APPENDIX 9

New Render Work as per St Astier Specification (taken from their website)

Natural Hydraulic Lime (NHL) Renders

The correct specification for any render should consider the nature and condition of the background, site exposure, time of the year (weather maps / rainfall and wind driven rain indices are available from the BRE) and type of finish required.

The success of a render depends on ensuring good background preparation and suction control, the correct choice of a mortar and its application. Sample panels should always be carried out.
The durability of a render depends on mortars that will adhere to the background, are able to breathe and resist harsh climatic conditions that can and do occur even in relatively benign climate zones. A good bond to the substrate and between all coats is essential to the soundness of the render structure. Bonding is both physical and mechanical:

- A physical bond is achieved by controlling the suction correctly, such that a suction bond develops. The natural surface condition can also offer a good key.
- Mechanical bonding is induced by the method of application. Ensuring good keying between layers, and especially the first coat, by casting/harling or spraying is by far the most successful method.

To avoid potential de-bonding and cracking each coat should be not be richer in binder or thicker than the preceding one (thicker base coats are applicable on thin stipple/scratch coats).

Sands for renders.
In dubbing out, stipple coats and base coats the sands should be well graded, washed and free of clay/silt (particles below 0.075). Use sharp sands from 3 or 4mm, down to 0.075mm, with the bulk of the sand in the 1.18mm/0.6/0.3/0.15 range. Fine sands or monogranular sands (bulk in 1 or 2 grades only) are to be avoided.
In finishing coats, finer sands, still well graded, can be used for smooth finishes (avoid overtrowling). Particular attention will have to be paid to finishing coats with fine sands to avoid high shrinkage due to the high amount of water that fine sands absorb. The use of a wooden float, energetically applied in small circular motions, will help. Floating with plastic floats is not suitable. Sponge floats can be used after the wooden float work is completed to achieve a particular texture in the finish. Curing will also be important. Small hairline shrinkage cracks can be healed if treated in time with a light water mist.

Note: the finer sand particles are the ones mostly responsible for colour and therefore used for colour rendition. If the fines denote presence of clay (particles below 0.075) the NHL binder quantity should be reduced (clays are also binders!). A wet sieving analysis is recommended to check clay / silt content.

Check that any movement cracks are stable and where necessary ensure they are properly tied and if needed, grouted/pinned/pointed. Careful removal of existing renders will result in less remedial repairs prior to re-rendering. Removal of failed or inappropriate existing render or finishes, including many types of paint, may require the walls to be left to dry out properly before re-rendering and time should be allowed for this. Ensure all repairs to the background are completed and that loose pinning stones or defective bricks are repaired or replaced prior to commencement of any rendering. Partial or

complete re-pointing / consolidation may be required. Remove all loose and friable materials, remove and treat all organic growth, use biocides where applicable, ensuring that they will not affect the mortar.

Newly built walls should be allowed to dry properly, usually 1 month. This will not take place readily in winter conditions.

Repointing before rendering: if this is necessary it should be done with a compatible mortar.

Detailing: inspect all details, i.e. copings etc. Check gutters and down pipes and all forms of roof drainage, ground drainage and general ground conditions. Make sure all the above items are functioning properly and where remedial action is required, ensure it is completed before proceeding with render work.
Rendering should never come into contact with soil. Renders should be kept clear of the ground or finish at the base of a wall into free draining gravel.

Dubbing out: on defaced surfaces or in areas with a large amount of damaged joints it will be necessary to apply a dubbing out coat to provide a level surface. In most cases this will be sufficient with mortar, however very deep joints or hollows should be pinned to reduce the mass of mortar. When a dubbing out coat is used, let it set sufficiently (8-10 hours) before scraping it and keying it. Apply the first coat after approx. 2 days (more if very deep recesses have been filled) and depending on weather conditions.
Dubbing out should leave a relatively flat surface, keyed as necessary, on which to render.

Suction control: if needed, apply sufficient water to reduce excessive suction, especially on bricks and porous stone. Old bricks often require more water than new ones. 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. Over saturation of the background will result in loss of bond. Never render backgrounds that have standing water on the surface. Always dampen preceding coats before applying next coat.

It should be noted that in the presence of different suction levels the degree of dampening will vary accordingly.

Keying: provide adequate keying between background and base coat and between each coat. Crisscross patterns are preferred to combing. Make sure that keying does not cut too deeply. Sometimes joints in brickwork are raked back (normally 10mm), this is not necessary with NHL renders if a stipple coat is applied cast on, harled or sprayed on.

Two coat work

Two coat work is suitable for renders with an overall thickness of approx. 15 mm. on surfaces that provide adequate suction and a good key. On surfaces offering poor suction and keying, it is recommended to use a stipple coat (3-4mm thick) applied by casting on, harling or spraying. The main coat can be applied after sufficient hardening and finished as required. Alternatively use 3 coat work by applying a finishing coat.
On two coat work the base coat will be the thickest (up to 10mm, more if applied in 2 passes) and with a binder: sand ratio of 1:1.5 or 1:2. Use mainly NHL 5 or NHL 3.5.
This can be laid on or preferably cast/sprayed on. Scour back and key after initial setting.
To ensure a flat and uniform surface see "Ensuring a level surface" under Undercoat in 3 coat work section.

Curing: check for initial shrinkage. If found, dampen surface lightly with water and tighten back and re-key. Repeated shrinkage is usually a function of poor quality sands, poor suction control or rapid drying.

Finishing coat: use NHL 3.5 (Chaux LC pure) or NHL 2 (Terechaux) (see individual product sheets) 5mm max. for smooth or light textured finishes, 7-8mm for coarse finishes (tyrolean, roughcast etc).

Smooth and light textured finishes: use finer well graded sands, 1-2mm down to 0.075mm. Add just enough water to obtain required workability. The more water is added the higher the risk of shrinkage. When the mortar is firm enough, proceed to float up with a cross-grained wood float. This is the most important phase of the finishing work and should be done diligently together with good curing and protection it is vital in obtaining a good finish. See "Protecting Lime Mortar".

Coarse finishes: use coarser sands if thick (rustic) granular finishes are required. The thickness of the coat depends on the final finish required. Some of these finishes, especially the ones requiring special skills such as cottage, scraped and travertine effects, could also be done by using the same type of sand as smooth and light textured (floated) finishes. In these and tooled renderings (patterned), if initial shrinkage takes place, lightly dampen the surface and re-float the area during the first day or two. Tooling is normally applied when the render is 5-7 days old.

Dry dashing: throw the chosen aggregate onto soft mortar and leave exposed. To speed up the work a plasterer throwing the aggregate can follow the laying on plasterer.
Curing: curing by water mist over 3 to 4 days, if necessary more than once a day, is essential when weather conditions would cause quick drying. See "Protecting Lime Mortar".

Three coat work

Background preparation, sands, suction control, keying and dubbing out: as previously described.
First coat: has to provide sufficient bonding. Stipple or spatterdash can be used on all backgrounds, but especially on impervious and smooth background. Leave these coats rough to provide a key. Use richer mix (1:1.5 preferably). The normal thickness is between 3 and 5 mm. On soft or weak background use 1:2 or 2:5. Successive coats must be weaker than this coat. The thickness of the first coat depends on the nature of the background and the overall thickness required of the render.

A laid on scratch coat can be used on old bricks or surfaces providing a good key (greater care is required in application to ensure good bonding with the background). It will be scoured back with a cross grained wood float and keyed (crisscross keying pattern preferred) once initial stiffening has taken place.

Second coat (straightening): to be applied 2 days (or more, depending on weather conditions) after completion of first coat. Its strength should be less than the first coat. Thickness will vary according to the overall thickness required but it is normally between 10 and 15 mm. It must not be over 20 mm thick. If this is required it should be done in successive coats each not exceeding 20 mm. The thicker the intermediate coats, the longer the waiting time before each subsequent application.

Ensuring a level surface: to achieve a uniform and level surface fix vertical timber battens or dab's on the wall at 2-2.5 m. interval. If the wall is uneven use spacers and check that battens are straight with a plumb level. Fill out to screeds, if necessary in layers. 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 100mm. wide at regular intervals. Scour back and key as usual after initial setting. Check for shrinkage during the first 2 days and, if necessary, lightly dampen the relevant area, tighten back and re-key. In case of intermediate coats this would apply to each coat. Do not apply finishing coat until undercoat is adequately hardened.

Finishing coat and curing: as per 2 coat work.

Protecting NHL mortars and renders
The setting properties of NHL mortars require protection against adverse weather conditions. Precautions are necessary and, if in doubt, your St. Astier Distributor will be able to advise further.

See "Protecting Lime Mortar".

Early exposure to rain will cause some moisture absorption in the first few millimeters of a fresh render. If frost occurs, there might be damage. The figures given above refer, therefore, to a render that has not been subject to water penetration in its early life.

The preferred form of protection is hessian covers that, with re-damping, will also contribute to curing the mortar. Hessian covers are essential to protect against frost. Plastic sheeting is effective against rain but should be kept clear of fresh work. If too tight it will generate condensation leading to unsightly staining. It will not protect against frost. Frost protection should be provided even if frost is not occurring at the moment of finishing the day's work but is forecast during the early days of a mortar. Work should not start in frost conditions or when frost is forecast or with temperatures below 5°C. In working with NHL 2 or in rendering with fine finishing coats, this should be 8°C. Protection from the quick drying effects of wind or direct strong sun should be provided by using shading sheets on scaffolding. See "Protecting Lime Mortar".

Good working practices

In this document we have already discussed items such as background preparation, suction control, detailing, keying, protection and curing. A good and durable result depends mainly on these factors, the correct mortar mix, sand, dosages and workmanship. One item not to be overlooked is scaffolding. Where scaffolding is being used make sure that the scaffolding has adequate clearance from the face of the wall to allow application, avoiding unsightly lift lines. Scaffolding should project past all areas to be rendered to allow for protection of the new work against direct rainfall. Generally scaffolding should be capable of carrying the protective screens necessary to shade the work and prevent rapid uncontrolled drying and any covers needed to protect against frost. See "Protecting Lime Mortar".

NHL Renders Diagnostics

Defect	*Causes*	*Remedies*
Shrinkage &Cracking greaterthan 2mmLess than 2mmHairline cracks	General or partial movement of the backgroundor the building.Thermal movement. Poor workmanship. Render toothick. Too much water in mix. Over saturatedbackgrounds. Insufficient setting between coats.Bad preparation of background. Over saturatedbackground. Too much binder. Too many fines insand. Finishing coat to thick. Too much water in themix. Rapid drying / lack of protection.Too much sun or wind during curing.	Check if movement is stillactive. (Engineer tocheck). If building stable,repair cracks / areas.Depending on extent, openout crack and fill with samemortar.Either apply slurry fill ifsound or remove andreplace properly.
Loss of Bond	Poor background preparation. Poor suction control.Over saturated background. Background toosmooth. Incompatibility with existingbackground. Insufficient strength in bondingcoat. Background movement. Metal	Repair or replace as appropriate. Consolidation by grouting may be considered.

	corrosion. Saltcrystallisation. Excessive or late towelling.	
Bulging	Poor background preparation. Incompatibility with existing background. Metal corrosion. Frost damage during curing.	Depending on the extent of damage, either partial repair or total replacement. Neutralise and treat any rusting metal.
Powdering / Friability	De-calcification of render (loss of binder). Poor background preparation. Poor suction control. Rapid evaporation of water during application, (pror to adequate set). Frost damage. Insufficient binder dosage. Variation in surface compaction / finishing. Poor sands.	Partial or total repair with correct mortar applying due protection and following best practice.
Water penetration.	Poor background preparation. Weak mortars.Bad detailing.	Partial repair. Light repairs with several coats of lime wash. Rectify detailing problems. Replace if necessary.

NHL Renders - Some recommended mixes

Background Prepare background Re-point and dub out as necessary with compatible mortar.	**Stipple Coat Cast or sprayed on only** Must be used on poor suction, dense / smooth surfaces. Leave as Cast Cure 2-4 days	First Coat Cast, spray or lay on. Well-keyed background. Control suction. Leave Keyed Cure 4-7 days	**Second Coat** Cast, spray or lay on. Control suction. Straightening coat. Leave keyed. Cure 7-10 days. Finishing coat in 2 coats work.	**Finish** Cast, spray or lay on. Control suction Finish as required Cure min 3-10 days
Cob / Earth	Mix 1A - Sand SG3-5mm	Mix 1B - Sand SG10-15mm	Mix 1C - Sand SG5-10mm	Mix 1C - Sand SF / FS3-5mm
Wooden Lath		Mix 2B/3B - Sand SC12-15mm (8-10 cover)	Mix 2C - Sand SC8-10mm	Mix 1C - Sand SF3-5mmMix 2C - Sand SM5-8mm
Metal Lath		Mix 3B - Sand SC10-15mm (8-10 cover)	Mix 2B - Sand SM10-20mm	Mix 1C - Sand SF3-5mmMix 2C - Sand SM5-8mm
Soft Brick / Stone Porous Blocks		Mix 1B - Sand SC10-15mmMix 2B - Sand SC10-15mm	Mix 1B/C - Sand SC/SM10-12mmMix 2B/C - Sand SC/SM10-12mm	Mix 1C - Sand SF3-5mmMix 2C - Sand SM5-8mm
Medium Brick / Stone / Blocks	Mix 2A/3B - Sand SG*3-5mm	Mix 2B/3C - Sand SC10-20mmMix	Mix 2C/3D Sand SC/SM8-12mmMix	Mix 1C - Sand SF3-5mmMix

		2B/3B - Sand SG**10-15mm	2C/3C Sand SG**6-10mm	2C - Sand SM5-8mm
Dense Brick / Stone/ Blocks/ Concrete	Mix 2A/3A -Sand SG3-5mm	Mix 2B/3C - Sand SC10-20mmMix 2B/3B - Sand SG**10-15mm	Mix 2C/3D Sand SC/SM8-12mmMix 2C/3C Sand SG**6-10mm	Mix 1C - Sand SF3-5mmMix 2C - Sand SM5-8mm

Lime	**Mix A 1:1.5**	**Mix B 1:2**	**Mix C 1:2.5**	**Mix D 1:3**	**Mix E 1:4**
NHL 2	1A	1B	1C	1D	1E
NHL 3.5	2A	2B	2C	2D	2E
NHL5	3A	3B	3C	3D	

Sands	**Type**	**Particle Sizes**
SG	Sharp gritty	5mm down to 0.075
SC	Sharp coarse	3.35mm down to 0.075
SM	Sharp medium	2.36mm down to 0.075
SF	Sharp fine	1.18mm down to 0.075
FS	Fine soft	0.8mm down to 0.075

* Stipple coat optional, depending on background suction and conditions.
** For harling applications.

