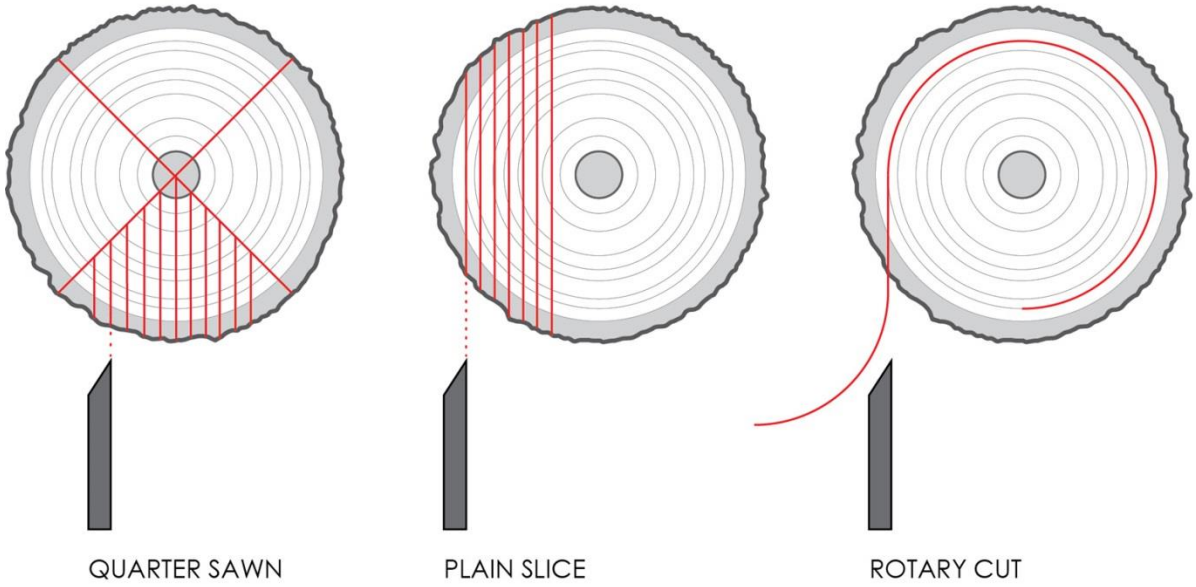
Engineered floors from The Solid Wood Flooring Company are either Quarter Sawn or Cross Sawn using band saws so that we cut from clean kiln dried untreated timber unlike processes using a knife where the timber has to be steamed or boiled and treated as explained below in the Rotary cut section to "soften" the timber.

When the timber is treated in this way it affects the grain and colour of the natural wood. This is why coloured oils never work the same on sliced veneers as they do on cut veneers where the wood has not been pre-treated to soften it.

Imagine your skin left in a hot bath under water for a while it becomes soft and changes texture and colour, wood is the same but it never goes back to exactly what it was before.

Rotary cut: "Sliced Veneer" We do not supply these CHEAP versions of engineered floors

In rotary cutting, the log is mounted centrally in the lathe and turned against a knife, as if unwinding a roll of paper. A multi-patterned grain marking is produced with this method. Rotary cut veneer can be sufficiently wide to provide full sheet (one piece) faces.



In the quarter sawn and plain sawn picture above we use a band saw not a knife so we do NOT have to soften the timber. Beware of cheap imitation products.

The sliced veneer method described as “Rotary Cut” above means less waste **BUT** the log has to go through a process of chemical and heat treatment to make it soft enough to slice the log in this way. The log is soaked in boiling water with added chemicals and then processed as above.

The top layers are then dried and made into engineered boards. The problems with these engineered floors is that the surface grain will gradually split open and if used with underfloor heating the boards will deteriorate over time with any finish on the boards suffering. This is why these types of board are the cheapest on the market and commonly found at the lower end of the market.

