

1. Engineered European Oak Flooring–Technical Specification

Your Engineered European Oak Flooring is milled and manufactured in Central Europe to the highest possible standard and finished completely by Hand in England by Craftsmen using traditional techniques.

Our engineered Oak is made up from a top layer of European Oak bonded to high quality Birch plywood to ensure the product is very stable and suitable for underfloor heating systems (assuming standard guidelines are met).

There can be some elements of tension between the 2 elements of an engineered board which can create some bowing along the length, this is perfectly normal. The product is still suitable for installation if the bowing is within the allowed tolerance detailed within this section as correct fitment will ensure that the boards sit flat when installed.

General details:

Oak Type = European Oak. Oak Source = Central European

Plywood Type = WBP Birch Plywood. Plywood Source = Russia

Product Moisture Content = Between 8 – 11%

Length Specification = Minimum 80% between 1.8 – 3.0m, maximum 20% between 0.6– 1.8m (unless otherwise requested / advised)

Jointing system = Tongue & Grooved all 4 edges

Edge profile = Bevelled 2 long edges only (unless otherwise requested / advised)

Maximum bow along the length allowed = 40mm

Product Specification

Product Parameter	13mm Product	16mm Product	21mm Product
Oak Top Layer Thickness	3.5mm (+/-0.5mm)	4mm (+/-0.5mm)	6mm (+/-0.5mm)
Birch Plywood Thickness	9mm (+/-0.5mm)	11.5mm (+/-0.5mm)	14.5mm (+/-0.5mm)

Overall Product Thickness	12.5mm (+/- 0.3mm)	15.5mm (+/-0.3mm)	20.5mm (+/-0.3mm)
Widths Available	140, 180, 220mm	140, 180, 220, 240mm	140, 180, 220, 260, 300mm
Grades Available	Prime, Nature, Rustic A/B (Character)		

Other widths are possible as special order from the mill.

2. Engineered European Oak Flooring–Grading Rules and Guidelines

Grade Rules – All products

Attribute	Prime	Nature	Rustic A/B (Character)
Knot Content	<p>Only pin knots up to 5mm diameter allowed.</p> <p>Limited to 3 knots per board.</p>	<p>Healthy knots up to 20mm diameter allowed.</p> <p>Filled cracked knots up to 20mm diameter allowed.</p> <p>Filled dead knot holes up to 10mm diameter allowed.</p> <p>Total number of knots limited to 3 per board.</p>	<p>Healthy knots up to 55mm diameter allowed.</p> <p>Filled cracked knots up to 55mm diameter allowed.</p> <p>Filled dead knot holes up to 20mm diameter allowed, (Replacement knots may be used on larger dead knot holes).</p> <p>Total number of knots unlimited.</p>
Other visual imperfections	No bark pockets, splits or worm hole allowed.	No bark pockets, splits or worm hole allowed	<p>Limited small bark pockets allowed.</p> <p>End splits up to 1mm in width and 100mm in length allowed, limited to 20% of total volume.</p>

			No worm hole allowed.
Sap Content	No edge sap allowed, limited core sap to 5% of total volume.	No edge sap allowed, limited core sap to 5% of total volume.	Edge sap allowed limited to 30% of the width of the board limited core sap to 15% of total volume.
Colour	Natural variation allowed, no dark heart wood allowed.	Natural variation allowed, no dark heart wood allowed.	Natural variation allowed, small amounts of dark heart wood allowed.
General Description	Clear grade with only a very rare occurrence of any pin knots at all.	Very light character grade with some smaller knots on approx. 40 – 80% of the boards.	Standard character grade with a nice selection of natural knots and defects.

Please note that wood is a natural product and up to 5% of the material provided may not adhere to these grade rules. If you require further clarification on what the grade will look like, please ask for further reflective samples.

Grades Explained

International Wood Grading Criteria

Unlike many other wood flooring companies, one of the advantages of dealing with SEL/FE for commercial or domestic oak flooring specification is that we know where our timber is sourced. In fact we have been working with the same sawmill for the past 7 years, this means that we are familiar with a particular grading system which wouldn't be possible if we sourced new wood from all over the world.

However, please be aware that mostly grading is selected by eye, there is always scope for the occasional board to fall outside of these parameters. For all these reasons, SEL/FE cannot accept rejection of an entire order or an entire floor because of the occasional board. Wood is a natural product, each piece is as original and unique as our own fingerprints, these parameters should be taken simply as an indication, given in good faith and to the best of our current knowledge.