Note: a wide variety of finishes can be achieved by adopting different binder and sand mixes to satisfy all requirements.

Coat thickness and optional mix ratios are related to exposure and background conditions and are the responsibility of the designer.

Curing and protection must follow best working practice.

New Pointing to stonework as per St Astier Specification (taken from their website)

Re-Pointing Masonry Walls: Brick, Blocks and Natural Stone with Pure Natural Lime

Where scaffolding is in place, fine mesh debris netting securely fixed to the outside of the scaffold gives basic protection to the working area slowing down strong wind whilst allowing good natural light for the works. Securely fixed haps or polythene placed over plywood sheeting on to the top of the scaffold from the wall heads or just below the gutters will ensure that rain does not wash down the face of the walls. Scaffolding should always be erected in such a manner as to allow the highest point of the building to be protected. In an ideal world, a temporary roof would be desirable, however the costs may be prohibitive. As regards external protection the work should be covered with hessian sheets, polythene or both. Polythene should never come in contact with the work. Accurate records of the minimum and maximum temperatures below the covers should be taken daily, with provision to record these over weekends and holiday breaks. To avoid rapid drying and consequent high shrinkage, especially in hot or windy weather conditions keep all work damp by repeatedly applying a fine mist of clean potable water, if necessary several times a day, until the mortar has hardened.

Re-pointing.

Before any re-pointing work is undertaken a survey of the building should be carried out by the supervising officer and the contractor to determine the precise areas to be re-pointed.

Often much of the old lime mortar raked out is sound and could, with advantage, have been left in place. Todays builder expects mortar to be strong, hard, dense and cement rich. Strength is perceived to be a prerequisite and soft lime mortars are often removed in the belief that the softness is a sign of failure. In other instances, entire elevations are re-pointed to provide a uniform colour, rather than re-pointing defective joints with a suitable and compatible mortar.
It is essential that all pointing is carried out to match previously approved samples. This will remove any tendency for artistic licence on the part of the builder. The finish achieved on mortar joints can have a dramatic effect on the performance and visual appearance of the completed work, although this is often not immediately realised, sometimes only being condemned after the scaffold has been taken down and the full visual impact becomes apparent.

Preparation

Joints should be thoroughly cleaned from top to bottom after pre-wetting the wall. Use brushes, low pressure compressed air or wash out the joints with a hose. Remove all loose materials and dust. This is important as dust that is left in the joints will deplete the bond.

Application

Mortar should be plastic and workable but as stiff as possible. It should be pushed into the back of the joints in layers, avoiding large volumes of deep filling at all times. On rubble elevations, pinning stones should be used to fill wide and deep joints in the same style as the original build. This will reduce the volume of mortar required and will assist the process of setting and final full carbonation.
A good yardstick is to keep the joint thickness to no more than a "finger" thick, if the joints are wider than this they should be pinned with compatible matching masonry.
A "well filled" joint is close to flush with the surrounding masonry or to the weathered edge.
Recessed joints define the masonry components and detract from the appearance of the wall,

APPENDIX 10

2 Maintaining Windows

All types of windows require regular maintenance to avoid the need for repair or replacement. Ideally, windows should be inspected every year to check for typical problems. Many windows have been discarded unnecessarily because they have not opened properly, whereas some basic maintenance or minor repair would have restored them to working order.

2.1 Timber windows – recognising problems

These are some of the problems to be looked out for when inspecting older windows:

- Any evidence of structural movement which is deforming the opening and damaging the window – but note that some signs of movement may be so old that they have long since been stabilised or repaired, leaving the window in working order: its deformation expresses its age and character

- Evidence that the pointing between the frame and the wall opening is cracked, loose, or missing, allowing moisture and draughts to penetrate around the sash-box or window frame

- Sashes that do not move properly, or at all. This may be due to:

  - over-painting of the joinery
  - stop beads that have been fitted too tightly
  - pulley wheels that have seized up because of over-painting or lack of lubrication
  - broken sash cords
  - swelling due to water absorption (see below)
  - inadequate lubrication between the sash and the pulley linings
  - thicker and heavier replacement glass
  - failure of hinges on casement sashes

- Evidence of water absorption, indicating possible wood decay (wet rot). The signs to look for are:

  - interior paint failure caused by condensation
  - exterior paint failure
  - opening of the frame joints
  - degradation of the wood surfaces (where paint has flaked off) or depressions in the wood surface
  - cracked, loose, or missing putty
  - standing water, especially on the cills.
  - Faults with flashings or water shedding features associated with windows

76

Key to Image 76

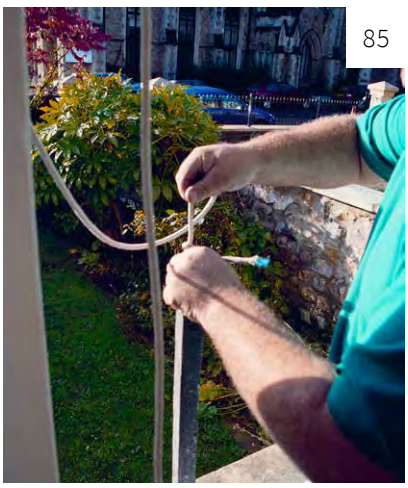
1. Holes drilled in frame for cable entry may admit water and cause decay.
2. Deformation of window caused by structural movement in wall; sashes no longer fit or slide properly.
3. Broken sash cords.
4. Breakdown of paint and putty caused by lack of regular maintenance; this allows water to penetrate and become trapped, causing decay.
5. Glass displaced or broken due to deformation of sash.
6. Failure of joints, caused by timber decay due to water penetration.
7. Opening parts of window jammed due to accumulation of paint.
8. Worn or damaged beads, causing rattles and draughts.
9. Decay of stile (or jamb) and outer lining at junction with cill due to water penetration.
10. Decay of cill caused by water penetration after breakdown of paint. Water may also creep into the joint between the timber cill and the masonry sub-cill.

77

78

Images 76-78

76. Some of the problems to look out for when inspecting older windows.
77. A double hung sash window lacking maintenance but still easily capable of being overhauled.
78. Lack of maintenance has resulted in lost putties to glazing and rot at the base of the window frames all capable of repair. Cables fed through the base of the frame have allowed water to enter and contribute to the rot.



Images 79-87 Replacing a sash cord and adjusting window operation.

79. Removing the staff bead to free the lower sash.
80. Opening the sash pocket.
81. Accessing the weights.
82. Adjusting the weight as necessary to balance the sash.
83. Tying a lead ‘mouse’ and string to the new sash cord.
84. Running the mouse over the pulley into the weight box.
85. Knotting the weight to the new sash cord.
86. Fixing the cords to the grooves in the sides of the sash.
87. Chains are replaced in much the same way being screwed into the special fitting in the sash.

It is important to ensure that water does not enter crucial joints, such as in the lower parts of cills or jambs, where deterioration most often occurs. Joints should be kept tightly closed. In addition, it is helpful to seal end grains with paint before assembly. A watch should also be kept for any putty failure (which encourages water to sit on the horizontal surfaces of the glazing bars and meeting rails) and for deterioration in the protective paint finish.

If the timber has been affected by rot, the underlying surface will be soft and fibrous. Vulnerable areas should be probed with the point of a sharp knife or bradawl. It is easy for an experienced carpenter to repair affected areas by cutting out the rotting wood and replacing it with a piece of sound, treated timber. Epoxy resins are sometimes used as a substitute for treated wood in these patch repairs. However, it is important to paint over the repaired area as soon as possible, as resin degrades in ultra-violet light (see Section 3, Repairing Windows, for more detail on epoxy resin repairs).

It is important to identify precisely the nature and causes of defects so that the correct treatments can be selected.

2.2 Overhauling timber windows

The purpose of overhauling timber windows is to correct defects caused by general wear and tear. Typically works include:

- freeing jammed casements or sashes and removing build-ups of paint which interfere with their effective operation
- replacing broken sash cords
- lubricating pulleys and hinges
- replacing broken glass and defective putties
- cleaning and repairing ironmongery and replacing missing or broken items
- easing sticking sashes and casements
- adjusting/packing hinges
- replacing missing or worn beads
- preparation and redecoration of previously painted surfaces (5-8 year cycle)

2.3 Metal windows – recognising problems

It is important to first understand the type of metal used for the window – whether ferrous (iron, steel) or non-ferrous (bronze and aluminium) – as this will determine the right treatment. These are some of the problems to be looked out for when inspecting older windows.

- Any signs of structural movement which is deforming the opening and damaging the window – but note that some signs of movement may be so old that they have long since been stabilised or repaired, leaving the window in working order: its deformation expresses its age and character
- Evidence that the pointing between the frame and the wall opening is cracked, loose, or missing, allowing moisture and draughts to penetrate around the window frame
- Corrosion of metal framing or signs of rusting
- Distortion of the frame
- Casements that do not move properly, or at all. This may be due to an excessive build up of paint, failed hinges and fittings, rust or distortion of the frame

Metal windows which at first may appear to be beyond repair can often be satisfactorily repaired (see Section 3, Repairing Windows)

2.4 Overhauling metal windows

The purpose of overhauling metal windows is to correct defects caused by general wear and corrosion. Typically works include:

- freeing jammed casements and removing build-ups of paint which interfere with their effective operation
- replacing broken glass and defective putties
- cleaning and repairing ironmongery and replacing missing items
- easing sticking sashes and casements
- preparation and redecoration of previously painted surfaces (5-8 year cycle)
- annually clean bronze, brass and copper frames that are protected by wax coatings using a small amount of water with a little non-ionic detergent added, followed by re-waxing as necessary
- rubbing down areas of superficially corroded steel and treating them with a zinc-rich metal primer before repainting

2.5 Maintaining the window-wall junction

Joints between the window frame and walling were traditionally filled with haired lime mortar or, sometimes, a mixture of boiled linseed, driers and sand. Aerosol foam fillers should not be used, as they are unsightly and can trap moisture. If frames have been removed for repair from masonry walls regularly exposed to driving rain, it may be desirable to insert a damp-proof membrane to isolate the timber from the masonry. A proprietary pre-compressed, open-cell polyurethane foam tape, impregnated with a hydrophobic polymer resin, can be inserted into the junction. Once unrolled, the tape slowly expands as it tries to regain its original uncompressed size and, in consequence, seals the gap. The tape is black in colour and it is preferable to recess it at least 25mm behind the face of the frame to allow the junction to be pointed with lime mortar. Modern mastic sealants can be particularly disfiguring if carelessly applied or if joints are overfilled, so should only be used where they can be applied unobtrusively. Caution should be taken if aerosol foam fillers are used as they can be unsightly and can trap moisture.

2.6 Decorating windows

With the exception of early unpainted oak-framed windows, traditional windows were always painted, both to protect the timber and for aesthetic reasons. If paintwork is allowed to deteriorate it is not only the appearance of the windows that suffers; water penetrating the paint film can cause the underlying timber to decay.

Putty also becomes brittle and prone to cracking after a time. These problems are best avoided by regular inspection and redecoration of the painted surfaces.

Modern timber windows are often coated with wood stains. However, the appearance and character of this type of finish can make it unsuitable for use on traditional joinery in listed buildings and conservation areas which were usually painted or occasionally grained.

Although the same coating is often used on both the interior and exterior of the window, this does not have to be the case. Exterior paints must be able to cope with what may be very hostile conditions. The problem with most modern exterior ‘plastic paints’ is that they form an impervious surface that over time starts to crack with movement of the substrate. Moisture is then able to seep in beneath the waterproof film and is trapped so that decay rapidly occurs. Even very tough coatings will split at the joints of the frame, at the meeting point of glass and frame and around fittings; elasticity is usually more important than strength.


88


89


90


91


92


93

Images 88-93

88. A steel window showing signs of corrosion with paint blistering.
89. It is important to maintain the joints between the window frame and wall junction to prevent water entering.
90-91. Preparation of a steel window for repainting- all loose paint must be removed along with any corrosion such as rust. Deep losses should be filled to stop water collecting leading to corrosion.
92. If paintwork is allowed to deteriorate on timber windows this can lead to decay of the timber as shown here to the lower more vulnerable parts of the window.
93. The decayed parts of the window being filled and primed ready for repainting.

Paint analysis

Many surfaces in historic buildings have been over-coated many times during their history without stripping of the layers beneath. These layers form an important archaeological record.

Often, it is possible to remove a fragment of the surface coatings that contains all of the accumulated layers. This composite piece can be sent away for analysis in a specialist laboratory, where the material and colour of each layer can be analysed. This can reveal a wealth of information about the history and presentation of the building. In the past, these techniques have led to the discovery of wall paintings hidden beneath plain surfaces. More frequently, they provide the evidence to justify changing a modern paint scheme to a traditional scheme which has proven historical precedent. Fragments of coatings sent for analysis need only be very small and should only be taken from an inconspicuous section of the window or door.

