

TITHE BARN, ROCHDALE.

METHOD STATEMENT FOR REMOVAL OF RENDER & APPLICATION OF NEW LIME RENDER 1202 – MS-RR-ANLR

REMOVAL OF THE EXISTING RENDER AND APPLICATION OF NEW LIME RENDER.

1.00 Commencement of the Work

- 1.01 Areas around where it is to be worked upon, will be cleared of debris and detritus to ensure it is safe to commence.
- 1.02 If required an independent scaffold is to be erected to provide a safe working platform from which to remove the render.
- 1.03 All windows and doors within the vicinity of the works will be temporally covered and sealed to prevent dust from entering the building and to prevent accidental damage.
- 1.04 Removal of the render will commence in the areas that are currently cracked and work outwards.
- 1.05 Hand tools such as a masonry chisel and hammer are to be used.
- 1.06 The use of hand tools will be used for the entire work.
- 1.07 Throughout the work care is to be taken to ensure that the existing brickwork remains undamaged.
- 1.08 Care will be taken to minimise the size of the sections being removed at any one time, all work will be undertaken one level at a time.
- 1.09 Following removal of the render, exposed surfaces will be brushed of loose materials and dust.

2.00 Application of Lime Render

2.01 The Background Preparation:

Follow good working practices, thoroughly clean the background surfaces, if is found that the background is saturated check externally for cracks or other causes of water penetration. Causes of damp should be remedied and cracks should be cleaned out and sealed with an NHL pointingmortar.

2.02 Keying:

Joints should be raked back (normally 10mm) to provide a key for the under coat.

2.03 Suction Control:

Water applied to reduce excessive suction, particularly on brickwork. This can be carried out the day before, if necessary several times with the last damping just prior to application. Starting at the top and working downwards. In base coats this means that scouring back and keying of the lower section may carried done later than the upper section. Always dampen down before applying subsequent coats.

2.04 Dubbing out:

On defaced surfaces or in areas with a large amount of damaged joints it may be necessary to apply a dubbing out coat (using 3-4mm down well graded aggregate) providing a relatively level surface. In many cases this will be sufficient and joints or holes will not have to be filled with rubble unless quite deep. When a dubbing out coat is used let it set sufficiently before keying it. The most efficient way to apply a dubbing coat is by 'harling'. The strength should, as always, be compatible with the type of background but a moderately hydraulic lime mix, of one part NHL 3.5 to two parts grit sand is recommended in this case. Apply a base coat or scratch coat after 3-4 days (more if very deep recesses have been filled).

2.05 . Undercoat/Scratch:

Coat: to be applied 3-4 days (or more, depending on atmospheric conditions) after completion of daubing out. The undercoat is to consist of one part fat lime to two and a half parts grit sand, (this mix to have stood for at least two weeks and the putty must be at least 3 months old). Just before the mortar is ready for application horse, goat, cow or Yak hair should be added to the mix approx. 0.5 kg per 100 litres. Thickness can vary according to the overall thickness required but it is normally between 10 and 12mm. It must not

be applied over 15mm thick. If this is required it should be done as an extra coat (two intermediate coats) each not above 12mm. The thicker the intermediate coats the longer the waiting time before each application. Provide a criss cross key, creating 25-35mm diamonds, with a pointed but blunt wooden lath.

2.06 Float: Coat: to be applied 4-5 days (or more, depending on atmospheric conditions) after completion of the scratch coat. It's strength should be less than the previous coat. This second undercoat should consist of one part fat lime to 2 and half parts of well graded sand, (this mix should have stood for at least two weeks and the putty used must be at least 3 months old.) Just before the mortar is ready for application goat hair should be added to the mix approx.. 0.5kg per 100 litres. The thickness should be kept between 9 and 11mm. Scour back and key with a devil float after initial setting. Check for shrinkage during the first 2 days and if necessary, lightly dampen the relevant area, scout back and re-key. Do not apply a finishing coat for 4-5 days until undercoat is adequately firm and any small amounts of shrinkage are complete.

2.07 Finishing:

Use a well matured, mix of one part lime putty to two parts of a good quality building sand and provide a sponge finish. This topcoat can be applied in two this coats immediately after each other.

