

## TIMBER TREATMENT

Remove debris and clear obstructions (such as floorboards or insulation materials) sufficiently to ensure access for the cleaning of dust etc, and effective inspection and treatment of timbers. Check the timbers by probing, and in the case of heavy Death watch beetle (if found) infestation in large section timbers, check the internal condition of the timber by drilling or other means. Where necessary, expose the built-in ends of structural timbers for investigation and treatment.

Carry out all repairs and replacements. Replacement timbers should be pre-treated in accordance with BS8417 2003 (Use Class 2 or 3) or when this is not possible or practical timbers should be treated on site with a wood preservative recommended by the manufacturer as meeting the requirements of BS8417 2003 when applied as a surface treatment. If cutting to size, notching etc is required, any freshly-cut surfaces should be treated as detailed above. It is desirable for replacement timbers to be protected against dampness especially where they are in contact with masonry walls Cleaning of dust and debris from timbers scheduled for treatment should be undertaken prior to treatment, sufficiently, properly and safely so as to apply preservative it is important to- Allow thorough inspection Ensure adequate treatment Minimise the absorption of active ingredients into the dust particles so as to prevent contaminated materiel becoming a health risk Reduce the risk of slips, trips and falls during the treatment Note: one method of cleaning which ensures the above risks are controlled is by the use of suitable industrial vacuum machines. Apply the wood preservative specified in the survey report in the manner and at the rate specified by the manufacturer. Preservative formulations commonly used for the control of wood destroying insects currently include:- Water based emulsions insecticides Solvent based insecticides Oil based pastes Paste spray or fog applied formulations using Disodium octaborate as the active.

Each formulation may have different properties, modes of action, ability to penetrate timber and safety risks associated with their use. Application methods and choice of preservative formulations will be influenced by the insect being treated, the accessibility of the timber and indeed the type of timber that is being treated. These factors must be considered by the surveyor when formulating and undertaking treatments to control wood destroying insects. Reinstatate or make arrangement for the reinstatement of any materials that have been removed prior to treatments. Special care must be taken to deal effectively with Death watch beetle and House longhorn beetle infestation. Any control strategy should take into account the inherent difficulty of treating such infestations and the limitations of the chemical treatments that are available. NOTE: If it is not possible to inspect or treat all the surfaces of timber infested by wood destroying insects, or where other factors may limit the effectiveness of a control strategy, the client should be informed and the risk of continued infestation must be made clear, preferably in writing.

## Fungal Decay

Fungal decay affecting building timbers can be divided into two categories:-

Dry Rot – this applies only to True dry rot (Serpula lacrymans)

Wet Rot – this applies to a wide range of fungi, the most common of which are Coniophora puteana and Fibroporia vaillantii

All active fungal attacks result from the presence of excess water within the fabric of a building. The identification and rectification of this water ingress and the removal or control of existing water within the structure must be regarded as the most important element of a successful long term treatment for fungal decay.

## Dry rot

Obtain indications of the possible extent of the outbreak by testing timbers in the vicinity by prodding, preferably with a tool with a screw- driver type point.

Note: Guidance as to the possible extent and direction of spread of fungus within walls can sometimes be obtained by observations aided by the use of an electronic moisture meter. Alternatively, moisture content measurement can be made by inserting timber dowels into holes set into damp masonry. These must be left in the wall for a period to ensure that they reach equilibrium with the surrounding masonry.

The extent of growth of dry rot mycelium should be determined in order to ascertain the extent of risk of infection of adjacent timber. This usually requires opening up of the affected area by removal of joinery, stripping of plaster and lifting of floors.

Note: In areas of the building in which it is known from previous experience that no woodwork is embedded in walls, it may not be necessary to strip large areas of such plaster even though it may be thought to overlie fungus strands. It may then suffice to remove plaster for some 300mm adjacent to woodwork at risk to confirm that no fungus has reached it. Alternatively, the spread of fungus can be determined by removal of plaster samples at intervals. Special considerations must be given to areas of solid flooring which are in contact with dry rot attack.

At the discretion of the surveyor cut out and remove from site all decayed timber. Up to 600mm of sound timber beyond the visible limits of fungal growth may also be removed as a safety margin.

Note: Whilst it is usually economic to cut away the full extent of even lightly affected building softwoods, there are special cases, for example durable timbers both hard and soft woods in which the removal of lightly affected members would be disproportionately costly or would destroy historically important features. In such cases clients should be advised of the possibilities of alternative in situ treatments. Alternatives to complete removal may be particularly appropriate when the affected members are still structurally adequate and will readily dry out after being isolated from damp walls e.g. at first floor level and when effective ventilation can be arranged.