Choosing a suitable paint

There is a bewildering range of options available for the painting of timber and metal windows. Traditionally, lead-based paints (still available under licence) were used for timber and metal windows but new paint systems have since been developed for specific applications.

Issues to consider when selecting a paint system include:

- compatibility with existing finishes is important, for instance acrylic paints will not adhere well to an oily substrate
- performance and maintenance requirements
- aesthetic considerations

Whatever paint system is used it is important to use good quality materials that are specifically formulated for exterior use and the type of substrate to be painted. It is important also to recognise that many paints are intended to be applied as a system (for example, primer, undercoat and finish) and that manufacturer's recommendations should always be followed on this, particularly regarding preparation and the number of coats at each stage.

Good results on timber windows have been obtained with linseed oil paints and 100% acrylic resin paints.

Preparation of surfaces

For good adhesion a coating must be applied to a clean, dry surface. Any areas of loose paint or rust and decay need to be removed. It is rarely necessary to strip back to bare wood. Not only does this destroy any earlier paintwork but it can damage the surfaces and profiles of the window joinery. There are also potential health hazards associated with removing old paint layers that may contain lead. Heat strippers should be avoided where historic glass is being retained *in-situ*.

Once loose or blistering paint has been removed the surface can be sanded lightly to improve its key.

On ferrous metal frames, active corrosion products such as rust should be removed as completely as possible using mechanical methods.

The areas to be painted should then be cleaned with sugar soap as this improves the key.
A thorough rinsing and drying is essential, particularly for frames made of ferrous metal; these should be primed to prevent flash rusting.

Priming

Ferrous metal windows that have not been galvanised should be painted first with a zinc phosphate-rich primer to prevent rust. A bare hot-dip galvanised finish also requires a zinc phosphate-rich primer because brush paint coats will not otherwise adhere to the treated metal.

Filling

Cracks and other irregularities can trap water and need to be filled before painting. Fillers need to

stay elastic in order to cope with expansion and contraction of the substrate. Fillers should be sanded smooth after they have set or cured.

Repainting

Painting needs to be carried out in the appropriate conditions for the particular coating being applied. Ideally it will be carried out in workshop conditions and with the glazing removed, but this may not always be practicable. Care needs to be taken to ensure that no paint gets onto fixtures such as window sash cords and pulleys. In the case of puttied windows, the paint should cover the putty to prevent it drying out and be taken very slightly onto the glass to ensure that the joint is waterproofed. New putty needs to be allowed to cure before being painted, otherwise it will shrink.

Speed of drying depends on the thickness of the paint layer and the weather. For linseed-oil paints, the speed of drying will also depend on how much oil the surface absorbs from the paint.

Lead paint

Lead-based paints are often found on older buildings. They can be harmful to health, particularly that of children. Sometimes these paints have been buried beneath later layers. If there is any uncertainty about the presence of lead paint on windows that are to be stripped, it should be assumed that it is present and that precautions should taken accordingly.

The use of lead paints has now been generally banned because of the hazard to health. However, there is an exception to the ban that allows them to be used on Grade I and Grade II* listed buildings. On such buildings, the traditional appearance of the lead paint, together with its longevity and its fungicidal and insecticidal properties, mean that it is sometimes still used. However, it should only be applied by professional decorators using appropriate protective equipment and is not recommended for use where it may be in the reach of children.

94

Image 94

The new putty to this steel casement hasn't been allowed sufficient time to cure before being painted. Consequently the paint has blistered.

95

96

Images 95 and 96

95. In a double hung sliding sash window each sash has its own pulley and cord. The parting bead separates the sashes and holds them in position. The cord and pulley need to be kept in good working order.
96. A Fitch pattern sash fastener.

2.7 Overhauling window ironmongery

Original ironmongery such as sash lifts and sash fasteners should be retained and restored. A window latch or stay coated in cream paint may seem unremarkable, but when the layers have been removed the fine quality of its craftsmanship and construction becomes apparent. The temptation to replace such items should be resisted until they have been cleaned down so that their true condition can be appreciated.

Repair of damaged items is also possible. Reproduction fittings are widely available if the original ironmongery is missing or beyond repair. However, care must be taken when choosing replacement ironmongery, particularly for sash windows, because some ranges of fastener are particularly compatible so that they perform adequately, as well as being historically correct for the period. For example, the Fitch pattern sash fastener was designed where space was limited for a fastener but not introduced until the late 19th century. It therefore would not be historically accurate when used for Georgian sash windows.

Sash cords can be cotton, jute or nylon, although sashes from the later 19th century may have a metal chain instead. The cord or chain must be taut. Waxing keeps cords flexible and prevents them from rotting. New cord is fed over the pulley wheel by attaching it to a piece of string (with a small weight at one end) which is guided over first. A sash may sometimes not work properly because the pulley has broken or has been blocked with paint, or rubbish has accumulated under the weights.

Pulleys are of importance in dating a building, and original ones should be kept. Pre-1760 examples have wooden cases. They were not mass-produced until about 1780, when they could be iron, brass, or a combination of the two. Later Victorian pulleys could be partly of steel, with small idler wheels to take some of the extra weight of the plate glass.

A simple and inexpensive set of ironmongery called Simplex hinges can transform the bottom frame of a vertically sliding sash window into a side-hung casement that is easier to clean and repair where access is difficult.

97

98

2.8 Improving window security

Traditional windows can be made secure. Modern materials and designs are not necessarily more secure than traditional models.

A variety of ironmongery can be added to improve security, most of it unobtrusive. Window locks, dual screws, anti-lift devices, mortice bolts and sash chains can be fitted, while still allowing the window to be opened for ventilation and cleaning. Traditional sash-window catches on their own are insufficient as security fittings, as intruders can easily hammer the catch out of its screwed mounting.

Where windows have very low cills, internal barriers can be fitted to help prevent accidents and to achieve compliance with applicable technical standards.

Original window shutters can provide excellent protection against intruders, as well as keeping warmth in and noise out. Fastening bars on shutters can help to prevent a break-in, providing that they are fixed to the structure of the building as well as to the shutter woodwork. If no shutter bars survive, modern facsimiles or approximations can be obtained. A remarkably low-tech, late-Georgian alarm system that has been rediscovered by householders involves the installation of small bells on the inside of the shutter. Its rather more advanced modern counterpart is the vibration detector, which activates an alarm when the shutter is disturbed.

Images 97 and 98

97. Height restrainers allow a degree of ventilation without compromising security.
98. Bolts inserted into the meeting rails of a sash window keep the two sashes firmly locked in place.

APPENDIX 11

FARROW&BALL®
CRAFTSMEN IN PAINT AND PAPER

PRODUCT ADVICE SHEET

Exterior Masonry

All Farrow & Ball paints are eco friendly with low or minimal VOC (Volatile Organic Compounds) content and are water based giving them a low odour and quick drying time which benefits both you and the environment.

Available Tin Sizes: ,,,5 L,

In all Farrow & Ball colours except: 30, 42, 43, 51, 66, 74, 93, 96, 212, 217, 220, 222, 223, 248, 254, 255, 256, 268, 269, 278, 280, 294, 296, 297. Available direct from Farrow & Ball (visit farrow-ball.com, email: sales@farrow-ball.com or call: +44 (0) 1202 876141), our Showrooms and selected stockists internationally.

Product Overview:

Developed by our chemists to offer the perfect combination of breathability and water resistance, this classic matt creates the most elegant finish for your masonry. With a durable 2% sheen finish and Class 1 water vapour permeability, Exterior Masonry is resistant to flaking, peeling and colour fade for up to 15 years. Unsuitable for highly alkaline or very porous surfaces. Does not require a primer.

Recommended Primer & Undercoats:

For use on interior concrete floors and to patch prime unsound masonry : Farrow & Ball Masonry & Plaster Stabilising Primer

New Modern Construction Surfaces:

Stir thoroughly before use. Before coating any newly rendered surfaces with any paint system, the render must be permitted to dry out completely and ideally left to weather for approximately 3 months. Once completely dry, brush the surface with a stiff bristled brush to remove any surface dust. Prime any areas that remain powdery with a 10% diluted coat of Farrow & Ball Exterior Masonry. Once the appropriate surface preparation has been completed, apply two coats of Farrow & Ball Exterior Masonry by brush or roller, taking care not to apply too thickly in any hollows and angled sections. For newly cement rendered surfaces, although Farrow & Ball Exterior Masonry is supplied ready for use, water may be added (at a 10% ratio) to assist application on sound bare surfaces. Do not use Farrow & Ball Masonry & Plaster Stabilising Primer as a general primer on sound masonry surfaces.

Preparing Concrete Surfaces for Painting:

Leave new concrete uncoated for at least 3 months before painting. Repair and fill any old or unsound concrete surfaces, allowing adequate time for the filler used to cure.
Once completely dry, brush the surface with a stiff bristled brush to remove any surface dust. Prime any areas that remain powdery with Farrow & Ball Masonry & Plaster Stabilising Primer. For interior concrete floors only apply one full coat of Farrow & Ball Masonry & Plaster Stabilising Primer followed by two coats of Farrow & Ball Modern Eggshell allowing the recommended drying times between coats. Do not use Farrow & Ball Masonry & Plaster Stabilising Primer as a general primer on sound concrete surfaces other than interior concrete floors.

Painting Old Exterior Render with Exterior Masonry:

Please be aware that unsound surfaces may not successfully accept any additional paint layers - therefore if in doubt we recommend you seek professional advice. Surfaces with serious structural damage, such as cracking or loose cement, must be repaired before any paint is applied. Patch prime any repaired or seriously degraded areas with one coat of Farrow & Ball Masonry & Plaster Stabilising Primer, followed by two coats of Farrow & Ball Exterior Masonry by brush or roller. Take care not to apply too thickly in hollows and angled sections and allow the recommended drying times between coats. Fungal or algal contaminated surfaces should be decontaminated with a fungicidal wash then left to dry out completely. Do not use Farrow & Ball Masonry & Plaster Stabilising Primer as a general primer on sound masonry surfaces.

Painting Interior Brickwork:

Interior brickwork must be completely dry and free of damp before painting. Interior brickwork which is powdery, flaky or unstable should first be patch primed using one coat of Farrow & Ball Masonry & Plaster Stabilising Primer. The following Farrow & Ball finishes may be applied to interior brickwork: For Full Gloss, Estate Eggshell and Exterior Eggshell - Apply an undiluted coat of Farrow & Ball Interior Wood Primer & Undercoat in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats). For Exterior Masonry – apply 2 coats directly, allowing a minimum of 5 hours drying time between coats. Do not use Farrow & Ball Masonry & Plaster Stabilising Primer as a general primer on sound brick surfaces.

Painting Exterior Brickwork:

Farrow & Ball Exterior Masonry may be used on exterior brickwork – with the exception of Fletton bricks – but we recommend taking a few extra precautions before and during application. Make sure all dirt, mould, salts and other visible contaminants are removed with a wire brush or specialist cleaner, ensuring the brickwork is fully dry before applying any coatings. We also recommend checking that all mortar is fully cured before painting. Extra care should be taken when painting solid brick exterior walls, and any walls that aren't damp-proofed, as loss of adhesion may occur and salts may appear. Farrow & Ball Exterior Masonry is supplied ready for use, but water may be added at a 10% ratio to assist application on sound bare surfaces. We do not recommend the use of Farrow & Ball Masonry & Plaster Stabilising Primer, as this is not intended as a general primer for sound brick surfaces.

Painting Terracotta:

The following Farrow & Ball finishes may be applied to terracotta: Exterior Masonry, Full Gloss and Exterior Eggshell – 2 coats may be applied directly (allowing a minimum of 4 hours drying time between coats).

Spray Settings:

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Airless Spraying - Good results can be achieved by the set up of 21 thou (533µm) 65° angle tip or 24 thou (610µm) 65° angle tip using a pressure of between 3000 - 3500 psi (207 - 241 bar). HVLP Spraying – Depending on the apparatus used, the paint may need to be diluted with water by up to 30%. Experiment with air control valve, material flow adjustment, fan size and spray pattern settings on a piece of cardboard or an inconspicuous area until a satisfactory finish is achieved. Apply several thin coats, allowing each coat to dry fully before applying the next one.

Advice for Repairing Damage and Touching In:

If your paintwork becomes damaged or marked you may need to repaint. To achieve the best results we recommend applying a single coat of paint over the entire wall or walls that have the damage, using the same batch of paint you originally carried the work out with. This best practice will avoid any noticeable variation in colour or finish. If you do chose to touch-in to repair damage, the following recommendations will help you achieve the optimum finish.
1. Always aim to use the same batch of paint. If you use a different batch, although we control colour to tight specifications, you may observe slight colour and sheen variations. If you are unable to use the same batch of paint we recommend that you apply a single coat of a different paint batch to an entire wall as any slight variations will be much less noticeable when observing from wall to wall.
2. Always use the same preparation techniques when you make any repairs as you used when you originally painted the wall. It may not always be possible to achieve a perfectly consistent finish – if for example you have used filler which has a different texture and absorbency to the rest of the wall, this may cause a slightly patchy finish.
3. Always use the same application tool and method as when you originally painted this wall. Ensure that the edges of the touched in paint are blended in "feathered" to make the transition between old and new paint areas less noticeable.
4. Over time the colour of the paint, whether on the wall or in the tin, may slightly alter. Therefore the newer the paintwork is, the better the finish you will achieve by touching-in.
Please note that when touching in the darker the colour and higher the sheen the more difficult it will be to achieve a uniform finish compared to lighter coloured, lower sheen paints.