3.00 Lime render to be used

3.01 Hydraulic lime render supplied by Conserv Ltd is to be used and details of the material can be found in the links below and in APPENDIX 1 and APPENDIX 2.. Conserv method statement of application contained in appendix 1 and appendix 2 is to be followed at all times and is to supersede any of the above notes for the guarantee of certification.

[Hydraulic Lime Render | Stunning, Natural Finishes | Conserv® \(lime-mortars.co.uk\)](https://lime-mortars.co.uk/hydraulic-lime-render-stunning-natural-finishes-conserv/)

[Hydraulic Lime Render, Base Coat \(25kg\) | £12.95 | Conserv® \(lime-mortars.co.uk\)](https://lime-mortars.co.uk/hydraulic-lime-render-base-coat-25kg-12-95-conserv/)

APPENDIX 1
BASE COAT

Conserv. Technical File – Natural Hydraulic Lime Mortar



Technical File

Natural Hydraulic Lime Mortar

Manufactured by

Stone Tech (Cleveland) Ltd, Lee Road, Bolckow Industrial Estate,
Middlesbrough, North Yorkshire, TS6 7AR, UK.

SECTION:1

Product Data: NHL3.5 Render base coat

Product Name: Render base coat

Specification: BS EN 998-2:2016 – Mortars for masonry

Specification: BS EN 998-1:2016 – Rendering and plastering

Binder: NHL3.5 to BS EN 459-1:2015

Aggregates: to BS EN 12620:2002 / 30311094 DC (aggregates for mortar)

Particles: good blend-passing*

Grading	G _c 85/20
Passing 4mm	100%
Passing 1mm	98%
6.3mm	2
4mm	1
2mm	1
1mm	98
0.063/Fines	0%

*Per 100mg aggregate sample

Mortar type: moderately hydraulic, HLM3.5

Texture: Medium coarse

Colour: Light brown/fawn

Bed size: 10mm>

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Packaging*:

- 25kg

*all pre-blended and gauged in waterproof packaging.

Mixing:

- cement drum mixer
- forced action mixer
- plaster or mortar whisk

Water: mix to workable consistency based on application requirements

Application:

- Render base for scratch and float coat.

Storage:

- keep dry and frost-free
- shelf life is 6 months (when unopened)

Protection: mask alkaline sensitive materials (e.g. lead and copper flashings)

Typical Performance* (on full cure)

Resistance to freeze-thaw	moderate (10-25 cycles)
Resistance to Sulphate exposure	very high (>50 cycles)
Resistance to freeze-thaw in Sulphate conditions	moderate (10-25 cycles)
Carbonation rate	moderate
Capillary rise (mm's in 6 hrs.)	moderate (76-100)
Typical compressive strength (MPa)	2.51-28 days 3.36- 56 days
Compressive strength at 91 days (MPa)	3.44 typical at 10-15c
Flexural strength (MPa) 10-15c	0.46-28 days 1.17-56 days 1.31-91 days
Vapour permeability on complete Carbonation. grams / 100mm ² /24hrs	0.74
Mortar durability class	3 to 4
Minimum application temperature	5°C and rising
Mix Ratio	3 to 1 by volume

*actual performance will depend upon various factors; including water content, site mixing, site curing, workmanship and weather conditions

SECTION: 2

Instructions for use

Water

<i>Water content approx 15% by weight but must be spreadable</i>
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Mixing

- natural hydraulic lime mortar comes in a number of different formats
- inside the packaging, you will find a pre-mixed blend of aggregates and natural hydraulic lime
- the product usually comes pre-gauged, meaning it can be placed directly into a mixing vessel

Follow these steps to mix your mortar:

1. place the product in a suitable mixing vessel (a traditional cement mixer, forced action mixer or paddle, whisk and Trug)
2. add the aggregate first, then the lime
3. dry mix for 2 to 5 minutes, depending upon quantity
4. add a small amount of water and mix together for 5 minutes until a stiff consistency has been reached
5. leave to stand for 10 minutes before slowly adding more water to achieve your desired application consistency
6. mix for no less than 15 minutes (this gives the sand enough time to absorb the lime and help plasticity, with any water raised to the surface being absorbed back into the aggregate and lime by the remixing process)

The mixture will set overnight, although it will take 91 days to fully cure and harden.