The suggested safety margin may be inadequate in the case, for example, of a wall plate or alternatively it can be excessive in the case of a floorboard where it should normally be necessary only to cut away to the next joint.

NOTE: The extent of the exposure work, strip out, chemical treatments and timber replacement will always be subject to variation and will be dictated by the prevailing site conditions and must ultimately be the responsibility of the surveyor.

Isolate existing sound timbers from dampness.

Note: Isolation of timber in direct contact with damp and infected walls can be effected by means of physical isolation, for example for joist ends, removal of the ends embedded in the walls and re-supporting independently. A variety of support methods are available, suitable for a range of situations (e.g. sleeper walls at ground level, joists hangers RSJ's, concrete lintels, cellar brackets, steel plates etc). The choice will depend on the position of the timbers affected, space availability and, in some cases, providing continuity or lateral restraint to the wall in question.

Remove all identified built-in timbers, lintels, plates, bonding timbers etc. within the affected wall area and replace in accordance with Building Regulations, in a suitable material which may be treated timber, steel, concrete, or brickwork.

In order to reduce the risk of further decay, clean all wall areas and oversites / solum to remove visible surface fungal growth and other cellulose rich materials that may be at risk of decay.

The surveyor must be aware that the long term solution to the eradication of decay in buildings is the elimination of excessive water in the buildings fabric. The use of masonry biocides must therefore be seen as a control that will allow rapid or cost effective reinstatement. Wood preservatives should not be relied upon to provide long term protection against dry rot in conditions where timbers are persistently wet.

Unless otherwise recommended in the survey report and agreed by the client, treat exposed wall surfaces identified as showing evidence of mycelium by one of, or a combination of, the following :

1. surface application of a masonry biocide;
2. localised treatment of specific areas by insertion of preservative plugs or pastes into holes drilled in the masonry.
3. irrigation with fungicidal solution via holes drilled in the wall

The use of controlled heat may be an alternative method of dry rot control however this form of treatment falls outside this document.

Carry out all repairs and replacements. Replacement timbers should be pre-treated in accordance with BS8417 2003 (Use Class 2 or 3) or when this is not possible or practical timbers should be treated on site with a wood preservative recommended by the manufacturer as meeting the requirements of BS8417 2003 when applied as a surface treatment. If cutting to size, notching etc is required, any freshly-cut surfaces should be treated as detailed above. It is desirable for replacement timbers to be protected against dampness especially where they are in contact with masonry walls

Where no alternative solution exist and timbers are to be reinstated into a persistently damp area, only pre-treated timber should be used. In these circumstances the client must be put on notice

preferably in writing that the new timbers will continue to be at risk of decay

Residual sound timbers in the vicinity of the outbreak should be thoroughly cleaned and treated with a fungicidal wood preservative. (the limited value of surface application of preservative in the face of sustained damp conditions must be understood by the surveyor).

## Wet Rot - if discovered

Open up the affected area, cut out and discard structurally unsound timbers

Replace removed timbers preferable with timbers pre-treated in accordance with BS8417 2003 ensuring that any cut ends are retreated, and that there is adequate isolation from the damp walls.

When controlling dry rot and wet rot it is essential that necessary steps to eliminate the source(s) of moisture causing the decay are carried out as part of the overall specification of repairs. This must be included in the specialist contractor's or the responsibility placed on others (e.g. a general builder). In either case, this work should be carried out concurrently, or within a specified period. Particular emphasis should be laid on efficient ventilation, particularly subfloor and roof voids.

## Timber Repairs General

BRITISH & EUROPEAN STANDARDS : comply with the following British and European Standards –

BS EN 335 (2013) Durability of wood and wood-based products. Use classes: definitions, application to solid wood and wood-based products.

BS EN 350-2 (1994) Durability of wood and wood-based products. Natural durability of solid wood. Guide to natural durability and treatability of selected wood species of importance in Europe.

BS 1186-2 (1988) Timber for and workmanship in joinery. Specification for workmanship.

BS 1186-3 (1990) Timber for and workmanship in joinery. Specification for wood trim and its fixing.

BS EN 1313-1 (2010) Round and sawn timber. Permitted deviations and preferred sizes.

Softwood sawn timber.