Painting Over Exterior Wall Fillers:

For best results always use a filler which has the same porosity and density as the surface which is being repaired. Fillers which have a different porosity or density may lead to visible differences in colour or tone. Follow the filler manufacturer's application instructions and drying times. Apply a diluted coat (20 – 25%) of Farrow & Ball Exterior Masonry (and allowing a minimum of 4 hours drying time between coats). Then follow with two coats of your chosen colour to promote adhesion and full colour depth.

Other Product Applications:

If you wish to use Farrow & Ball products for any applications which are not featured here, please contact Customer Services for advice on +44 (0) 1202 876141 or email customer.services@farrow-ball.com. Please note that calls may be recorded for training purposes.

Application Information:

Do not paint in temperatures below 10°C or in excessive heat above 30°C. Avoid painting in direct sunlight. Avoid applying outdoors if there is a likelihood of rain. For best results apply early in the day, allowing the product time to dry before the evening (when condensation can occur).

Coverage Rate (m2/l per coat): : Up to 8 depending on the surface being painted.

Drying Time: : Dry in 2 hours.

Typical Recoat Time: : Recoat after 5 hours

Curing Time: : Please note that some darker paint colours will take up to 14 days to achieve full hardness, strength and durability.

Sheen Level: : 2%

Recommended Number of Coats: : 2*

*Darker/stronger colours may require additional coats. Please note: The drying and Recoat times provided are based on applying paint in normal conditions - drying times may be longer in cooler and/or higher humidity environments. Darker colours may take longer to dry. Allow a minimum of 14 days before applying over solvent based coatings.

Density: : 1.2 - 1.4 g/cc

Wet Film Thickness: : 80 - 120 µm

Application Humidity: : < 80 % RH

Wet Abrasion Class: : 2

Substrate Moisture Content:

Exterior Render = < 0.5 % : Interior Brick = < 1 %

Storage Advice:

This product is water based and must be protected from frost and extreme temperatures. Use within 6 months of purchase. We accept no responsibility for the deterioration of contents or packaging after this date.

Formulation:

A water based paint made using a silicone and acrylic binder. Contains a wide spectrum biocide to protect surfaces against algal and fungal attack.

Environmental & Disposal Advice:

Do not empty into drains or watercourses. Dispose of contents/container to waste disposal site in accordance with local/national regulations. Contact the local Environmental Department for disposal instructions. Metal containers may be recycled.

VOC Content Information:

EU limit value for this product (cat. A/[c]): 40g/l (2010). This product contains max 4g/l VOC.

Water Absorption according to DIN EN 1062 3 (w24 [kg/m2√24h]):

0.06 (Class III, limit <0.1). This is the quantity of water absorbed into a 1m2 area through the paint surface over a 24 hour period. The lower the w24 value, the more waterproof the paint film is.

Water Vapour Permeability according to DIN EN ISO 7783 2 (sd [m]):

0.118 (Class I, Limit <0.14). This is the resistance of the paint film to water vapour expressed as the equivalent thickness of air in metres. The lower the sd value the more breathable the paint film. Paint breathability is class rated, from Class I to Class III. Class I in this instance denotes a high level of breathability.

Lead Advice:

Special precautions should be taken during the preparation of old paint surfaces (especially those from pre-1970), as they may contain harmful lead. For further advice and guidance see coatings.org.uk/paintsafe.

Health & Safety Advice:

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Keep out of reach of children. Ensure good ventilation during application and drying. Do not get in eyes, on skin, or on clothing. If medical advice is needed, have product container or label at hand. IF ON SKIN: Wash with plenty of soap and water. Do not use solvent thinners or White Spirit. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Call a doctor if you feel unwell. Safety data sheet available on request.

Contact Us:

For advice on colours, paint finishes or wallpaper our customer services team is on hand to help you, just call +44 (0) 1202 876141, email sales@farrow-ball.com, or write to us at Farrow & Ball, Uddens Estate, Wimborne, Dorset, BH21 7NL, UK. Please note that calls may be recorded for training purposes. Imported in EU by Farrow & Ball, Kaiserstraße 25, Frankfurt am Main, Deutschland, +49 (0) 69 2424 6269.

Disclaimer:

Issue Date: 26/06/2020

FARROW&BALL®
CRAFTSMEN IN PAINT AND PAPER

PRODUCT ADVICE SHEET

Full Gloss

All Farrow & Ball paints are eco friendly with low or minimal VOC (Volatile Organic Compounds) content and are water based giving them a low odour and quick drying time which benefits both you and the environment.

Available Tin Sizes: ,750 ml,2.5 L,,

In all Farrow & Ball colours. Available direct from Farrow & Ball (visit farrow-ball.com, email: sales@farrow-ball.com or call: +44 (0) 1202 876141), our Showrooms and selected stockists internationally.

Product Overview:

Noted as the glossiest water based finish on the market, Full Gloss has a wonderfully reflective 95% sheen that makes a dramatic statement. Resistant to water, flaking, peeling and colour fade for up to six years, its high durability makes it perfect for wood and metal both inside and out. Washable & wipeable. Not suitable for use on plastic. Not suitable for exterior decking or other pressure treated wood.

Recommended Primer & Undercoats:

For use on interior woodwork : Farrow & Ball Interior Wood Primer & Undercoat

For use on exterior woodwork : Farrow & Ball Exterior Wood Primer & Undercoat

For use on metal : Farrow & Ball Metal Primer & Undercoat

For use on interior walls & ceilings : Farrow & Ball Wall & Ceiling Primer & Undercoat

Knotty or Resinous Wood Preparation:

Heat the knot to draw out any excess resin (we recommend using a hot air paint stripper). Scrape off any residue resin, and then thoroughly clean the area with white or methylated spirit. Allow the area to dry thoroughly before continuing.

New and Unpainted Interior Wood (Not Floors) Preparation:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Fill any cracks, holes and open joints with an appropriate filler. To improve the paint's adhesion, lightly sand the surface. Prepare any filled, knotty or resinous areas as above and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply a diluted coat of Farrow & Ball Interior Wood Primer & Undercoat (20 % water) in the correct colour tone for your top coat, followed by one full (undiluted) coat. Allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Previously Painted Interior Wood (Not Floors) Preparation:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Remove any areas of old paint which are peeling or blistering as flaking or peeling can occur if you paint over weak paint layers. Blend and 'feather' the edges of areas of old paint, as this helps to smooth out the surface. Fill any cracks, holes and open joints with an appropriate filler. Lightly sand the surface to improve paint adhesion. Patch prime any filled or bare knotty / resinous areas with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply one coat of Farrow & Ball Interior Wood Primer & Undercoat, in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Interior MDF Preparation:

Where possible always aim to use high quality MDF, as higher quality MDF tends not to suffer from raised fibres and so will not require surface sanding. Lower quality MDF may contain less tightly bound fibres, which may become raised as paint is applied. If the fibres do become raised, lightly sand the surface between coats to ensure a smooth finish. Lightly sand the edges of the MDF to provide a sound surface and to reduce paint absorption. Apply one coat of Farrow & Ball Wood Floor Primer & Undercoat, in the correct colour tone for your top coat and allowing a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Ferrous Metal Preparation:

Thoroughly clean and degrease new and previously painted metal surfaces. Remove any weak paint and rust back to bare metal. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Cast Iron: We recommend that a specialist primer is applied to Cast Iron surfaces prior to painting as water-based primers may lead to flash rusting.

Non Ferrous Metal Preparation:

Thoroughly clean and degrease new and previously painted metal surfaces. Remove any weak paint and lightly sand surface to improve adhesion of your primer & undercoat. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Galvanised Metal Preparation:

Treat all surfaces with an Etch Primer or Mordant Solution, ensuring any excess product is removed before you begin painting. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Radiator Preparation:

This product is suitable for painting conventional hot water filled radiators where the surface temperature does not exceed 60° C. We do not recommend using this product to paint steam filled radiators which operate at a much higher temperature. Ensure the radiator is turned off and has cooled before you begin painting it. Thoroughly clean and degrease new or previously painted radiator surfaces. Remove any weak paint and rust back to the original surface. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat and allowing a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Cast Iron Radiators: We recommend that a specialist primer is applied to Cast Iron surfaces prior to painting as water-based primers may lead to flash rusting.

Exterior Bare Wood Surface Preparation:

Ensure surfaces are sound, clean, dry and free from dirt, grease and other contamination. Fill any cracks, holes and open joins with a water based exterior wood filler. To improve the paint's adhesion, lightly sand the surface. In environments where wood rotting fungi is likely to occur, treat with exterior wood preservative prior to priming. Prepare any knotty or resinous areas as above and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply one coat of Farrow & Ball Exterior Wood Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Please note: Repeatedly repairing cracks, holes and open joints in a surface may indicate that the surface is nearing the end of its life and will require additional effort to maintain it. If this is the case consider renewal or replacement.

Exterior Previously Painted Wood Surface Preparation:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Remove any areas of old paint which are peeling or blistering as flaking or peeling can occur if you paint over weak paint layers. Blend and 'feather' the edges of areas of old paint, as this helps to smooth out the surface. Fill any cracks, holes and open joints with a water based exterior wood filler. Lightly sand the surface to improve paint adhesion. In environments where wood rotting fungi is likely to occur, treat with exterior wood preservative prior to priming. Prepare any knotty or resinous areas as above and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply one coat of Farrow & Ball Exterior Wood Primer & Undercoat, in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Please note: Repeatedly repairing cracks, holes and open joints in a surface may indicate that the surface is nearing the end of its life and will require additional effort to maintain it. If this is the case consider renewal or replacement.

New or Unpainted Plaster/Dry Lined Surfaces (Modern Construction) Preparation:

If your plaster is new non powdery and sound you can simply apply a diluted coat of your chosen Farrow & Ball colour. Please note: British Standard 6150:2006 recommends a typical drying time for new plaster of 7 days for every 5mm thickness.

Suggested Maximum Dilution Rates:

Bare dry skim plaster/dry lined walls, bare dry plaster board, patch filled plaster = up to 20% water. NB: The dilution rate will depend on the porosity of the surface. We recommend you test the level of dilution on a patch to determine the level of dilution required. Dilute the top coat (of your chosen colour) with water and apply as a "mist" coat. Please note: When porous plasters are not sufficiently prepared, difficulties in application, variation in sheen or uneven colour may occur.

Previously Painted Walls Preparation:

Apply one coat of Farrow & Ball Wall & Ceiling Primer & Undercoat, in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then follow with two coats of your chosen colour to promote adhesion and full colour depth.

Painting Lining Wallpaper:

For unpainted Lining Paper apply one coat of diluted Farrow & Ball Wall & Ceiling Primer & Undercoat (maximum 15% water), in the correct colour tone for your top coat (see dilution details below) before applying two full coats of your chosen colour. NB: The dilution rate will depend on the porosity of the surface. We recommend you test the level of dilution on a patch to determine the level of dilution required. If you do not want to apply a primer and undercoat, as an alternative, you can dilute the top coat with approximately 10% water and apply as a "mist" coat. Please note: When porous papers are not sufficiently prepared, difficulties in application, variation in sheen or uneven colour may occur.

Using Interior Caulks & Sealants:

Where small gaps and cracks require filling or sealing, best results are achieved with an acrylic based decorators' caulk which is a water-based, flexible filler. Use the minimum of caulk necessary as a smaller bead will dry quicker and will be less prone to cracking. Follow the manufacturer's application instructions and drying times (typically 2 – 3 hours) before applying your chosen Farrow & Ball finish. Estate Eggshell, Full Gloss and Dead Flat – 2 coats may be applied directly (allowing a minimum of 4 hours drying time between coats). Estate Emulsion and Modern Emulsion – Apply an undiluted coat of Wall & Ceiling Primer & Undercoat in the correct colour tone for your top coat (allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats).

Painting Over Interior Wall Fillers

For best results always use a filler which has the same porosity and density as the surface which is being repaired. Fillers which have a different porosity or density may lead to visible differences in colour or tone. Follow the filler manufacturer's application instructions and drying times then apply a diluted coat (20 – 25%) of Farrow & Ball Wall & Ceiling Primer & Undercoat in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then follow with two coats of your chosen colour to promote adhesion and full colour depth. This product may not be compatible with highly alkaline/cement-based fillers. Please note that this product may not be compatible with sand-based filler. Wherever possible, we recommend using an alternative type of filler. However, if no alternative is available, ensure the filler is adequately sanded and free of all dust and contaminants before proceeding with the steps outlined above.

Painting Over Interior Wood Fillers:

Follow the filler manufacturer's application instructions and drying times and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply a coat of Farrow & Ball Interior Wood Primer & Undercoat in the correct colour tone for your top coat. Allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Painting Over Exterior Wood Fillers:

Follow the filler manufacturer's application instructions and drying times and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply a coat of Farrow & Ball exterior Wood Primer & Undercoat in the correct colour tone for your top coat. Allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Painting Over Putty:

If replacement putty is required for new or existing glazing, for best results use an acrylic based glazing putty which is designed to work well with modern water based paints and primers. Bare wood must first be primed with an undiluted coat of Farrow & Ball Exterior Wood Primer & Undercoat, including the end grain, and allowed to dry for a minimum of 4 hours before applying the glazing putty. Apply the glazing putty following the manufacturer's application instructions and drying times before applying your chosen Farrow & Ball finish as follows: Exterior Eggshell and Full Gloss - Apply an undiluted coat of Farrow & Ball Exterior Wood Primer & Undercoat in the correct colour tone for your top coat (allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats). Ensure the glass is thoroughly clean and overlap the final top coat onto the glass by approximately 1mm to achieve a seal.