Application

Preparation: follow good working practices, ensuring that the background is thoroughly clean. If removing vegetable growth using biocides check that these would not react with the plaster causing stains.

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Causes of damp should be remedied and cracks should be cleaned out, (packed with low fire clay tiles or slate if necessary) and sealed with an NHL pointing mortar and allowed to cure for 1 or 2 days before rendering starts. Where there has been prolonged water penetration through the core of the wall it might be necessary to grout the cavity.

Rake out joints to provide a key (at least every other joint).

Clear any loose mortar. Wet background well (old bricks will absorb a lot of water) to control suction and minimize shrinkage.

Suction Control: if necessary, apply sufficient water to reduce excessive suction, especially on bricks and porous stone. On many occasions this is done the day before, if necessary, several times with the last damping just before application starts. Apply water starting at the top of the structure.

Old bricks require more water than new ones. The top of the structure will dry out before the bottom. In base coats this means that scouring back and keying of the lower section might have to be done later than the upper section. Always dampen down before applying subsequent coats.

Keying: Sometimes joints are raked back (normally 10mm), this is not always necessary with

NHL plasters unless the background is very smooth and not porous. Stipple or Spatter dash coats can provide adequate keying to the background.

Crisscross patterns using a pointed wooden lath are much preferred to combing when a key is being provided to the scratch coat.

On laths the keying should be undertaken diagonally so as not to disturb the rivets on the back of the lath

Dubbing Out: Defaced surfaces or in areas with a large amount of damaged joints it may be necessary to apply a dubbing out coat to provide a relatively level surface. In most cases this will be sufficient, and joints or holes will not

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have to be filled with rubble unless quite deep. When a dubbing out coat is used let it set sufficiently (10 hours) before keying it.

The most efficient way to apply a dubbing coat is by harling. The strength should, as always, be compatible with the type of background. Apply base coat or scratch coat after approx, 5 days or more, site conditions will dictate.

Setting Properties of NHL Mortars: The setting properties of NHL mortars require less time for protection against adverse weather conditions compared with fat lime mortars.

Precautions are however necessary and for further advice contact us for further details.

Protect from frost, heavy rain, strong wind or direct sun for a minimum of: -
NHL 2: - 96 hours

The preferred form of moisture control is mortar fleece or hessian cover which, which can be pre-dampened to contribute towards curing the mortar.

Work should not start in frost conditions or with temperatures below 5°C. In working with

NHL 2 or in rendering with fine finishing coats, this should be 8°C.

Reworking: NHL mortars can be reworked (up to 24 hours with NHL 3.5 and NHL 2). This is due to the absence of cement or gypsum in the lime and due to the minimal quantity of aluminates. Material left covered overnight can be reworked in with fresh material the following day

Method: **3 coat work**

A Stipple or Spatter dash coat (Key Coat-optional): can be used on strong, smooth and variable backgrounds. The normal thickness varies between 3 and 5 mm. This coat has to provide sufficient bonding to support the remaining coats of plaster. The thickness of the first coat depends on the nature of the background, the overall thickness required and the keying function.

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Setting time: should be allowed in-between each coat of render. 1 day per mm thickness of render is recommended.

1st/ Undercoat/Scratch Coat: (use render base) to be applied 2 days (or more, depending on atmospheric conditions) after completion of the stipple coat. Thickness can vary according to the overall thickness required but it is normally between 10 and 15 mm. It must not be applied over 20 mm thick. If this is required it should be done as an extra coat (two intermediate coats) each not above 20 mm. The thicker the intermediate coats the longer the waiting time before each application. Key the mortar in readiness for subsequent coats.

2nd/Float Coat: (use render base) to be applied 3-4 days (or more, depending on atmospheric conditions) after completion of the scratch coat. The thickness should be kept between 10 and 15 mm.

3rd/ Finishing Coat: (use render finish), 6- 8 mm. This can be applied in one thin coat, keeping it as thin as possible.

Optional: a rough textured harling coat can be applied between 12.5 and 16mm thick.

Plastering on Different Materials: Where different materials meet, and where there are timber lintels and other changes in the background material it is necessary to insert a metal mesh at the joint (at least 100 mm. each side). Consider the different suction characteristics of the background material. Hair or alkali-resisting fibres can be added to the first coat or applied to metal Riblath to increase the bond and tensile strength.