Conversion of timber

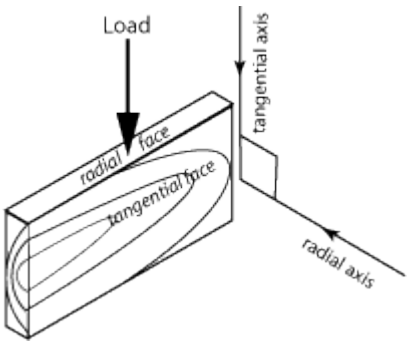
As soon as possible after felling the tree should be converted into usable timber.

The **Quarter sawn** is far more expensive because of the need to double (or more) handle the log. There is also more wastage. It is however more decorative and less prone to cup or distort. Note also there are two ways of sawing the quarter.

Through and through or cross sawn produces mostly tangentially sawn timber and some quarter sawn stuff. *(see diagram)* Tangential timber is the most economical to produce because of the relatively less repetitive production methods. It is used extensively in the building industry.

There are other ways but they are all variations of tangential and radial cuts to obtain the best or most economical boards for the use it is to be put. These basic cuts are not always able or need to be, on the exact tangent or radius of the trunk. The cuts, that fall between, crown and quarter are called 'rift' and between 'rift' and 'quarter' are identified as 'figured' - see below for explanation. Boxing the heart refers to eliminating the heartwood from the boards that would otherwise produce shakes, juvenile wood or may even be rotten.

Tangential boards (crown, plain or flat sawn) are used extensively for beams and joists. They are stronger when placed correctly edge up with the load in the tangential axis. These type of boards suffer from 'cupping' if not carefully converted, seasoned, and stored properly. Annual growth rings form an angle less than 45 degrees.



Radial boards (radial, figured or quarter sawn) are typically cut on 'the quarter' and produce a pattern of the medullary rays especially in quartered oak. Such timber is expensive due to the multiple cuts required to convert this board. The radial face of the board is slightly stronger and stiffer than the tangentially face but the cross section and condition of the timber has

more effect on strength. Annual growth rings form an angle greater than 45 degrees.

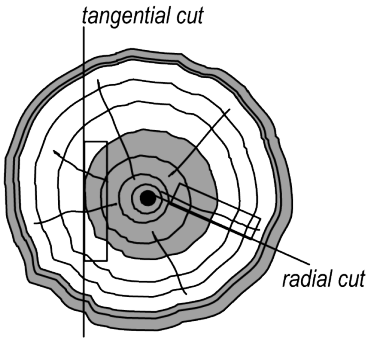
Crown sawn is obtained by sawing tangentially to the annual rings. It is also referred to as 'Plain Sawn' or 'through and through'.

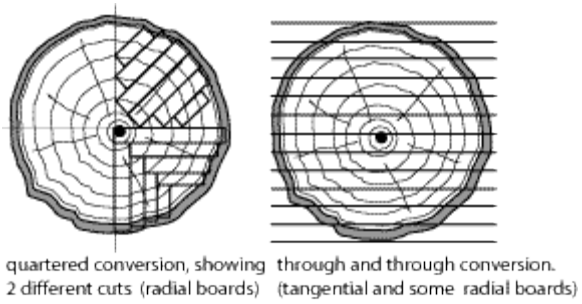
Rift sawn is the cut which falls between crown and true quarter sawn. It is straight grained and in oak, does not reveal any 'silver ribbon' grain features. Quality floor boards are prepared from *rift sawn* timber because it wears well and shrinks less. Annual growth rings form an angle between 30 and 60 degrees.

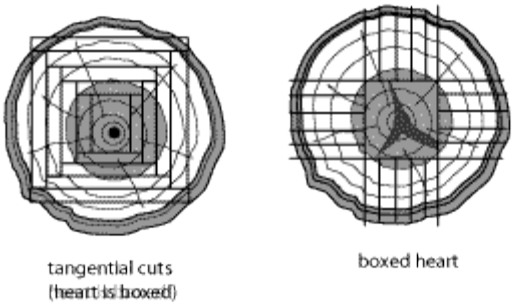
Quarter sawn boards are radial cut from the centre of the tree. It produces the distinctive silver ribbon effect (in oak) across the whole board. Annual growth rings form an angle greater than 45 degrees. True quartered boards producing the best features will have the angle on or very much closer to 90 degrees.