Painting Interior Brickwork:

Interior brickwork must be completely dry and free of damp before painting. Interior brickwork which is powdery, flaky or unstable should first be patch primed using one coat of Farrow & Ball Masonry & Plaster Stabilising Primer. The following Farrow & Ball finishes may be applied to interior brickwork: For Full Gloss, Estate Eggshell and Exterior Eggshell - Apply an undiluted coat of Farrow & Ball Interior Wood Primer & Undercoat in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats). For Exterior Masonry – apply 2 coats directly, allowing a minimum of 5 hours drying time between coats. Do not use Farrow & Ball Masonry & Plaster Stabilising Primer as a general primer on sound brick surfaces.

Waxed or Highly Polished Surface Preparation:

If you are painting onto previously waxed or highly polished surfaces, you will need to remove the existing coating of treatment by sanding back prior to painting. We recommend testing a small area as Farrow & Ball paints may not be compatible with some waxes and polishes.

How to Apply Paint to Walls by Brush:

Stir thoroughly before use. Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Please note that flaking or peeling may occur if you paint over weak paint layers - to avoid this sand back any previous weak paint layers before you start painting. Where required apply Farrow & Ball Wall & Ceiling Primer & Undercoat to improve paint adhesion and promote depth of colour. Using a fine-tipped synthetic bristled brush, apply the paint in a vertical direction then spread the paint out evenly in a horizontal direction. On application of the final coat lay off the paint in a single direction to ensure that any brush marks and brush patterning effects (sometimes visible in certain lighting conditions) are minimised.

Painting Terracotta:

The following Farrow & Ball finishes may be applied to terracotta: Exterior Masonry, Full Gloss and Exterior Eggshell – 2 coats may be applied directly (allowing a minimum of 4 hours drying time between coats).

How to Apply Paint to Walls by Roller:

We do not recommend applying Full Gloss by roller to large areas such as walls and ceilings as a decrease in sheen level and a slight surface texture (stippling) may be visible.

How to Apply Paint to Trim by Brush:

Stir thoroughly before use. By 'trim' we mean: skirting boards, picture rails, dado rails, doors, door frames and architraves, interior window sills and window frames (providing they aren't plastic). Farrow & Ball paints are water borne, and unlike solvent borne paints, water borne paint is more resistant to sagging and you will achieve the best finish by painting a thicker coat. For best results use a quality fine-tipped synthetic bristled paint brush (e.g. Farrow & Ball Paint Brush). Load the brush well and apply a generous first coat. Brushing first in a vertical direction then in a horizontal direction until an even coating has been applied. Finish by 'laying off' the paint in one direction using light pressure, with the brush held at an angle of approximately 30°. Do not "overwork" the paint or attempt to brush it out in thin even coats as you would a traditional solvent borne paint as this may create excess brush marks. Allow to dry completely (for a minimum of 4 hours) before applying a second coat following the same technique as before.

How to Apply Paint to Trim by Roller:

Stir thoroughly before use. By 'trim' we mean: skirting boards, picture rails, dado rails, doors, door frames and architraves, interior window sills and window frames (providing they aren't plastic). This paint finish can also be applied using a Medium Pile Woven Polyester Roller. This will provide a good finish with minimal stippling and is a quick method of application. However, where an optimum finish is required, we would recommend brush application using a Farrow & Ball fine-tipped, synthetic bristled brush.

Advice for Repairing Damage and Touching In:

If your paintwork becomes damaged or marked you may need to repaint. To achieve the best results we recommend applying a single coat of paint over the entire wall or walls that have the damage, using the same batch of paint you originally carried the work out with. This best practice will avoid any noticeable variation in colour or finish. If you do chose to touch-in to repair damage, the following recommendations will help you achieve the optimum finish.

1. Always aim to use the same batch of paint. If you use a different batch, although we control colour to tight specifications, you may observe slight colour and sheen variations. If you are unable to use the same batch of paint we recommend that you apply a single coat of a different paint batch to an entire wall as any slight variations will be much less noticeable when observing from wall to wall.
2. Always use the same preparation techniques when you make any repairs as you used when you originally painted the wall. It may not always be possible to achieve a perfectly consistent finish – if for example you have used filler which has a different texture and absorbency to the rest of the wall, this may cause a slightly patchy finish.
3. Always use the same application tool and method as when you originally painted this wall. Ensure that the edges of the touched in paint are blended in "feathered" to make the transition between old and new paint areas less noticeable.
4. Over time the colour of the paint, whether on the wall or in the tin, may slightly alter. Therefore the newer the paintwork is, the better the finish you will achieve by touching-in.

Please note that when touching in the darker the colour and higher the sheen the more difficult it will be to achieve a uniform finish compared to lighter coloured, lower sheen paints.

Spray Settings:

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Airless Spraying - Good results can be achieved by the set up of 15 thou (381µm) 65° angle tip or 18 thou (457µm) 65° angle tip using a pressure of between 2300 - 2700 psi (159 - 186 bar). HVLP Spraying – Depending on the apparatus used, the paint may need to be diluted with water by up to 30%. Experiment with air control valve, material flow adjustment, fan size and spray pattern settings on a piece of cardboard or an inconspicuous area until a satisfactory finish is achieved. Apply several thin coats, allowing each coat to dry fully before applying the next one.

Over Coating Pale Colours with Dark Colours:

Changing the shade of exterior woodwork from light to dark will greatly increase the amount of heat the surface is able to absorb from the sun. In some cases, this additional heat may cause resin and gases to be released by the wood, particularly from any knots. This can result in peeling and blistering, which may not have occurred when painting the same surface with a lighter shade. To minimise the risk of this happening, and to achieve a long-lasting finish, we recommend removing as much of the previous coating as possible to expose any knots and resinous areas so that they can be prepared as above, before patch priming with Farrow & Ball Wood Knot & Resin Blocking Primer. This should be followed with a coat of the Farrow & Ball Exterior Wood Primer & Undercoat in the correct tone for your new paint colour, and then by your topcoat.

Other Product Applications:

If you wish to use Farrow & Ball products for any applications which are not featured here, please contact Customer Services for advice on +44 (0) 1202 876141 or email customer.services@farrow-ball.com. Please note that calls may be recorded for training purposes.

Application Information:

Do not paint in temperatures below 10°C or in excessive heat above 30°C. Avoid painting in direct sunlight. Avoid applying outdoors if there is a likelihood of rain. For best results apply early in the day, allowing the product time to dry before the evening (when condensation can occur).

Coverage Rate (m2/l per coat): : Up to 12

Drying Time: : Dry in 2 hours.

Typical Recoat Time: : Recoat after 4 hours

Curing Time: : Please note that some darker paint colours will take up to 14 days to achieve full hardness, strength and durability.

Sheen Level: : 95%

Recommended Number of Coats: : 2*

*Darker/stronger colours may require additional coats. Please note: The drying and Recoat times provided are based on applying paint in normal conditions - drying times may be longer in cooler and/or higher humidity environments. Darker colours may take longer to dry. Allow a minimum of 14 days before applying over solvent based coatings.

Density: : 1.2 - 1.4 g/cc

Wet Film Thickness: : 80 - 120 µm

Application Humidity: : < 80 % RH

Wet Abrasion Class: : 1

Substrate Moisture Content:

Plaster Walls & Ceilings = < 0.5 % : Interior Wood = < 15 %

Exterior Wood = < 15 % : Interior Brick = < 1 %

Water Absorption according to DIN EN 1062 3 (w24 [kg/m2√24h]):

0.02 (Class III, limit <0.1). This is the volume of water absorbed into a 1m2 area through the paint surface within a 24 hour period. The lower the w24 value, the more waterproof the paint film. Paint water absorption is class rated, from Class I to Class III. Class III in this instance denotes the highest waterproof rating. We are pleased to confirm that Farrow & Ball Estate Eggshell is rated - Class III (Low).

Water Vapour Permeability according to DIN EN ISO 7783 2 (sd [m]):

2.767 (Class III, limit >1.4). This is the resistance of the paint film to water vapour expressed as the equivalent thickness of air in metres. The lower the sd value the more breathable the paint film. Paint breathability is class rated, from Class I to Class III. Class III in this instance denotes a low level of breathability.

Colour Accuracy:

Check for colour accuracy prior to use as Farrow & Ball will not be liable for decorating costs caused as a result of an incorrect colour being applied. When more than one tin of the same colour is to be used ensure that batch numbers are identical or intermix before use. Stir thoroughly before use.

Water Contact:

To extend the service life of this finish, standing surface water should not be allowed to pool on horizontal surfaces.

Cleaning:

Full Gloss is washable, wipeable and stain resistant. Wipe gently with a soft damp cloth or sponge.

Clean Up:

Remove as much product as possible from brushes or rollers. Clean brushes / rollers with warm soapy water.

Storage Advice:

This product is water based and must be protected from frost and extreme temperatures. Use within 6 months of purchase. We accept no responsibility for the deterioration of contents or packaging after this date.

Formulation:

A water based paint made using a traditional alkyd binder.

Environmental & Disposal Advice:

Do not empty into drains or watercourses. Dispose of contents/container to waste disposal site in accordance with local/national regulations. Contact the local Environmental Department for disposal instructions. Metal containers may be recycled.

VOC Content Information:

EU limit value for this product (cat. A/[d]): 130g/l (2010). This product contains max 13g/l VOC.

Lead Advice:

Special precautions should be taken during the preparation of old paint surfaces (especially those from pre-1970), as they may contain harmful lead. For further advice and guidance see coatings.org.uk/paintsafe.

Health & Safety Advice:

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Keep out of reach of children. Ensure good ventilation during application and drying. Do not get in eyes, on skin, or on clothing. If medical advice is needed, have product container or label at hand. IF ON SKIN: Wash with plenty of soap and water. Do not use solvent thinners or White Spirit. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Call a doctor if you feel unwell. Safety data sheet available on request.

Contact Us:

For advice on colours, paint finishes or wallpaper our customer services team is on hand to help you, just call +44 (0) 1202 876141, email sales@farrow-ball.com, or write to us at Farrow & Ball, Uddens Estate, Wimborne, Dorset, BH21 7NL, UK. Please note that calls may be recorded for training purposes. Imported in EU by Farrow & Ball, Kaiserstraße 25, Frankfurt am Main, Deutschland, +49 (0) 69 2424 6269.

Disclaimer:

The information given in these specification sheets and technical advice – whether verbal, in writing or by way of trials – is for guidance and is given in good faith but without warranty, since skill of application and site conditions are beyond our control. For further information please contact our Customer Services Department. We can accept no liability for the performance of the products arising out of such use, beyond the value of the goods delivered by us. This does not affect your statutory rights.

Issue Date: 24/08/2020

APPENDIX 12

New plaster to solid walls and lath & plaster partitions as per St Astier Specification (taken from their website)

Lime Plaster using St Astier NHL

Using St. Astier NHL plastering mortars instead of non hydraulic putty mortars reduces the working time by about 50%. NHL mortars offer similar vapour exchange qualities as putty mortars but are more robust, can be sprayed and used for decorative plasterwork without the addition of gypsum. Requiring less after care than putty, it can be applied in 2 coats on good level backgrounds.

Mortar. Plastering in hydraulic lime mortar normally consists of two or three-coat work. Lime plaster made with feebly or moderately hydraulic lime and sand is the basis for this guide. This type of lime sets and hardens predominantly by an hydraulic set and re-absorption of Carbon Dioxide from the air. By its nature the drying and absorption process is slower than gypsum plasters, therefore lime plaster curing should not be hurried allowing approximately 3-5 days per coat depending on the hydraulic lime used.

Background. When applying Lime Plaster on the hard, the background will normally be brick or stone. The surface should be clean, free from dust and any organic materials such as lichens etc. Test the surface of masonry backgrounds for dust by applying a piece of masking tape to the background and immediately remove, examine the sticky side for traces materials that may affect the bond between the plaster and the wall.

Internal walls can be uneven and rough, often with areas that have been altered. Different background conditions are therefore common and this needs to be addressed before plastering. Deep holes, wide joints or pockets should be dubbed out in thin layers of mortar with pinnings tightly bedded in mortar, keyed and left to cure. The aim of preparing the background should be to achieve a surface that can take a first coat of consistent thickness, and to provide an adequate key for this first coat. The quality of preparation work is vital to the quality of the finished job. Suction between the first coat and the wall (and between all subsequent coats) is the primary means of bonding although a physical bond is also important. Different materials have different levels of suction, so for instance where a door way has been knocked through a stone wall and the edges built in brick, the brick may well have a different level of suction to the stone. Understanding and controlling suction is important for successful work.

For wood lath and plaster work, laths should be fixed by butt and break joints to joists or battens securely fixed back to wall or ceiling, with gaps between the laths of approx, 8 - 10mm . The support battens or ceiling joists should be spaced so that the lath does not give unduly in the centre. Wide spacing of battens or joists may require intermediate support or thicker laths. Sawn or riven laths (traditionally hand made) should be thoroughly damp before fixing. Dry laths swell when wet mortar is applied to them, sometimes causing the laths to bow in or out. Nails for fixing laths should be thin shank to avoid splitting the ends. Building paper and insulation is occasionally placed between laths and outside walls to comply with current building control requirements, this will have an effect on the drying rate and prevent proper rivet formation when fixed hard against the back of the lath. If building paper and insulation are essential, use moderately (NHL 3.5) or eminently hydraulic lime (NHL 5) for the first coat as they have faster natural sets, maintaining at least a 20mm gap between the paper and the lath.

First coat or Render coat. Rendering stuff is made with NHL 3.5 or NHL 2 in a 1:2 ratio with well graded sharp sand 3.5mm down. Rendering stuff is mixed before use as described in the data sheet. Hair or fibre reinforcement (if desired, but not necessary with hydraulic limes, except on lath work) is teased into the mortar and repeatedly chopped and turned until a good even distribution is achieved. Fibre reinforcement should be alkali resistant. The hair should be long and strong, free from lumps and clumps It should be abundantly visible as a beard around the edge of an inverted trowel full of mortar.