Ensuring a Level Surface: To achieve a level surface vertical timber battens are fixed on the wall at 2-2.5 m. intervals. If the wall is uneven use spacers and

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check that battens are straight with a plumb level. Screed off excess mortar between battens with a wooden straightedge spanning between the battens.

When battens are taken down, fill in strips with the same mortar. An alternative is to make running screeds 10 cm. wide at regular intervals using the battens as described above and applying the base coats in between them.

Scour back and key with a devil float after initial setting. Check for shrinkage during the first

2 days and, if necessary, lightly dampen the relevant area, scour back and re-key. Do not apply a finishing coat until undercoat is adequately firm and any small amounts of shrinkage are complete. See setting times, this is especially critical on timber lathed ceilings.

Note: in all plaster, coats should be applied firmly to exclude air and any excessive moisture. Suction needs to be carefully controlled at all times.

Rendering on Wooden Lath: It is recommended that wood lath backgrounds should be soaked for at least a week before fixing or if that's not achievable immersed in water the day before fixing, and again 2 hours before work proceeds.

This will ensure that the lath is wet when fixed. It will then shrink and pull tight so that when the plaster is applied it can only expand back to its original fixing position. The constant principle is that at no time should the lath be so dry that it will absorb moisture rapidly from the first coat when it is applied. If the wall becomes dry in patches, these areas should be damped again to ensure uniform adhesion.

Hair must be added to all but the finishing coat at the rate of 2 grams per kilo of plaster. Hair should be long, curly as possible and preferably from animals overwintered outdoors. Straight hair should be avoided if possible and the hair teased into the plaster at the point of mixing and just before application. The

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mortar for the first coat should be stiff enough to hold up when laid, but sufficiently plastic to squeeze easily through gaps between the laths. Lath spacing should be no more than twice the width of the largest particle size in the plaster base (which is 5mm in our products) so would require 10mm spacing between the laths.

The type of lath used would typically be specified by the architect or conservation officer. This could be sawn or riven. Sawn are usually Larch and riven are usually chestnut or oak.

You will require approx 100 linear feet of sawn larch per sq. mtr Supplied in bundles of 200 ft in 4 ft lengths. Other types of lath would vary. These are generally fixed using stainless steel annular ring shank nails. Although nail guns are more commonplace the nails should be nonferrous.

The first coat should be laid in a diagonal direction across the lath firmly pushing the plaster through the lath spacing's, which will form rivets behind that laths, the hair will reinforce the rivets. After the surface has steadied up provide a crisscross key with a pointed wooden lath. The first coat should be laid to aprox 12mm. Subsequent coats are applied and looked after in the same way as is described above but the first coat must be sufficiently hard enough not to snap the rivets whilst applying subsequent coats.

Protection:

- protection of your completed work is critical.
- strong sunlight and high winds will accelerate the drying process, leading to shrinkage whilst rain may wash out the mortar and temperatures below zero may freeze it
- Mortar Fleece can provide comprehensive protection until the product is fully cured
- Hessian Sheeting can also be used, but do not use plastic sheeting as it is ineffective
- if the masonry being worked on has been recently laid or is subject to heavy rain, ensure that it remains protected for a long enough period

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If the mortar is for external use, do not apply in temperatures under 5°C. The material must be protected from the weather during placement and curing. Winter working will greatly increase the curing period and may reduce performance.

Sustainability

It is calculated based on the volume of lime present per cubic meter of the designed lime mortar mix. This will be subsequently compared to that of a standard cement mortar mix.

The CO₂ footprints of the binders were calculated in isolation because all the other major components of a mortar mix (sand and water) are constant.

Referencing the World Business Council for Sustainable Development (WBCSD 2009) it can be stated that nearly 900kgs of CO₂ is emitted per tonne of cement.

Referencing Danish Technologist Institute (2005) and European Cement Research Academy (2008) and the World Council for Sustainable Development (2011), it can be stated that a scenario in which cement in its life cycle can absorb 30% of its total CO₂ emissions.

Average cement mortar atmospheric CO₂ absorption =30%=0.3 x 900kgs=270kg

The net total of CO₂ emissions per tonne of cement 900KG- 270kg = 630 KG

Similarly referencing European Environment Agency (2009) a max of 750kgs of CO₂ is emitted in the calcination of limestone and a range of 200kg -450kg of CO₂ is emitted during the combustion of fossil fuels for per tonne of lime all dependent on the components of the limestone the fuel type the heat required and degree of calcination.

