

OAK SPECIFICATION

Materials

Timber shall be selected from minimum 12 months felled English or European oak obtained from the heart wood as appropriate to the section required, and selected from a tree of the smallest diameter that will provide the required section.

(i) Sections

Members larger than 200 x 200 - boxed heart (eg posts, beams, purlins, floor plates, wall, arcade, collar, sole, sill, cross, ridge)

Members less than 200 x 200 - half sawn (eg tie beams, girdings, bressummers, collars, studs, rails, brackets, struts, braces, principal rafters)

Others - quarter sawn (eg rafters, joists, barge boards)

(ii) Swept members

Swept members such as braces, brackets, crucks, cambered ties, shall be obtained from naturally 'bent' timbers, and shall be half sawn. They should be adzed along the natural line of the grain to provide the correct shape. Where new swept members are paired, eg windbraces, each pair shall be obtained from the same section.

(iii) Jowelled Posts

Jowelled posts where the post head swells to accommodate the wall-plate and connects with the tie-beam shall be obtained from timber with this natural growth pattern (eg converted from timber which includes the swelling at the base of the tree).

(iv) Re-used timbers

No second hand timber will be permitted. No timber shall be taken from its position or rejected unless the Architect's approval has been given.

(v) Glues - non structural Glues may be used at the discretion of the Contractor but only for the purposes of a filler and cannot be relied upon for structural repairs, except as specified below.

Where glue is used it should be manufactured by Apollo Chemicals Ltd (tel: 01827 54281) Type A7510 Adhesive.

structural In exceptional circumstances glues may be used for structural repairs. The glues shall be Wood Weld PU manufactured by Construction Chemicals UK - LE7 7NR (tel: 01162 301955) and used in strict compliance with their specifications.

(vi) Timber treatment

Timber where specified for timber treatment shall be treated with Ecobor ultra gel 20 mayonnaise paste, or ACS Boron rods as directed.

Workmanship

(a) Existing structural frame

(i) Numbering of Timbers

At the immediate commencement of work, the existing frame is to be tagged with impressed aluminium tags nailed to the exposed face in accordance with numbering system shown.

Chalk, felt pen or paint will not be permitted.

Tags are to be removed upon completion of work.

(ii) Dismantling

Pegs shall be removed by use of a steel drift in the opposite direction to that in which they were driven in. No drilling of pegs or sawing of timber will be permitted.

Where metal straps have been used to reinforce joints, they shall be carefully removed by drawing out fixings so as to avoid damage to the straps and timber members unless complete assemblies such as trusses can be removed as composite elements without damage.

All metal fixings are to be fully drawn out prior to removal from site. The cutting of metal fixings may only be undertaken with the prior express approval of the Architect.

Timbers to be taken down and temporarily stored are to be dismantled sequentially, stored under cover in areas of free air movement and placed according to the position in the building.

(iii) Realignment

Re-alignment of mainframes, where necessary or described, shall be achieved as far as possible by progressive adjustment of acrowprops under needles and re-pegging in a manner to be agreed with the Architect. No unauthorised use of tension cables will be permitted.

Alignment is to be confined to essential stabilisation of the frame and no attempt must be made to bring frames or rafters into line.

(iv) Patching

Patching generally shall be carried out in air dried oak.

Old mortices in otherwise sound timber are to be blocked and glued with oak patches of the appropriate sizes.

Where frame members are repaired *in situ*, unsound timber is to be cut back and suitable size patches are to be glued and coach screwed from behind to make up the face of the timber. In all instances patches are to be feathered in when cut into existing timber.

Where patches are required to horizontal members, unsound timber is to be cut back to at least the outer face of mortices for tenons of vertical members. Patches are to be glued and drawn on to the remaining existing timber by 10mm diam stainless steel coach screws, the head of which shall be countersunk and pelleted from the inner face of the timber where possible. Allow for fixings at approx 300c/s according to site dimensions.

In situ repairs shall be deemed to include all necessary making good of internal and external finishes disturbed during the works. Any variations to the above methods of frame repair will be subject to an instruction issued by the Architect. Pelleting of screw holes shall be diamond shaped to distinguish repairs from original joint pegging.

(v) Filler repairs

Where filler repairs are described, filler is to be a compound of Stockholm tar and woodshaving, tinted with creosote to the approval of the Architect.

Prior to application of filler, timber is to be fully cleaned by brushing and vacuuming.

Filler is to be well-worked into all gaps to exclude pockets of air and prevent moisture penetration, and is to be kept back from the general face of the existing oak and left with a textured finish. Sample areas are to be provided for approval by the Architect prior to commencement of repairs.

Clear polysulphide mastics will be permitted by approval of the Architect.

(vi) Timber Treatment

There shall be no de-frassing of timber unless specifically directed by the Architect.

There is to be no artificial ageing of new timber.

Where new oak abuts existing timber, a limited amount of feathering in will be permitted.

No stains will be permitted.

(vii) Fire Damaged Timber

There shall be no scraping, cleaning or removal of fire damaged timber until fully inspected by the architect. Even charred timber often contains evidence of numbering systems, mouldings mortices etc which are easily lost.

Under the direction of the architect charred timber may be cleaned by scrapers or by low pressure cleaning using an approved abrasive grit.

(b) New oak

(i) Ordering of new timber

Timber schedules will be issued together with survey and repair drawings. The overall size and method of repair will be described but the Contractor must satisfy himself, prior to ordering, that all timbers specified are of adequate dimensions. Timber should be ordered at the earliest possible stage after the commencement of the job and may be stored on site in a covered area with free air movement between timbers. Ideally a minimum period of one month should elapse between supply of timber and final assembly.

(ii) Cleaning of new oak

New oak where stained from hand saw or by staining from tannic acid may be cleaned with oxalic acid. Crystals to be diluted in water to 'melted butter' consistency and applied to stained timber with a brush. Neutralise after a few minutes with methylated spirit.

(iii) Positioning

Timber sections should be placed with the upper face (heartface) towards the outside in external walls and in the same direction as the existing upper face internally.

(iv) Jointing - general

All structural timber framing shall be jointed as described and shown on the drawings, or as is most appropriate in the circumstances. Joints shall be designed and constructed so that they will transmit the loads and resist the stresses to which they will be subjected, and the execution of all jointing shall be to the approval of the Architect.

Surfaces are to be in good contact over the whole area of the joint before repegging.

(v) Special joints

Other joints to the structural timber framing using steel straps and the like may be instructed where appropriate. In such joints, steel shall be stainless steel with stainless steel coach screws and bolts unless otherwise stated.

No bolts are to be placed in any end split. Nuts are to be brought up tight but care is to be taken not to crush the timber under the washers.

(vi) Pegging of Joints

Joints generally are to be pegged from the upper face by hexagonal shaped tapered pegs. New joints are to be draw-bored. The ends of the pegs are to be left projecting until completion of the job when they may be trimmed to leave 25mm projection.

Scarf joints are to be pegged with pegs driven in from both sides of the joint at skewed angles.

(c) Clearing up

The carpenter is to clean out all shavings, cut ends and other timber waste from all parts of the building before coverings or infillings are constructed. All own waste and rubbish is to be destroyed or removed.

(d) Shrinkage

New oak **will** shrink by as much as 10 to 15% across its width. The contractor will be expected to return at the expiry of 12 months maintenance period to cut and fill any infill panels or mortice and tenon joints which have been affected by such shrinkage.

Any water leakages which may result in the intervening period shall be rectified on notification to the contractor at his own cost.

NOTES -

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oak repair specification.

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