When working on the hard the first coat of mortar should be applied by throwing (a spray gun can be used) or with a laying-on trowel on to a dampened but not wet background at approximately 9 - 12mm thick (generally hair or reinforcing is not required on the hard). The render coat should not be straightened.

For application onto laths, mortar should be trowel applied as evenly as possible and pressed home to form rivets between and behind the laths.

The coat should cover the lath by approximately 8-10mm. Any initial shrinkage that takes place in the drying out phase, should be lightly floated back. Tighten the entire surface in with a cross grained wood float, closing back by further dampening and tightening in a close circling motion. Key the surface with a comb, or with a lath scratcher for plaster on laths, taking care not to score too deeply. In the case of lath work ensure that scratching is across, not in line with the lath. Thereafter if necessary control the rate of drying out by misting the surface with clean water or lime water, until all shrinkage has stopped and the mortar has hardened sufficiently to receive the second coat. Do not over-wet the surface (if water droplets appear on the surface it is over-wet). Plastering on laths may take longer to dry as there is no suction of moisture into the background.

Second coat or Floating coat (this is the straightening coat).
Using the same mortar as the render coat and following the same method of mixing, apply with a laying-on trowel to a dampened background. At this stage, if straightening is necessary, fill out irregularities in thin layers and apply the floating coat to the desired line using rules or dabs. Maximum thickness should be 12- 16mm in one pass. Tighten in as before with a cross grained wood float and key lightly to receive the finish. Any irregularities in the background must be made good at this stage as it will not be possible to straighten the finishing coat due to its thinness. **On lath this coat should not be applied until the first coat is sufficiently hard (about 1 week, depending on curing conditions).**

Setting Stuff or Finishing coat (hair is not required).
The finishing coat is made with NHL2 in a 1:1 with fine silica sand 0.8 to 0.075mm, clean and free from silt or clays. Better finishing will be achieved by re-working the setting stuff the day after. Apply with a laying-on trowel in two passes to an overall thickness of 2mm approx. Tighten in with a cross grained wooden float, dampening as necessary as the set takes up. Setting stuff sets by suction from the background. The final finish is produced by trowelling the surface with a steel float and dampening as necessary. Finish in one direction, usually top to bottom.
Patching finished lime plaster into a repair requires care. The finish is sand based and will abrade and degrade existing edges leading to a dull surface around the repair. A clean break of a few mm is necessary around the patch and this can be filled later with NHL 2 made into a putty (no sand added) when the patch is fully hardened.

Decoration: wallpaper or paint finishes should only be applied to fully dry and set work. Lime paint, lime wash, distemper and casein paints are traditional finishes for new work.

Protection. Work should never be undertaken in frosty conditions or where the temperature is likely to fall below 8ºC during the execution of the work or until the mortar has hardened. Protection should remain in place for as long as necessary. Ensure that the rate of drying is consistent and that strong

draughts are excluded from the working area. This is particularly important where a building has windows removed or doors open. Never force the drying by introducing forced or excessive heating. If heating is required to maintain a proper working temperature use propane heating, this has the effect of producing both moisture and heat simultaneously. Ensure the temperature is adequately controlled. See "Protecting Lime Mortar".

Good working practices. Adequate preparation and protection are essential. Due care and attention should be applied to all work. Sample panels should always be done, allow sufficient time.

APPENDIX 13

This section includes updated information, added since it was first published in December 2015.
Last updated 10/06/2019

C07. S04. P02 – P10
GypLyner UNIVERSAL

Including C07. S01. P02 – P04
Linings introduction

Linings

This section contains our wall and roof lining systems, covering all applications, from a basic wallboard lining through to high performance linings designed to meet thermal and sound insulation, fire protection, or impact resistance requirements

Linings

British Gypsum systems provide high quality internal linings. They cater for a variety of wall and roof constructions, including metal frame and traditional masonry. Linings can be fully or partially independent of the structure, or can simply be bonded or plastered directly to a wall surface. These products are used in all types of buildings and are equally suited to both new-build and refurbishment work.

Each system section takes you through the process of selecting an appropriate lining to achieve a high performing, quality finish:

System cavity width (mm)	Performance			Method of fixing to wall	System	Page
	fire	Acoustic	Thermal			
-	✓	-	-	Direct[1]	Plaster systems	C07. S02. P02
10 - 25	-	-	✓	Gyproc DriWall Adhesive dabs	**DriLyner BASIC**	C07. S03. P03
10 - 25	-	-	✓	Gyproc DriWall Adhesive dabs with Gyproc Nailable Plugs	**DriLyner TL**	C07. S03. P04
20 - 25	-	-	✓[3]	Gypframe MF10 Channels fixed using Gyproc DriWall Adhesive dabs	**DriLyner MF**	C07. S03. P06
2 - 3	-	✓	✓	Gyproc Sealant blobs with Gyproc Nailable Plugs	**DriLyner RF**[2]	C07. S03. P07
25 - 125	-	✓	✓	Gypframe GL2 or GL9 Brackets mechanically fixed	**GypLyner UNIVERSAL**	C07. S04. P02
60 minimum	✓	✓	✓	Independent of wall	**GypLyner IWL**	C07. S05. P02
-	✓[3]	✓[3]	✓	Direct screw-fix to timber[1]	Room-in-the-roof	C07. S06. P02

[1] Walls and ceilings.
[2] **DriLyner RF** system is intended for upgrade purposes.
[3] Performances not included within this section. Contact the British Gypsum Technical Advice Centre for more information 0844 800 1991.

Enhancing the built environment

British Gypsum offers a range of systems to deliver rooms and buildings that offer superior levels of living comfort and sustainability.

Thermal improvement

British Gypsum has a wide range of Gyproc ThermaLine laminate plasterboards to achieve thermal performance for all projects; from basic regulatory requirements to the most stringent, high performance levels. Buildings that have high levels of thermal insulation cost less to run, reduce CO_2 emissions and improve occupier comfort.

Acoustic improvement

British Gypsum has a wide range of wall lining systems that offer a number of acoustic performances. Improvements in the acoustic environment of a building can lead to a number of occupant benefits, including enhanced student learning, improved patient recovery, optimised employee productivity and harmonious family living.

Good practice specification guidance

It is well recognised in the construction industry that there is an issue with buildings not performing as intended when it comes to energy efficiency, often referred to as the 'Performance Gap'.

In order to minimise this risk there are two key areas of system design and installation to which particular attention should be paid; airtightness and thermal bridging.

To maximise the performance achieved on site, consider the following good practice specification guidance:

— In order to reduce heat loss via convection currents, it is important to seal the perimeter of the insulating element. To achieve best performance, a continuous fillet / ribbon of Gyproc DriWall Adhesive or Gyproc Sealant should be applied to the wall perimeter and around all services and openings as board fixing proceeds, as per individual system design guidance

— Air leakage through blockwork can be significant, particularly through incomplete mortar joints. Air passing through the wall will take heat energy with it, reducing the thermal efficiency of the wall. A continuous 6mm coat of Gyproc SoundCoat, applied to the face of the masonry prior to the installation of **DriLyner** systems, will seal hidden air paths often found in mortar joints between blocks or bricks. For improved acoustic performance, the Gyproc SoundCoat should not be trowelled smooth

— Walls must be weathertight and free from dampness before any **DriLyner** or plaster system can be installed

— It is important to achieve as consistent a level of insulation performance as possible across a building element. Areas with less insulation, known as cold bridges, will be prone to attracting condensation and, as a result could promote mould growth. Consideration should be given to minimising the occurrence of cold bridges, for example by applying thermal laminates to lintels and window reveals

Table 1a – AD L1A

AD L1A - New dwellings	ENGLAND		WALES	
	U-value (W/m²K)		U-value (W/m²K)	
	Limiting fabric parameters	Concurrent notional dwelling specification	Worst acceptable fabric performance	Elemental specification
Wall	0.30	0.18	0.21	0.18
Party Wall	0.20	0.00	0.20	0.00

Table 1b – AD L2A

AD L2A - New buildings other than dwellings	ENGLAND		WALES	
	U-value (W/m²K)		U-value (W/m²K)	
	Limiting fabric parameters	Concurrent notional dwelling specification	Worst acceptable fabric performance	Elemental specification
Wall	0.35	0.26	0.35	0.26

Table 2a – AD L1B

Existing dwellings	ENGLAND		WALES	
	U-value (W/m²K)		U-value (W/m²K)	
	New thermal elements (including replacements for existing elements)	Upgrading retained thermal elements	New thermal elements (including replacements for existing elements and non-exempt Conservatories & Porches)	Upgrading retained thermal elements
Wall	0.28	0.30	0.21	0.30

Table 2b – AD L2B

Existing buildings other than dwellings	ENGLAND		WALES			
	U-value (W/m²K)		U-value (W/m²K)			
	New thermal elements (including replacements for existing elements)	Upgrading retained thermal elements	New thermal elements (including replacements for existing elements)			Upgrading retained thermal elements
			Buildings essentially domestic in character, e.g. student accommodation, care homes	All other buildings	Conservatories and Porches	
Wall	0.28	0.30	0.21	0.26	0.28	0.30

Table 3a – TECHNICAL HANDBOOK SECTION 6 (Domestic)

New buildings	SCOTLAND	
	U-value (W/m²K)	
	Maximum	Notional dwelling, package of measure
Wall	0.22	0.17
Cavity separating wall	0.20	0.00

Table 3b – TECHNICAL HANDBOOK SECTION 6 (Non-Domestic)

New buildings	SCOTLAND			
	U-value (W/m²K)			
	Maximum		Notional building	
	Fully fitted building	Shell only	Heated and naturally ventilated	Heated and mechanically ventilated / Cooled
Wall	0.27	0.23	0.23	0.20

Table 4a – TECHNICAL HANDBOOK SECTION 6 (Domestic)

Existing buildings	SCOTLAND		
	U-value (W/m²K)		
	Extensions (and conversion of previously unheated buildings)		Conversion of heated buildings (and conservatories)
	Existing building U-values worse than 0.70 for walls and 0.25 for the roof	Existing building U-values equal/better than 0.70 for walls and 0.25 for the roof	
Wall	0.17	0.22	0.30

Table 4b – TECHNICAL HANDBOOK SECTION 6 (Non-domestic)

Existing buildings	SCOTLAND	
	U-value (W/m²K)	
	Extensions (and conversion of previously unheated buildings)	Conversion of heated buildings
Wall	0.25	0.30

GypLyner UNIVERSAL

Metal framed wall lining system

SPECSURE Lifetime System Warranty

All our systems are covered by **SpecSure®** when using genuine British Gypsum and Saint-Gobain Isover products

GypLyner UNIVERSAL

GypLyner UNIVERSAL is a cost-effective, virtually independent metal wall lining system. This system is commonly used where the external wall or substrate is very uneven or out of plumb.

49 – 66
R_w dB

0.35 – 0.21
W/m²K

ACTIV air

System can be skim finished with ThistlePro PureFinish. Refer to C02. S01. P49

SPECSURE Lifetime System Warranty

Refer to C01. S01. P07

Key benefits

- Background surface irregularities are accommodated within the framework cavity
- Provides a solution for backgrounds that are not suitable for bonded systems, for example plasters or **DriLyner** systems
- Services are easily incorporated within the framework
- Wide range of U-values achievable to suit project requirements through our extensive selection of Gyproc ThermaLine laminate board types and thicknesses
- Minimal thermal bridging of the insulation layer due to the small, discrete fixings back to the substrate
- Provides a thermally responsive environment with quick heating time as a result of positioning the insulation layer on the warm side of the room
- Provides a high performance option to achieve enhanced acoustic performance
- Ideal system for improving a wall's water vapour resistance through the addition of a Gyproc DUPLEX board option with integrated vapour control membrane

You may also be interested in...

GypLyner IWL
Are you unable to fix back directly to the substrate or looking for even higher levels of sound insulation performance? **GypLyner IWL**, a metal framed wall lining system that only requires fixing at head and base may provide the ideal solution. ▶ **Refer to C07. S05. P02 – GypLyner IWL.**

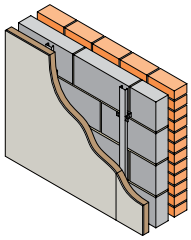
GypLyner UNIVERSAL ceiling system
GypLyner UNIVERSAL ceiling is a general purpose ceiling lining system suitable for most internal applications. It is a versatile system that is suitable for concrete soffits or timber joists, which utilises the same components as the **GypLyner UNIVERSAL** wall lining system.
▶ **Refer to C06. S04. P02 – GypLyner UNIVERSAL.**

GypLyner UNIVERSAL performance

Meeting thermal insulation requirements for external cavity walls

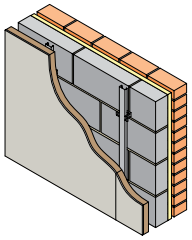
Table 1 – GypLyner UNIVERSAL new-build

1



Brick / cavity / block wall comprising 103mm brick skin, 50mm clear cavity, block inner leaf. Linings as in table.

2



Brick / cavity / block wall comprising 103mm brick skin, 50mm Isover CWS 36, block inner leaf. Linings as in table.