The World Council on Sustainable development (2011) further asserted that a default value of 525kg per tonne of lime can be taken as the amount produced in the calcination of lime per ton of lime =875kgs of CO₂.

Average lime mortar atmospheric CO₂ absorption =75%=0.75 x 875kgs = 656kg

The net total of CO₂ emissions per tonne of lime produced 875KG – 656.25kg = 219KG

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Making the production of lime and lime products more environmentally sustainable.

European Standard

	Ref Standard: BS EN 998-2:2016 Mortars for Masonry BS EN 998-1:2016 -Rendering and plastering mortar Instructions: Please read the documents attached Manufactured By: Stone Tech (Cleveland) Ltd Lee Road, Bolckow Ind Est, Middlesbrough. TS6 7AR
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Other Information:

- sample panels should be prepared and approved before the full application of this product
- the information contained in this data sheet is, to the best of our knowledge, true and accurate (last updated April 2013)
- prepared in accordance with Directive 2001/58/EC & UK Statutory Regulations (CHIP 3)
- Conserv is a registered trademark of Stone Tech (Cleveland) Ltd

APPENDIX 2
FINISHING COAT

Conserv. Technical File – Natural Hydraulic Lime Mortar



Technical File

Natural Hydraulic Lime Mortar

Manufactured by
Stone Tech (Cleveland) Ltd, Lee Road, Bolckow Industrial Estate,
Middlesbrough, North Yorkshire, TS6 7AR, UK.

SECTION:1

Product Data: NHL3.5 render finish-Elm Cragg

Product Name: Render finish coat/Elm Cragg

Specification: BS EN 998-2:2016 – Mortars for masonry

Specification: BS EN 998-1:2016 – Rendering and plastering

Binder: NHL3.5 to BS EN 459-1:2015

Aggregates: to BS EN 12620:2002 / 30311094 DC (aggregates for mortar)

Particles: good blend-sustainably sourced

Grading	G _r 80
Passing 4mm	100%
Passing 1mm	87%
Passing 2mm	13%
0.0250 (37%)	
0.063/Fines	0%

Per 100mg aggregate sample

Mortar type: Moderately hydraulic, HLM3.5

Texture: fine

Colour: Oatmeal

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Packaging*:

- 25kg

*all pre-blended and gauged in waterproof packaging.

Mixing:

- forced action mixer
- plaster or mortar whisk

Water: mix to workable consistency based on application requirements

Application:

- render finish coat

Storage:

- keep dry and frost-free
- shelf life is 6 months (when unopened)

Protection: mask alkaline sensitive materials

Typical Performance* (on full cure)

Resistance to freeze-thaw	moderate (10-25 cycles)
Resistance to Sulphate exposure	very high (>50 cycles)
Resistance to freeze-thaw in Sulphate conditions	moderate (10-25 cycles)
Carbonation rate	moderate
Capillary rise (mm's in 6 hrs.)	moderate (76-100)
Typical compressive strength (MPa)	2.51-28 days 3.36- 56 days
Compressive strength at 91 days (MPa)	3.44 typical at 10-15c
Flexural strength (MPa) 10-15c	0.46-28 days 1.17-56 days 1.31-91 days
Vapour permeability on complete Carbonation. grams / 100mm ² /24hrs	0.74
Mortar durability class	3 to 4
Minimum application temperature	5°C and rising
Mix Ratio	3 to 1

*actual performance will depend upon various factors; including water content, site mixing, site curing, workmanship and weather conditions

SECTION: 2

Instructions for use

Water

Water content approx 15% by weight but must be spreadable

Mixing

- natural hydraulic lime mortar comes in a number of different formats
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Follow these steps to mix your mortar:

1. place the product in a suitable mixing vessel (a traditional cement mixer, forced action mixer or paddle, whisk and Trug)
2. add the aggregate first, then the lime
3. dry mix for 2 to 5 minutes, depending upon the quantity
4. add a small amount of water and mix for 5 minutes until a stiff consistency has been reached
5. leave to stand for 10 minutes before slowly adding more water to achieve your desired application consistency
6. mix for no less than 15 minutes (this gives the sand enough time to absorb the lime and help plasticity, with any water raised to the surface being absorbed back into the aggregate and lime by the remixing process)

The mixture will set overnight, although it will take 91 days to fully cure and harden.