We strongly advise that a floor be fitted only by a competent floor fitter, who will, as a matter of course remove any defects outside of the normal grading allowance as noted below and in many ways, they tailor the floor to fit with the room dynamics. A continuation of the grading

process is also carried out during the fitting process, as knots can be removed and boards moved around to suit the space. The individual floor boards cannot be simply vetted on an individual board by board basis they must be viewed as a complete room where the overall characteristics of the oak comes fully into its own. We cannot accept the rejection of any floor once it has been laid.

Engineered & Solid

Our engineered stock is mostly sold as rustic A/B Character grade. This means that there will be knots up to a max of 55mm.

Character oak flooring. Cracks, openings, knots all become a part of the charm of the floor when fitted and finished correctly. If a cleaner grade is required we recommend that the client order a good deal more than that actual floor space, this way the floor can be graded on site and knots or shakes can be cut away as the client desires please note that if this level of installation is required it must be discussed prior to quotation as it is a longer fitting process and will therefore be more expensive in labour terms and will also require a larger quantity of boards being supplied. Alternatively, a nature or prime grade of board could be purchased dependent upon client's vision for the space and flooring.

3. Important Facts to note when buying a Hand Finished European Oak Flooring

The traditional techniques used involve Distressing, Fuming, Brushing, Ageing, Scraping, Burning, Staining etc. These techniques are not done using high volume machine produced automation from Chinese Factories, our techniques are traditional and done caringly board by board individually by hand. Due to our traditional hand finished nature of our production there are a few things needed to be noted:

Distressing of the wood

If your wood has been distressed to give the appearance of 'old, worn and an already lived on' look, the process we use does distress the whole board including the 'Tongue' and the 'Groove' part of the board. This means extra time and patience need to be allowed in the fitting process to achieve a fully 'tight' joint between planks.

Distressing of the wood will cause some of the top part of the oak to split and break off. This is a natural part of the manufacturing process and is an aspect of the character of the final flooring finish. This form of processing only lends itself to the 21mm thick board, so is not available on the thinner 13mm and 16mm boards. When fitting a distressed floor, it is down to the skill and expertise of the fitter to utilise these pieces and determine which pieces to use and where and which parts of the plank to not use to achieve a truly fabulous looking old floor.

Please ensure you only use a fully competent fitter experienced in fitting bespoke hand finished flooring. Distressed flooring may appear damaged when viewing an individual piece, this is normal and is part of the process of a distressed floor.

If you are specifying Chevron blocks, the points will be rounded off during the process.

Fuming of the wood

Fuming is done to the wood to gently age the wood and give the wood the appearance the wood is old, the more we fume the wood the older the wood looks. This is a completely natural reaction with the Tannins in the wood. Some parts of the oak will react more strongly than others with the fuming process, therefore colour variation is to be expected.

It is down to the skill and expertise of an experienced fitter to fit a floor that has been fumed to ensure each piece is chosen and laid sympathetically to create an overall aged look to the floor.

Scorching of the wood

Scorching of the oak surface is another technique we use to create a very aged oak floor. The scorching is done by hand applying a very hot flame across the oak face board by board. Please be aware the scorching is done in such a way that once fit correctly the appearance is very natural and gentle. Please also note there will be some inevitable scorching to the tongue of the board.

Back scraping of the oak

Back scraping is done by hand using traditional tools by a craftsman board by board. The craftsman will 'scrape' and 'tear' the face of the oak in a very sympathetic way generally around the knots or grain orientation change within the oak. Each board will be 'Scraped' differently depending upon the grain structure in each plank. Some boards will be more heavily scraped than others but will always be a completely natural effect, some grain tear and chatter is to be expected.

Please ensure the fitter is completely comfortable and competent when fitting a hand scraped plank.

Soft Grain Brushing

Soft Grain Brushing is done to simulate gentle weathering of the oak surface. Please note that during the brushing process of each batch, each board is brushed exactly through the same process. Please note that different parts of the oak tree are harder for example the 'heart wood' is much harder than the outer rings of the tree therefore the effect of brushing will be different on each plank. The knots are much harder than straight grain so brushing effect will reflect this. This is a completely natural process performed on a natural material hence subtle variation between pieces will occur.

Please ensure the fitter is completely comfortable and competent when fitting a Soft Grain Brushed plank.

Packing our Hand Finished Floors

All our production is done completely by hand, board by board and that also includes the packaging of our planks. Your flooring will arrive to your site in 'Bundles' packed together by plastic strapping. Any exposed pieces of the oak face will be 100% plastic shrink wrapped by hand. Please be aware that packaging of Hand Finished Floors is traditional to 'Bundle' the floor in plastic strapping. This method creates a lot less waste of discarded cardboard and plastic and is better for our environment.