Detail	Board type	Lining thickness mm	Minimum overall wall thickness mm	Minimum GypLyner UNIVERSAL cavity depth mm	U-value W/m²K
λ Aircrete block = 0.11 W/mK (inner leaf)					
1	ThermaLine PIR	53	331	25	0.33
1	ThermaLine SUPER	60	338	25	0.28
1	ThermaLine PIR	78	356	25	0.25
1	ThermaLine SUPER	90	368	25	0.21
2	ThermaLine PLUS	27	305	25	0.32
2	ThermaLine PLUS	40	318	25	0.29
2	ThermaLine PIR	38	316	25	0.28
2	ThermaLine PIR	63	341	25	0.22
λ Medium density block = 0.47 W/mK (inner leaf)					
1	ThermaLine SUPER	60	338	25	0.33
1	ThermaLine SUPER	70	348	25	0.29
1	ThermaLine PIR	78	356	25	0.29
1	ThermaLine PIR	93	371	25	0.25
1	ThermaLine SUPER	90	368	25	0.23
2	ThermaLine PLUS	40	318	25	0.35
2	ThermaLine PIR	38	316	25	0.31

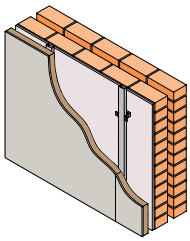
▶ For U-value calculations tailored to your project, try the online tool at british-gypsum.com

GypLyner UNIVERSAL performance (continued)

Upgrading thermal insulation of external walls

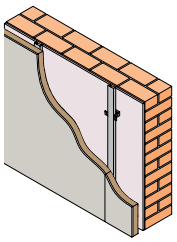
Table 2 – GypLyner UNIVERSAL refurbishment

1



Brick / cavity / brick wall comprising 103mm cavity brick skin. 50mm clear cavity, 103mm inner brick plastered. Linings as in table.

2



Solid brick wall (215mm) with inner face plastered. Linings as in table. [1]

Detail	Board type	Lining thickness mm	Minimum overall wall thickness mm	Minimum GypLyner UNIVERSAL cavity depth mm	U-value W/m²K
λ	Outer brick = 0.77 W/mK, inner brick = 0.56 W/mK, solid brick = 0.75 W/mK				
1	ThermaLine PIR	63	357	25	0.35
1	ThermaLine SUPER	60	354	25	0.33
1	ThermaLine PIR	78	372	25	0.29
1	ThermaLine SUPER	90	384	25	0.23
1	ThermaLine PIR	93	387	25	0.23
2	ThermaLine SUPER	70	323	25	0.31
2	ThermaLine PIR	78	331	25	0.31
2	ThermaLine PIR	93	346	25	0.26
2	ThermaLine SUPER	90	343	25	0.24

▶ For U-value calculations tailored to your project, try the online tool at british-gypsum.com

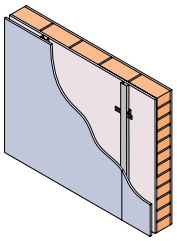
[1] Subject to severity of exposure and weather tightness. In certain situations, precaution should be taken to minimise the risk of rain penetration. Providing cladding or rendering the wall can reduce the risk.

GypLyner UNIVERSAL performance (continued)

Upgrading sound insulation of solid internal walls

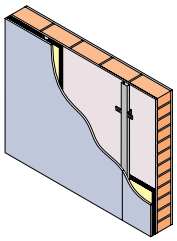
Table 3 – GypLyner UNIVERSAL refurbishment

1



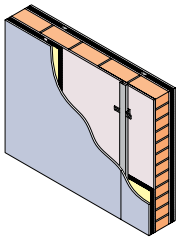
Solid brick wall (103mm) of density 1700 kg/m³ with 13mm plaster each side and Gypframe GL1 Lining Channel framework fixed to **one side** to give 35mm cavity. Lining as in table.

2



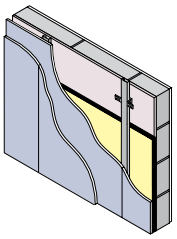
Solid brick wall (103mm) of density 1700 kg/m³ with 13mm plaster each side and Gypframe GL1 Lining Channel framework fixed to **one side** to give 35mm cavity. Cavity filled with 25mm Isover Acoustic Partition Roll (APR 1200). Lining as in table.

3



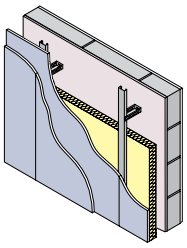
Solid brick wall (103mm) of density 1700 kg/m³ with 13mm plaster each side and Gypframe GL1 Lining Channel framework fixed to **both sides** to give 35mm cavities. Cavities filled with 25mm Isover Acoustic Partition Roll (APR 1200). Linings as in table.

4



Solid block wall (100mm), of density 1700 kg/m³ with 13mm plaster each side. Gypframe GL1 Lining Channel framework fixed to one side to give 35mm cavity. Cavity filled with 25mm Isover Acoustic Partition Roll (APR 1200). Linings as in table.

5



Solid block wall (100mm), of density 1700 kg/m³ with 13mm plaster each side. Gypframe GL1 Lining Channel framework fixed to one side to give 85mm cavity. Cavity filled with 50mm Isover Acoustic Partition Roll (APR 1200). Linings as in table.

Detail	Board type	Lining thickness mm	Sound insulation R_w ($R_w + C_{tr}$) dB	Improvement over existing wall [1] R_w ($R_w + C_{tr}$) dB	System reference
1	Gyproc SoundBloc	1 x 12.5	49 (43)	+2 (-1)	B226009
2	Gyproc SoundBloc	1 x 12.5	57 (50)	+10 (+6)	B226008
3	Gyproc SoundBloc	1 x 12.5	60 (42)	+13 (-2)	B226010
4	Gyproc SoundBloc	1 x 12.5	57 (50)	+10 (+6)	B226008
4	Gyproc SoundBloc	2 x 12.5	60 (55)	+13 (+11)	B226003
5	Gyproc SoundBloc	1 x 12.5	64 (56)	+17 (+12)	B226007
5	Gyproc SoundBloc	2 x 12.5	66 (59)	+19 (+15)	B226005

[1] Existing solid masonry wall (100mm) of density 1700 kg/m³ with 13mm plaster each side achieved R_w 47dB ($R_w + C_{tr}$ + 44dB).

NB The fire resistance and sound insulation performances are for imperforate partitions, walls and ceilings incorporating boards with all joints taped and filled, or skimmed according to British Gypsum's recommendations. The quoted performances are achieved only if British Gypsum and Saint-Gobain Isover components are used throughout, and the Company's fixing recommendations are strictly observed. Any variation in the specifications should be checked with British Gypsum.

GypLyner UNIVERSAL design

Building design

The depth of the cavity is determined by the positioning of the Gypframe GL2 or GL9 Brackets, which should be located at 800mm vertical centres and 600mm horizontal centres (to support the Gypframe GL1 Channel).

Planning – key factors

Allow for a stand-off of 25mm - 75mm plus the lining thickness for Gypframe GL2 Brackets, and 25mm - 125mm plus the lining thickness for Gypframe GL9 Brackets. These stand-offs are sufficient to correct irregularities normally encountered in solid backgrounds. The stand-off will determine the lining dimension required at door and window reveals and soffits. Ceilings should be installed prior to installing GypLyner UNIVERSAL wall linings. Any abutting partitions should also be installed prior to drylining.

Important information

Walls must be free from dampness before any GypLyner system can be installed.

Cavity barriers

Building Regulations may require the provision of vertical cavity barriers to long runs of lining. Minimum 12.5mm plasterboard, cut to cavity depth and screw-fixed to the leg of Gypframe GL1 Lining Channel, will provide a satisfactory cavity barrier.

Thermal performance

Uncontrolled air movement through the drylining cavity can result in excessive heat loss from the building. The quoted U-values for GypLyner UNIVERSAL wall lining are based on a sealed cavity between the lining and the background. This is achieved in practice if the abutting elements and the background are well fitted, and junctions are sealed using Gyproc Sealant.

The designer should also specify a method of restricting air movement around the perimeter of suspended timber floors, such as the provision of a flexible seal between the floor and walls.

Good standards of thermal insulation can be achieved where Gyproc ThermaLine laminates are specified as the lining. There may, however, be a slight risk of pattern staining where temperature, humidity, and soiling conditions are extreme.

Condensation and water vapour resistance

Gyproc WallBoard DUPLEX and some Gyproc ThermaLine laminates offer significant resistance to water vapour transmission. The application of two coats of Gyproc Drywall Sealer to Gyproc WallBoard, Gyproc Moisture Resistant or Gyproc ThermaLine BASIC after installation and jointing provides a water vapour resistance of at least 15MNs/g.

The use of Gyproc WallBoard DUPLEX or Gyproc ThermaLine laminates with integral vapour control, or supplemented with a vapour control layer treatment such as two coats of Gyproc Drywall Sealer, significantly reduces the risk of interstitial condensation.

It is important, particularly in new buildings, that external walls are properly dried out before a vapour control layer is provided, otherwise moisture may be trapped, impairing the performance of the construction.

Solid masonry wall - internal insulation

We reference to the use of Hygrothermal properties of buildings components within modelling software, and in compliance with BE EN 5250 (August 2016), we now recommend specialist guidance to be obtained prior to commencing the installation of internal insulation to solid masonry walls in order to determine the effects of condensation and moisture within the building fabric. This area of expertise is documented within BS 5250 'Code of practice for the control of condensation of building components and building elements - Assessment of moisture transfer by numerical simulation.'

Wall lining rigidity

Gypframe GL2 or Gypframe GL9 Brackets should be positioned equidistant at maximum 800mm vertical centres. Where there is a requirement for increased rigidity, these support centres should be reduced accordingly, although acoustic performance may be downgraded. Gypframe GL11 GypLyner Anchors are recommended for fixing brackets to the solid background.

Services

The cavity between the metal framework and the background facilitates the incorporation of services. Pipes and conduits should be fixed in position before installing the framing. Maximum cavity depths (substrate surface to the back of the lining board) of 75mm or 125mm can be achieved using Gypframe GL2 or GL9 Bracket respectively.

When installing Gyproc ThermaLine laminates, the insulation should not be chased to accommodate services. PVC covered cables must not come into contact with polystyrene insulation. Suitable isolation methods such as conduit or capping should be used.

Fixtures

Lightweight fixtures can be made directly to the lining. Medium weight fixtures should be made to Gypframe 99 FC 50 Fixing Channel. Heavyweight fixtures (to *BS 5234*), such as wash basins and wall cupboards, can be fixed using plywood secured with Gypframe Service Support Plates.

▶ Refer to C02. S01. P33 – Service Installations.

Board finishing

▶ Refer to C08. S01. P02 – Finishes.

Tiling

Tiles can be applied to the surface of lightweight partition systems. For further details on tiling guidance:

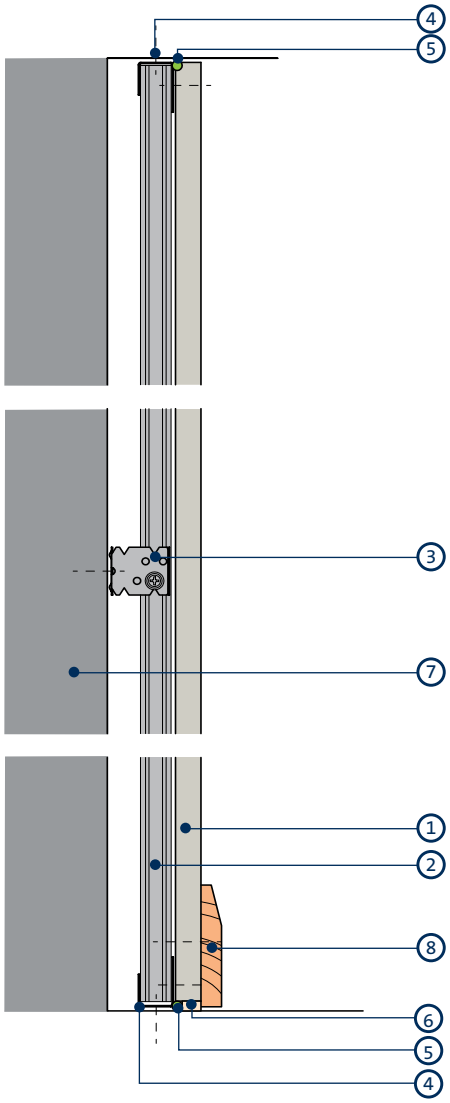
▶ Refer to C08. S04. P02 – Tiling.

SPECSURE Lifetime System Warranty SpecSure®

All our systems are covered by SpecSure® when using genuine British Gypsum and Saint-Gobain Isover products.