Application

Preparation: follow good working practices, ensuring that the background is thoroughly clean. If removing vegetable growth using biocides check that these would not react causing stains.

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Causes of damp should be remedied and cracks should be cleaned out, (packed with low fire clay tiles or slate if necessary) and sealed with an NHL pointing mortar and allowed to cure for 1 or 2 days before commencement. Where there has been prolonged water penetration through the core of the wall it might be necessary to grout the cavity.

Rake out joints to provide a key (at least every other joint).

Clear any loose mortar. Wet background well (old bricks will absorb a lot of water) to control suction and minimize shrinkage.

Suction Control: if necessary, apply sufficient water to reduce excessive suction, especially on bricks and porous stone. On many occasions, this is done the day before, if necessary, several times with the last damping just before application starts. Apply water starting at the top of the structure.

Old bricks require more water than new ones. The top of the structure will dry out before the bottom. In base coats this means that scouring back and keying of the lower section might have to be done later than the upper section. Always dampen down before applying subsequent coats.

Keying: Sometimes joints are raked back (normally 10mm), this is not always necessary with

NHL plasters unless the background is very smooth and not porous. Stipple or Spatter dash coats can provide adequate keying to the background.

Crisscross patterns using a pointed wooden lath are much preferred to combing when a key is being provided to the scratch coat.

On laths, the keying should be undertaken diagonally so as not to disturb the rivets on the back of the lath

Dubbing Out: Defaced surfaces or in areas with a large number of damaged joints it may be necessary to apply a dubbing out coat to provide a relatively level surface. In most cases, this will be sufficient, and joints or holes will not

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have to be filled with rubble unless quite deep. When a dubbing out coat is used let it set sufficiently (10 hours) before keying it.

The most efficient way to apply a dubbing coat is by harling. The strength should as always, be compatible with the type of background. Apply base coat or scratch coat after approx, 5 days or more, site conditions will dictate.

Setting Properties of NHL Mortars: The setting properties of NHL mortars require less time for protection against adverse weather conditions compared with fat lime mortars.

Precautions are however necessary and for further advice contact us for further details.

Protect from frost, heavy rain, strong wind or direct sun for a minimum of: -
NHL 2 - 96 hours

The preferred form of moisture control is mortar fleece or hessian cover which, which can be pre-dampened to contribute towards curing the mortar.

Work should not start in frost conditions or with temperatures below 5°C. In working with NHL 2 or with fine finishing coats, this should be 8°C.

Reworking: NHL mortars can be reworked (up to 24 hours with NHL 3.5 and NHL 2). This is due to the absence of cement or gypsum in the lime and due to the minimal quantity of aluminates. Material left covered overnight can be reworked in with fresh material the following day

Method: **3 coat work**

A Stipple or Spatter dash coat (Key Coat-optional): can be used on strong, smooth and variable backgrounds. The normal thickness varies between 3 and 5 mm. This coat has to provide sufficient bonding to support the remaining coats. The thickness of the first coat depends on the nature of the background, the overall thickness required and the keying function.

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Setting time: should be allowed in-between each coat. 1 day per mm thickness is recommended.

1st/ Undercoat/Scratch Coat: (use render base) to be applied 2 days (or more, depending on atmospheric conditions) after completion of the stipple coat. Thickness can vary according to the overall thickness required but it is normally between 10 and 15 mm. It must not be applied over 20 mm thick. If this is required it should be done as an extra coat (two intermediate coats) each not above 20 mm. The thicker the intermediate coats the longer the waiting time before each application. Key the mortar in readiness for subsequent coats.

2nd/Float Coat: (use render base) to be applied 3-4 days (or more, depending on atmospheric conditions) after completion of the scratch coat. The thickness should be kept between 10 and 15 mm.

3rd/ Finishing Coat: (use render finish), 6- 8mm. This can be applied in one thin coat, keeping the finish coat as thin as possible.