'Figured' - is the cut between 'rift' and 'true quartered'. It has varying degrees of 'silver ribbon' (in oak) showing through but not the full figured effect found in true quarter sawn boards.

Different species have their best features enhanced by choosing the best cut appropriate to their species.







Installation Methods

There are many methods of installation of engineered wood flooring and these mainly fall into 3 categories:

Floating: we do not recommend this method and the least said about this the better as it is a method that will have problems over the long term. Normally fitting companies like this method because they can supply a cheap underlay and then quickly just tap the boards together with some cheap PVA glue. You will over time get “squeaky” boards and also some will work loose and the quality of the underlay will have a big impact. If there are acoustic issues then better (if floor level allow) to install a good acoustic cradle floor or a high quality underlay with a T&G plywood top to which the boards are glued down. Specifications where floors are to be floated on underfloor heating systems are not the modern way of doing things with the advanced flexible adhesives available today. If you float a floor over

underfloor heating the PVA glue will break down over time as it is not designed to be subjected to constant heat which means the boards will start to come apart and squeak.

Gluing Down:

This is by far the safest and best method and with modern MS Polymer adhesives which dry like a hard rubber most future issues are overcome. Boards can easily be repaired if they get badly damaged by cutting out a single board and replacing it with a new one which a skilled floor fitter can do and the result is exactly like the original floor.

You can glue down to any surface as below:

Concrete Screeds
Old Floor Boards
Cradle system floors on to chipboard
Plywood
Raised access floors with both wood or steel panels

The pictures above show how the adhesive should be applied which is with a comb that is normally attached to the tub. When replacing a board this may be difficult so just apply some adhesive on the back of the board as shown in the picture above.

Secret nail or Screw:

This is where the boards are being fitted direct to joists or a wood subfloor that is in a good condition to ensure that the nails or screws will not work loose over time. Chipboard is not a good subfloor for this type of installation and adhesive should be used.

Pricing of Engineered Wood Flooring

These days' as always, budgets are very important and the pricing of wood flooring is dependent on the structure and makeup of the board, the species and grade, as well as the width, thickness and length of the boards. The following make up of the boards below show the price brackets of our own manufactured engineered boards including the size grade and structure of the engineered board. We do not manufacture sliced or rotary cut veneers as this is low quality and does not work with underfloor heating and over time even without this the grain becomes unstable and will start to split open allowing the surface to absorb moisture and dirt.

It is important to remember that only 20mm engineered boards are structural and it is only these that should be secret nailed or screwed into joists.

Board structure with prices between £25.00 /m2 to £35.00 /m2

These will be either 3 layer 14mm thick where the bottom and middle layer are generally Poplar a fast growing hardwood) or 15mm thick with a plywood back and either a 3mm or 4mm thick top layer. The species will be a rustic type European Oak grown in the southern regions of Europe. The widths will generally be between 90mm wide up to 190mm wide with lengths form 1500mm to 2400mm long although the cheaper end will be boards 1830mm long.

Board structure with prices between £35.00 /m2 to £45.00 /m2

These will be 3 layer for 220mm wide boards or multiply and between 15mm or 20mm thick. The species will be clean European oak or American White Oak or Russian White Oak that grows slower but will be a mixed grade. The price can also be kept lower if the boards are 1860mm long rather than 2200mm long or 2400mm long

Board structure with prices between £45.00 /m2 +

These will be 20mm thick and clean grade ABC or prime AB grade and the price will depend on the width and length of the boards. For 260mm wide boards the grade may be an ABC mixed.

These prices are just an example from our extensive range as we manufacture all our wood flooring we can be very competitive to the trade. These prices should not be taken as an indication of other companies prices. We do not make cheap random length wood flooring where you get short pieces 300mm long all our floors have a minimum length of 600mm where we need to use up all the raw material to keep costs down.