Colour Variation of Wood Flooring

Wood is a natural material and will have variations from board to board and even within a board, not only in the visual features such as grain, knots and growth rings, but more subtly in the mineral density and fibre density ratio in the exposed wood surface. This natural variation in the wood responds to the process reactions during the manufacturing process whereby the speed of the reactions (e.g. fuming reactivity) and/or the stain absorption saturation point can give rise to variation in hue and density of the observed colour. The result is a distribution or range of colours and tones around a central median colour.

Subtle variations between individual trees and different parts of the same tree can result in different ranges of colour hue and density, and a difference in the median colour of a board exposed to the same production process.

Any batch of flooring will probably be constituted from more than one tree. The full run of supplied flooring will not only have a wider distribution of colour hue and density than a limited selection shown on a sample panel, board or swatch, but may have multiple distributions of colour hue and density overlaid on a range of median colours.

Indeed, a sample panel, being a sample will not exhibit the extremes or full range of the variation in the colour. Examples of how this might appear could be:

- Placing a board against the sample, the board may appear lighter, darker or have a different hue or density in colour
- Two boards placed side by side could have a different median colour
- Within a board, the colour may vary (e.g. near a knot)

This is the natural variation as expected from a natural material. The median colour of the sample will reside within the full colour range of the production batch. The colour variation due to the production process is minimised by treating each order as a single batch and running all the boards through each process stage contiguously.

4. Installation Requirements

General

For your Engineered Flooring product to perform to standard expectations the following conditions must be in place:

It is recommended that the engineered plank flooring should be installed by means of direct gluing to the subfloor, however 21mm thick engineered flooring can be directly nailed to joists if they are at 400mm centres or less. This product can be laid as a floating floor but this can result in some spring within the floor, reduce efficiency of under-floor heating performance and lead to the requirement of very large expansion gaps if the floor area is larger than 5 metres in width. Therefore, it is expected that this flooring will be glued down when installed on underfloor heating.

Environmental conditions

All major building work including plastering, decorating and kitchen fitting must be completed prior to fitting the new flooring.

The bundles of flooring shall be stored in a protected dry place on site where the flooring is to be laid. The bundles should ideally be allowed to acclimatise to the room environment for at least 48 hours prior to installation.

Each board should be carefully checked prior to installation, do not install any damaged boards. During installation, the temperature of the subfloor should be at least 15°C During installation, the ambient temperature of the room should be around 20°C During installation, the relative humidity of the room should be between 45-65%, ideal is 55%. The subfloor should be clean, dry, flat and free from any cracks or movement. Irregularities on the subfloor should not exceed 3mm over 1 metre in any direction.

Subfloors should not exceed the following humidity levels:

- Cement = no more than 2%
- Wooden = no more than 10%

Anhydrite = no more 0.5% If the moisture reading is high on a cement based subfloor, then you must apply a liquid DPM. If you are using the floating method, you must install a vapour barrier of at least 0.2mm thickness and to tape the joints. For your product to perform adequately for years to come it is important that the relative humidity and temperature parameters detailed above are consistent within the property at all times. On some occasions properties with poor ventilation or very high levels of heating and insulation can have very low relative humidity levels, particularly during colder months. In this situation, there is a risk of shrinkage and possibly even structural deficiencies within the product, therefore a re-humidifier would be

recommended. Feel free to contact your supplier for further information.

Installation requirements

If you are laying the planks directly onto load bearing joists, then you must use both flexible adhesive and portanails to secure to each joist.

If you are laying the planks onto an existing floorboard subfloor, then you must ensure that each of the existing floorboards are independently fixed securely to the joist below with no independent movement. If the floorboards have an uneven surface, then correct levelling needs to be done prior to installation either by levelling the joists or for minor unevenness using a sheet material could be sufficient. If the engineered flooring is to be laid in the same orientation of the existing floorboards, then sheet material must be fixed down first. Sheet material must be screwed down every 15cm in both directions.

An allowance of approximately 15mm around the perimeter of the room should be provided to accommodate any expansion, including under door frames, central heating pipes and connection with tiles.

Bigger rooms will need bigger expansion gaps, please allow a further 2mm expansion gap for every 1 metre of floor width greater than 5 metres.

For direct glue down installation flexible flooring adhesive must be used and the manufacturer's recommendations must be followed, never use a rigid or water based glue.

A minimum of 30cm distance between one header joint and the other of the next row shall be applied when arranging the installation.

Chevron flooring requires attention to the alignment of the points of the blocks. Any misalignment cannot be subsequently corrected.

Any contractor fitting this engineered flooring should adhere to these guidelines, if there are any queries or concerns relating to these guidelines then please do not hesitate to contact us.