Different Materials: Where different materials meet, and where there are timber lintels and other changes in the background material it is necessary to insert a metal mesh at the joint (at least 100 mm. each side). Consider the different suction characteristics of the background material. Hair or alkali-resisting fibres can be added to the first coat or applied to metal Riblath to increase the bond and tensile strength.

Ensuring a Level Surface: To achieve a level surface vertical timber battens are fixed on the wall at 2-2.5 m. intervals. If the wall is uneven use spacers and check that battens are straight with a plumb level. Screed off excess mortar between battens with a wooden straightedge spanning between the battens.

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When battens are taken down, fill in strips with the same mortar. An alternative is to make running screeds 10 cm. wide at regular intervals using the battens as described above and applying the base coats in between them.

Scour back and key with a devil float after initial setting. Check for shrinkage during the first

2 days and, if necessary, lightly dampen the relevant area, scour back and re-key. Do not apply a finishing coat until undercoat is adequately firm and any small amounts of shrinkage are complete. See setting times, this is especially critical on timber lathed ceilings.

Note: in all, coats should be applied firmly to exclude air and any excessive moisture. Suction needs to be carefully controlled at all times.

Rendering on Wooden Lath: It is recommended that wood lath backgrounds should be soaked for at least a week before fixing or if that's not achievable immersed in water the day before fixing, and again 2 hours before work proceeds.

This will ensure that the lath is wet when fixed. It will then shrink and pull tight so that when the plaster is applied it can only expand back to its original fixing position. The constant principle is that at no time should the lath be so dry that it will absorb moisture rapidly from the first coat when it is applied. If the wall becomes dry in patches, these areas should be damped again to ensure uniform adhesion.

Hair must be added to all but the finishing coat at the rate of 2 grams per kilo of plaster. Hair should be long, curly as possible and preferably from animals overwintered outdoors. Straight hair should be avoided if possible and the hair teased into the plaster at the point of mixing and just before application. The mortar for the first coat should be stiff enough to hold up when laid, but sufficiently plastic to squeeze easily through gaps between the laths. Lath spacing should be no more than twice the width of the largest particle size in

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the plaster base (which is 5mm in our products) so would require 10mm spacing between the laths.

The type of lath used would typically be specified by the architect or conservation officer. This could be sawn or riven. Sawn are usually Larch and riven are usually chestnut or oak.

You will require approx 100 linear feet of sawn larch per sq. mtr Supplied in bundles of 200 ft in 4 ft lengths. Other types of lath would vary. These are generally fixed using stainless steel annular ring shank nails. Although nail guns are more commonplace the nails should be nonferrous.

The first coat should be laid in a diagonal direction across the lath firmly pushing the plaster through the lath spacing's, which will form rivets behind that laths, the hair will reinforce the rivets. After the surface has steadied up provide a crisscross key with a pointed wooden lath. The first coat should be laid to approx 12mm. Subsequent coats are applied and looked after in the same way as is described above but the first coat must be sufficiently hard enough not to snap the rivets whilst applying subsequent coats.

Protection:

- protection of your completed work is critical.
- strong sunlight and high winds will accelerate the drying process, leading to shrinkage whilst rain may wash out the mortar and temperatures below zero may freeze it
- Mortar Fleece can provide comprehensive protection until the product is fully cured
- Hessian Sheeting can also be used, but do not use plastic sheeting as it is ineffective
- if the masonry being worked on has been recently laid or is subject to heavy rain, ensure that it remains protected for a long enough period

If the mortar is for external use, do not apply in temperatures under 5°C. The material must be protected from the weather during placement and curing.

Conserv. Technical File – Natural Hydraulic Lime Mortar

Winter working will greatly increase the curing period and may reduce performance.

European Standard

	Ref Standard: BS EN 998-2:2016 Mortars for Masonry BS EN 998-1:2016 -Rendering and plastering mortar Instructions: Please read the documents attached Manufactured By: Stone Tech (Cleveland) Ltd Lee Road, Bolckow Ind Est, Middlesbrough. TS6 7AR
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Other Information:

- sample panels should be prepared and approved before the full application of this product
- the information contained in this data sheet is, to the best of our knowledge, true and accurate (last updated April 2013)
- prepared in accordance with Directive 2001/58/EC & UK Statutory Regulations (CHIP 3)
- Conserv is a registered trademark of Stone Tech (Cleveland) Ltd