BS EN 1313-2 (1999) Round and sawn timber. Permitted deviations and preferred sizes.

Hardwood sawn timber.

BS 4978 (2007) +A1:2011 - Visual strength grading of softwood. Specification.

BS 5756 (2007) +A1:2011 Visual strength grading of hardwood. Specification.

BS 8000-5: (1990) - WORKMANSHIP ON BUILDING SITES - Code of practice for carpentry, joinery and general fixings.

BS 8213-1: (2004) - Windows, doors and rooflights - Design for safe use.

BS 8213-4 (2007) - Windows, doors and rooflights. Code of practice for the survey and installation of windows and external doorsets



REPAIRS AND RE-PLASTERING USING EXISTING WOODEN LATHS AND LIME PLASTERS WORK METHOD STATEMENT.

1. Preparation of Ceiling and Removal of Lath and Plaster

2. Repair

3. Laths.

4. Plaster.

1. REMOVAL OF LATH AND PLASTER

Clean all old plaster from between the laths Check all timbers are free from rot, insect activity, and are generally sound.

Use a brush to get rid of any residual materials and vacuum to remove dust. De- nail all timbers.

2. REPAIR

With repair, cut the edges of any existing plaster to half way of the nearest joist: angle the cut on the old plaster at 45 degrees so the new material is applied over the bevel holding the edge of the original plaster in place. Ensure that all laths are securely fixed, re-nail where necessary.

Repairs would normally be carried out following the reinstatement of the key to the rest of the ceiling.

Reinstatement results in the original ceiling being up to three times stronger than the original ceiling and resistant to affects caused by water leaks.

3. LATHS

Provide either oak or chestnut riven laths. The textured surface and exposed grain provides a better key.

Thoroughly wet laths. To remove the absorption from the laths spray with "Westox RAP primer or similar" thoroughly wetting the laths top and bottom, also soak the exposed edges of the plaster around the repair with the primer to "kill" the suction. This also helps to remove the problem of warped laths when the wet plaster is applied. Soaking laths makes them easier to cut with a lath hammer, prevents splinters in the fingers during fixing, makes them easier to nail with less splitting and prevents the expansion of laths following the application of wet plaster which causes key breakage. Lime plasters are badly affected by too much suction so it is important that all suction is controlled.

Fix the lath at every fixing point (joist) using stainless steel fixings, such as nails, cup and screw, screw and washer or stainless steel brad nails. Make sure there is a 6mm – 10mm (3/8") gap between each lath to ensure the lime mix can squeeze through and hook onto the back of the laths.

Fix every lath the same way until you come to fix the eighth lath, move this one over one joist, to create a staggered joint, this will help prevent long, continuous cracks from developing.

Once the whole ceiling or wall is lathed it should be dampened about 10minutes prior to the application of the first coat, this gives time for any excess of water to run off and gives you time to knock up the lime mix. There should't be any droplets of water on the laths, as this will cause the plaster to slide across the laths rather than stick to them.

4. a.

b.

PLASTERING Traditional Plastering Specification

MATERIALS

Plastering Sand. Pitt sand is preferred.

Slaked Lime Putty (minimum 14 days old)

(If hydrated bag lime is used pre-soaking to a putty is necessary to provide the correct volumes)

Cow or Ox hair for reinforcement

PREPARATION OF MATERIALS

Roughly mix the sand and lime together at the ratio of 3 parts sand to 1 part lime and 1 part of teased hair. (all parts are by volume and the same part measurement should be used for each component) Mix by placing 1 portion of lime into a mixer with water and the fibers followed by three portions of sand, tip out after turning over 6 or 7 times.

Form a pile of the material until enough mortar has been mixed that is required for the render and float coats. Cover the pile

with a plastic sheet and leave for a minimum of 14 days before using if the lime has not been previously aged.(All measuring should be with gauging boxes, not shovels)

c. MORTAR.

Take 3 portions of the mixed material (e.g. 3 x 20 litres) this measure will consist of 60 litres of sand and 20 litres of lime (Lime mixes with the sand without increasing the bulk).

d. LIME SET COAT

The basic components of a lime set coat is a reverse of the scratch and float coats, ie, 3 parts sand 1 part lime mortar (Coarse stuff) to 3 parts lime to 1 part sand, set coat (Fine stuff) adjustment might be required depending on the sand and 5 parts lime to 2 parts sand is often the required mix after good clean pit sand is passed through a 300 micron sieve.