5. Supply and Fit Assumptions/Requirements

Prior to a full supply and fit package price being confirmed a site survey will need to be carried out by a member of our team. During this process the following elements will be assessed:

- Site conditions
- Quantity of material required
- Any specific fitting detail needed

Depending on when the site survey takes place the site may change between this time and when the installation takes place, therefore the following assumptions are made unless stipulated otherwise:

The site will adhere to the conditions detailed in the 'Installation Guidelines' section of this document, For example:

The sub-floor is sound, level and of the appropriate moisture reading There will be no skirtings fitted prior to the installation of the floor.

The area where the floor is to be installed must be clear from all debris, furniture and any other materials, and will not have other contractors working or needing access to that area at the same time.

If any of these installation conditions are not in place at the time of installation we reserve the right to charge for any additional works required (removal of skirting's, sub-floor levelling etc). If we feel the site is not in the correct condition to receive the flooring we will remove the product and arrange an alternative date to fit (re-arrangement fees may be charged), please note our next available fitting date may not be in the immediate future.

Prior to installation it is the customer's responsibility to check the material is in accordance to their invoice, once installation is started this is deemed as your acceptance of the product provided.

On completion of installation all moisture and environmental readings will be taken and you will be required to sign off the install.

Supply Only

In the case where we are not installing the flooring, the responsibility for the correct specification of all aspects of the flooring, including measurements and wastage allowance calculation, the verification of the initial and final conditions will reside with the client detailed on our invoice, it is our strong recommendation that these specifications are checked by the person responsible for fitting the flooring.

Protection & additional coats of finish

As detailed in the 'Maintenance and Aftercare' section of this document there are additional services often required / recommended e.g. additional coatings of finish / Corex protection. These are not part of our standard installation fee's but can be provided (price available on request).

Where we are applying an additional coat, the site must be clear of all obstructions and to avoid contamination, other contractors cannot work in the same area at the same time. Nor can they during the curing and drying of the top coat that has been applied to your beautiful floor.

6. Underfloor Heating Requirements

Before installation you must check and follow all precautions provided by the underfloor heating supplier.

If the heating system is new, the system must have been switched on and operable at normal capacity for at least 3 weeks prior to installation.

The heating system must be switched off at least 48 hours prior to installation.

All otherwise detailed environmental conditions must be adhered to.

On the day of installation, the subfloor should not exceed a temperature of 18°C

The underfloor heating system can be switched on again 1 week after the installation but it must be turned on initially very low and increasing the temperature by 1°C per day.

It is crucial to ensure the floor temperature does not exceed 27°C, to achieve this the system should have an underfloor sensor and suitable cut off capability.

Underfloor heating systems can dry the relative humidity out lower than the required levels detailed previously therefore a re-humidifier may be necessary to ensure a consistent relative humidity all year round.

7. Maintenance and After care for your floor

During the floor fitting process we strongly recommend covering the floor immediately after each 5m² section is fit using a semi rigid corrugated plastic (Corex) type covering. This must be clean and new and applied to a clean, dust free surface ensuring all edges of the floor are sealed using low tac blue or green masking tape and the Corex applied on top of the low tac masking tape, and finally a high strength cloth tape applied between the masking tape and the Corex.

Once the floor has been fully installed and the protective covering carefully removed it is always recommended that an extra coat of the top coat finish is applied prior to the introduction of any furniture. This will remove and slight scratches created during the installation process and it will seal all of the joints between the boards preventing and potential water ingress. This is particularly imperative if the flooring is fitted into a bathroom, kitchen or high traffic area. Please check with your supplier what the appropriate top coat finish is and follow the application guidelines of this finish.

The wood will continue to maintain the moisture level equilibrium with the environment after fitting. To maintain the on-going good condition of the flooring, the air relative humidity of the room should be between 45% and 65%, ideal is 55%.

The room temperature ideally will be kept at an ambient temperature of around 20°C and should not go above 27°C

Everyday maintenance Use a broom, duster or vacuum to remove any dust Weekly / Fortnightly maintenance

Use warm clean water in a bucket and add a capful of the manufacturers recommended wash additive – use a damp well wrung out mop to clean and freshen your floor. (do not use generic flooring cleaners as these can breakdown the top coat).

Every 6 – 12 months (depending on traffic)

Apply manufacturers recommended polish to areas of high traffic, this product can be sprayed directly onto the floor surface and rubbed in using a lint free cloth.

Alternatively, for very high traffic areas such as shops and restaurants we supply a maintenance product to apply directly to the flooring using a cloth to nourish the surface.

Every 5 – 10 years (depending on traffic)

Eventually the top coat finish will begin to wear and at this point it is recommended to apply another coat of the original top coat finish, please check with your supplier which is the appropriate finish for your floor.