Mix the lime plaster in a clean mixing vessel using clean water, mix to a usable consistency and apply a scratch coat directly over the laths at a 45 degree angle to the laths so the plaster passes through the wire and laths curling over to form a key on the back of the laths, apply so approximately 5 to 8mm of the plaster is left on the underside of the laths, allow for initial set and scratch thoroughly ready for the following float coat. After the material has cured for several days mix fresh mortar and fill the area to be repaired or form screeds around the perimeter of the ceiling at the required finished level, if plastering a large area form box screeds to the perimeter screeds, fill between the screeds and rule and devil float to a flat keyed surface ready for the following set coat.

If a lime set is preferred allow three or 4 days before applying the lime set over the float coat (depending on the drying conditions)

e. SET COAT

In a suitable mixing vessel, place 3 portions of lime to 1 portion of sand, and mix to a usable consistency. Apply the mix to the float coat in an even coat at the approximate thickness of 3 to 4mm. After the initial application, lay the material flat and scour the surface with water and a wooden float to compact the material and prevent crazing. (If crazing occurs, increase the portion of sand to 1/2 or 2 parts). When the material is well compacted, apply a "laying in" coat tightly over the surface to fill any voids and finish with a steel trowel and water to a smooth even surface and leave ready for painting.

INTERNAL DECORATION - LIME PLASTERED WALLS ONLY :

Decoration to plastered internal walls generally to be Farrow and Ball Estate Emulsion or equivalent. in an agreed colour.

Formulation: A dispersion of inorganic pigments in a copolymer emulsion.

Usage: A high quality matt emulsion designed for application to internal plaster, stone or wood surfaces. Ensure a sound, clean, dry, dirt-free surface. Where painting on top of alkaline surfaces (i.e. old Lime plaster or cement), apply 2 coats of Farrow & Ball Stabilising Primer to seal. For best results on gypsum plaster surfaces and in all instances where filler has been used apply a coat of Water Based Eggshell Primer before 2 full coats of Estate Emulsion to achieve colour standard. When painting on most other porous surfaces apply a diluted (10% water) sealer coat of Estate Emulsion before 2 full coats to achieve colour standard. This traditional formulation has a greater porosity than many other modern emulsions. While beneficial for the fabric of the building and achieving a softer finish with greater depth of colour, over-coating or touching in should be avoided. See notes above on filling. Due to this product being a very matt finish, care should be taken when using deep shade colours. For best results apply by roller and then always lay off with a brush. This will ensure that any brush patterning effects which are sometimes visible in certain lighting conditions are kept to a minimum. When more than one tin of the same colour is to be used ensure that batch numbers are identical or intermix before use. Please note that some colours mark when washed and due to the very matt surface a tendency to mark or scuff may be seen, especially with dark shades.

Coverage: 60-70 square metres per 5 litres per coat, depending on surface.

Drying Time: 1-2 hours surface dry. Hard overnight.

Thinners: Water. Do not thin except for sealer coat where specified (10%).

Storage: This product is water based and must be protected from frost and extreme temperatures.

this date.

Disposal: Though water based, please do not dispose of into watercourse. Waste materials must be disposed of in accordance with the Environmental Protection Act 1990 and relevant regulations made thereunder.

For further information contact your local Environment Agency office.

Health & Safety: Ensure good ventilation during application and drying. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Avoid contact with skin and eyes. After contact with skin wash immediately with plenty of soap and water or a proprietary skin cleanser. Keep out of reach of children.

EXTERNAL JOINERY SPECIFICATION:

Use Farrow and Ball external oil based eggshell or equivalent.

Formulation: Flexible moisture vapour permeable alkyd resin based in low odour solvent. NB: the use of low odour solvent does not preclude the requirement for ventilation during application. Please read Health & Safety below.

Usage: Flexible eggshell system with high resistance to flaking and peeling, it is durable and water resistant yet allows wood to breathe. For exterior use on including doors, window frames.

Stir thoroughly before use.

When more than one tin of the same colour is to be used ensure that batch numbers are identical or intermix before use.

Surface Preparation & Painting : Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination.

Fill all holes with proprietary exterior filler and prime knots with Farrow & Ball Aluminium Based Primer.

New Surfaces - apply Farrow & Ball Exterior Wood Primer before 2 coats of Exterior Eggshell.

Previously Painted Surfaces - rub down well to achieve a good 'key', sand back fully areas of old paint which have peeled or blistered and patch prime with Farrow & Ball Exterior Wood Primer, before applying 2 coats of Exterior Eggshell. Surfaces that are unsound may not successfully accept further paint layers; if in doubt seek ASK.

Coverage: Up to 32 square metres per 2.5 litres per coat, depending on surface.

Up to 10 square metres per 750ml per coat, depending on surface.

Drying Time: This product should be applied in good weather conditions. Touch dry 4 hours, hard dry 8 hours, re-coat 18 hours. These times are dependent on conditions.

Thinners: Low odour thinner.

Storage: This product has a flash point of over 32°C and is classified as flammable. Observations of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972 will be seen as good practice. Store away from extremes of temperature.

Disposal: Waste materials must be disposed of in accordance with the Environmental Protection Act 1990 and relevant regulations made there under. For further information contact your local Environment Agency office.

Health & Safety: Flammable. Ensure maximum ventilation during application and drying. Keep away from sources of ignition - no smoking. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap and water or a proprietary skin cleanser. Keep out of reach of children.

## MORTAR

**The lime/sand mix specified is applicable to the new walling to the extensions and the Cart Hovel. The masonry pointing specification (applicable to the existing limestone walling) is specified below;**

**MASONRY POINTING SPECIFICATION :**

- i Extent of all existing mortar to be removed, to be agreed with CA before proceeding with the work.
- ii Depth of raking out in preparation for re-pointing to be at least twice the height of the joint and, in any case, not less than 30mm.
- iii Lime-based mortar to be removed by hand or with a churn brush or by scraping (not striking) a chisel across the joint.
- iv Cement-based mortar to be removed by scraping with a chisel where mortar is loose. Where mortar is not loose the Contractor is to provisionally allow for executing a sample panel as directed by the architect and removal with a hammer and chisel (in the event stonework may be harmed more by its removal than being caused by the mortar itself, the mortar will be left).
- v Do not use mechanical chisels, angle grinders, etc. to remove existing mortar.
- vi Remove all loose particles from joints and all organic growth (lichen, moss, etc.) from area of stone immediately adjacent to joint (25mm nom).
- vii Thoroughly dampen down masonry with limewater before re-pointing with lime mortar allowing a period for free water to dry out. As necessary, repeat dampening down of unpointed areas as the work proceeds to ensure masonry is damp when repointed.
- viii Allow for executing sample panels of pointing to a standard approved by the Supervising Officer prior to commencing the works.
- ix Point up raked out joints ensuring that mortar is forced well into joints to fill all voids. Face of mortar to be finished just proud of flush with surrounding stone and filling deeper recesses in face of stones.
- x Where joints are large (i.e., deeper or wider than 30mm), it may be necessary to point up in more than one application (to avoid slumping of mortar or excessive shrinkage) allowing each application to dry to a semi-set condition before applying more mortar.
- xi Mortar joints to be finished flush with surrounding stone with surface of joint lightly tapped with a brush when mortar is semi-set (i.e., when mortar surface can still be worked with a brush but without leaving brush marks in the surface of the mortar or smearing mortar onto surrounding stone).

Re-pointing mortar - adopt the following :

- i Mortar mixed using a gauging box, 1 : 2 1/2 - lime : sand.
- ii Sand to be 50% Gibbons sharp sand and 50% Gibbons builders' sand, subject to approval of sample panels.
- iii Lime to be 1 Chalkhill lime putty.
- iv Mortar to be mixed on site, mix up enough lime/sand mortar at start of contract to complete the work. All coarse-stuff mortar (whether mixed on site or supplied to site) to be stored in plastic tubs (or dustbins) or on timber sheeting and protected from the weather and contamination by polythene sheeting/damp Hessian. Coarse-stuff to be re-mixed immediately before use.
- v If winter work is carried out it is permissible to use hydraulic lime - avoid this if possible. If required, lime would be hydraulic lime hydrate (NHL 3.5) from Hydraulic Lias Limes Ltd, Melmouth House, Abbey Close, Sherborne, Dorset DT9 3LH (Tel: 01935 817220).

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**Proposed Alterations and Extensions  
at Mill Cottages, Mill Lane  
Empingham LE15 8QE**

**Drawing Title : Timber Treatment**

**Client : Mrs. R. Griffin**

**Date APRIL 2024**

**Scale NTS**

**Drawing No JDA/2024/20.2100.TIMBER/001**



CONDITION 3 DISCHARGE APPLICATION DRAWING