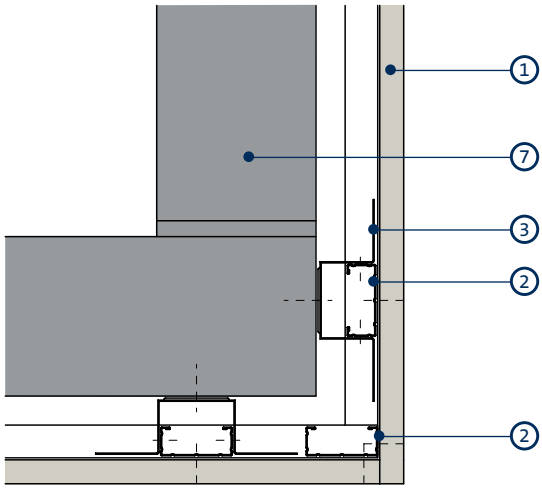
GypLyner UNIVERSAL construction details

1



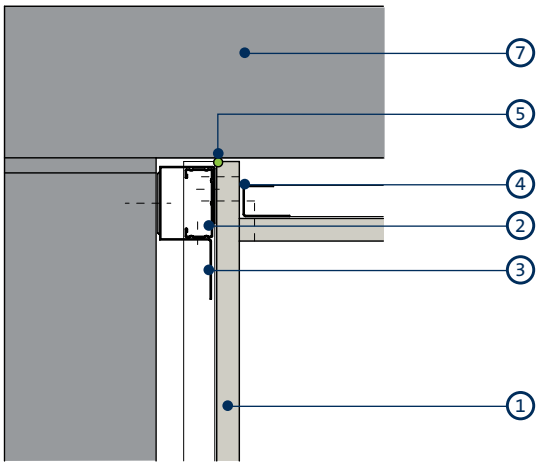
Head and base

2



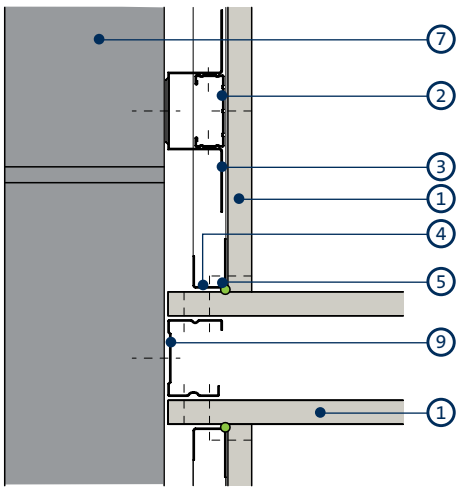
External angle

3



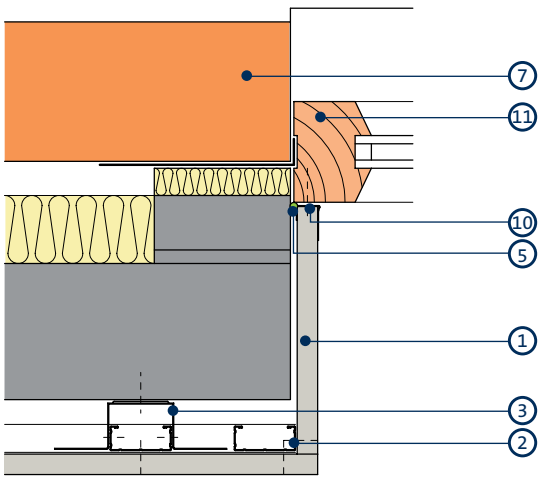
Internal angle

4



Partition junction

5



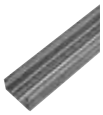
Window reveal

1 Gyproc plasterboard
2 Gypframe GL1 Lining Channel
3 Gypframe GL2 or GL9 Bracket fixed with Gypframe GL11 GypLyner Anchor
4 Gypframe GL8 Track
5 Gyproc Sealant
6 Bulk fill with Gyproc jointing materials (where gap exceeds 5mm)
7 Wall structure
8 Skirting
9 Gypframe 'C' Stud
10 Gyproc Drywall Edge Bead
11 Window frame

GypLyner UNIVERSAL system components

Gypframe metal components (▶ Refer to section C10. S02. P02 for details)

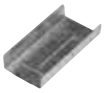
Gypframe GL8 Track
Floor and ceiling track for retaining the Gypframe GL1 Lining Channel at floor, ceiling, wall, abutments and around openings.



Gypframe GL1 Lining Channel
Main support channel to receive fixing of board.

Gypframe GL2 Bracket
For connecting the Gypframe GL1 Lining Channel to the structural background with a maximum 75mm stand-off.

Gypframe GL9 Bracket
For connecting the Gypframe GL1 Lining Channel to the structural background with a maximum 125mm stand-off

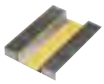


Gypframe GL3 Channel Connector
For joining two sections of Gypframe GL1 Lining Channel.

Gypframe 99 FC 50 Fixing Channel
A versatile metal fixing channel used to support medium weight fixtures on walls.

Gypframe GFS1 Fixing Strap
Used to support horizontal board joints.

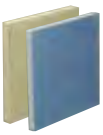
Gypframe GFT1 Fixing T
Used to support horizontal board joints.



Gypframe Service Support Plate
For installation of 18mm plywood within a partition cavity to support medium to heavyweight fixtures.

Board products (▶ Refer to section C10. S03. P02 for details)

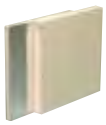
Gyproc WallBoard[1]
Standard gypsum plasterboard.



Gyproc SoundBloc[1]
Gypsum plasterboard with a high density core for enhanced sound insulation performance.

Gyproc ThermaLine PIR
Gypsum plasterboard bonded to a polyisocyanurate foam insulant with integral vapour control layers for an enhanced level of thermal insulation.

Gyproc ThermaLine SUPER
Gypsum plasterboard bonded to a phenolic foam insulant with an integral vapour control layer for an enhanced level of thermal insulation.



Gyproc WallBoard DUPLEX
Standard gypsum plasterboard, backed with a vapour control layer.

Gyproc DuraLine[1]
Gypsum plasterboard with fire resistant additives and a high density core for enhanced sound insulation and impact resistance performance.

Glasroc H TILEBACKER[2]
Non-combustible glass-reinforced gypsum board with a water resistant pre-primed acrylic coating to receive tiling.

[1] Also available in Moisture Resistant (MR) version. MR boards are specified in intermittent wet use areas.
[2] Glasroc H TILEBACKER is suitable for use in high moisture environments.

NB DUPLEX grade board is used as an external wall lining to control water vapour transmission.

GypLyner UNIVERSAL system components (continued)

Fixing products (▶ Refer to section C10. S04. P02 for details)

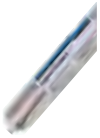
British Gypsum Drywall Screws
Corrosion resistant self-tapping steel screws for fixing board to metal framing less than 0.8mm thick.

Gypframe GL11 GypLyner Anchors
For fixing Gypframe GL2 and GL9 Brackets to concrete / masonry walls.

British Gypsum Collated Drywall Screws
Corrosion resistant self-tapping steel screws for fixing board to metal framing less than 0.8mm thick.

British Gypsum Wafer Head Drywall Screws
Corrosion resistant self-tapping steel screws for fixing metal to metal framing less than 0.8mm thick.

Plasterboard accessories (▶ Refer to section C10. S05. P02 for details)



Gyproc Sealant
Used to seal airpaths for optimum sound insulation.

Gyproc Jointing Material
Jointing compounds, ready mixes and adhesives for reinforcement and finishing of board joints. Primers and sealers for treatment of boards for pre-decoration.

Gyproc edge and angle beads
Protecting and enhancing board edges and corners

Gyproc Control Joint
To accommodate structural movement of up to 7mm.

Gyproc Joint Tape
A paper tape designed for reinforcement of flat joints or internal angles.

Finishing products (▶ Refer to section C10. S06. P02 for details)

Thistle MultiFinish
To provide a plaster skim finish on most common backgrounds including undercoat plasters and plasterboard.

ThistlePro DuraFinish
To provide a plaster skim finish and provide up to 60% tougher resistance to accidental damage.

Thistle BoardFinish
To provide a plaster skim finish to Gyproc plasterboards.

ThistlePro PureFinish
To provide a plaster skim finish with ACTIV*air* technology. Used to finish most common backgrounds including undercoat plasters and plasterboard. For more information refer to C02. S01. P49.

Thistle SprayFinish
To provide a plaster skim finish by spray or hand application, ideal for medium to large projects.

ThistlePro Magnetic
To provide a plaster skim finish that provides an attraction to magnets used to finish a wide range of backgrounds, including undercoat plasters and plasterboard.

Thistle ProTape FT50 and FT100
Self-adhesive glass fibre mesh tapes for joint reinforcement.

Insulation products (▶ Refer to section C10. S09. P02 for details)

Isover Acoustic Partition Roll (APR 1200)
Glass mineral wool for enhanced acoustic and thermal performance.

Isover CWS 36
Glass mineral wool for enhanced thermal performance.

GypLyner UNIVERSAL installation overview

This is intended to be a basic description of how the system is built. For detailed installation guidance refer to the **British Gypsum Site Book.**

Scan the image with this frame for more information and videos related to this system
▶ Or visit **gyp.sm/b/la**

Gypframe GL8 Track is fixed to perimeters at 600mm centres with the longer leg towards the lining, using appropriate fixings.

The perimeter of each frame is then sealed with Gyproc Sealant.

Vertical lines are marked on the wall at 600mm intervals to indicate Gypframe GL2 or GL9 Bracket fixing centres. Horizontal lines are marked at 800mm centres to determine individual bracket positions. Gypframe Brackets are then fixed into position.

Gypframe GL1 Lining Channels are friction-fitted into the track, extending if required.

Gypframe Bracket legs are bent forward and each leg fixed to the Gypframe GL1 Lining Channel with British Gypsum Wafer Head Drywall Screws.

The protruding Gypframe Bracket legs are bent back to sit clear of the Gypframe GL1 Lining Channel face. At internal angles, a Gypframe GL1 Lining Channel is positioned tight into the corner to provide support for the lining.

Openings and reveals are formed with Gypframe GL1 Lining Channels and Gypframe GL8 Track.

Gyproc Edge Bead can be fixed to window or door frames to provide edge protection to the reveal and soffit linings.

Gyproc plasterboards or thermal laminates are then fixed to all framing members with British Gypsum Drywall Screws.

Additional information

For full installation details, refer to the **British Gypsum Site Book**, available to download from british-gypsum.com

APPENDIX 14

FARROW&BALL®
CRAFTSMEN IN PAINT AND PAPER

PRODUCT ADVICE SHEET

Full Gloss

All Farrow & Ball paints are eco friendly with low or minimal VOC (Volatile Organic Compounds) content and are water based giving them a low odour and quick drying time which benefits both you and the environment.

Available Tin Sizes: ,750 ml,2.5 L,,

In all Farrow & Ball colours. Available direct from Farrow & Ball (visit farrow-ball.com, email: sales@farrow-ball.com or call: +44 (0) 1202 876141), our Showrooms and selected stockists internationally.

Product Overview:

Noted as the glossiest water based finish on the market, Full Gloss has a wonderfully reflective 95% sheen that makes a dramatic statement. Resistant to water, flaking, peeling and colour fade for up to six years, its high durability makes it perfect for wood and metal both inside and out. Washable & wipeable. Not suitable for use on plastic. Not suitable for exterior decking or other pressure treated wood.

Recommended Primer & Undercoats:

For use on interior woodwork : Farrow & Ball Interior Wood Primer & Undercoat

For use on exterior woodwork : Farrow & Ball Exterior Wood Primer & Undercoat

For use on metal : Farrow & Ball Metal Primer & Undercoat

For use on interior walls & ceilings : Farrow & Ball Wall & Ceiling Primer & Undercoat

Knotty or Resinous Wood Preparation:

Heat the knot to draw out any excess resin (we recommend using a hot air paint stripper). Scrape off any residue resin, and then thoroughly clean the area with white or methylated spirit. Allow the area to dry thoroughly before continuing.

New and Unpainted Interior Wood (Not Floors) Preparation:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Fill any cracks, holes and open joints with an appropriate filler. To improve the paint's adhesion, lightly sand the surface. Prepare any filled, knotty or resinous areas as above and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply a diluted coat of Farrow & Ball Interior Wood Primer & Undercoat (20 % water) in the correct colour tone for your top coat, followed by one full (undiluted) coat. Allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Previously Painted Interior Wood (Not Floors) Preparation:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Remove any areas of old paint which are peeling or blistering as flaking or peeling can occur if you paint over weak paint layers. Blend and 'feather' the edges of areas of old paint, as this helps to smooth out the surface. Fill any cracks, holes and open joints with an appropriate filler. Lightly sand the surface to improve paint adhesion. Patch prime any filled or bare knotty / resinous areas with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply one coat of Farrow & Ball Interior Wood Primer & Undercoat, in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Interior MDF Preparation:

Where possible always aim to use high quality MDF, as higher quality MDF tends not to suffer from raised fibres and so will not require surface sanding. Lower quality MDF may contain less tightly bound fibres, which may become raised as paint is applied. If the fibres do become raised, lightly sand the surface between coats to ensure a smooth finish. Lightly sand the edges of the MDF to provide a sound surface and to reduce paint absorption. Apply one coat of Farrow & Ball Wood Floor Primer & Undercoat, in the correct colour tone for your top coat and allowing a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Ferrous Metal Preparation:

Thoroughly clean and degrease new and previously painted metal surfaces. Remove any weak paint and rust back to bare metal. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Cast Iron: We recommend that a specialist primer is applied to Cast Iron surfaces prior to painting as water-based primers may lead to flash rusting.

Non Ferrous Metal Preparation:

Thoroughly clean and degrease new and previously painted metal surfaces. Remove any weak paint and lightly sand surface to improve adhesion of your primer & undercoat. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Galvanised Metal Preparation:

Treat all surfaces with an Etch Primer or Mordant Solution, ensuring any excess product is removed before you begin painting. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Radiator Preparation:

This product is suitable for painting conventional hot water filled radiators where the surface temperature does not exceed 60° C. We do not recommend using this product to paint steam filled radiators which operate at a much higher temperature. Ensure the radiator is turned off and has cooled before you begin painting it. Thoroughly clean and degrease new or previously painted radiator surfaces. Remove any weak paint and rust back to the original surface. Apply two coats of Farrow & Ball Metal Primer & Undercoat, in the correct colour tone for your top coat and allowing a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Cast Iron Radiators: We recommend that a specialist primer is applied to Cast Iron surfaces prior to painting as water-based primers may lead to flash rusting.

Exterior Bare Wood Surface Preparation:

Ensure surfaces are sound, clean, dry and free from dirt, grease and other contamination. Fill any cracks, holes and open joins with a water based exterior wood filler. To improve the paint's adhesion, lightly sand the surface. In environments where wood rotting fungi is likely to occur, treat with exterior wood preservative prior to priming. Prepare any knotty or resinous areas as above and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply one coat of Farrow & Ball Exterior Wood Primer & Undercoat, in the correct colour tone for your top coat, and allow a minimum of 4 hours drying time. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Please note: Repeatedly repairing cracks, holes and open joints in a surface may indicate that the surface is nearing the end of its life and will require additional effort to maintain it. If this is the case consider renewal or replacement.

Exterior Previously Painted Wood Surface Preparation:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Remove any areas of old paint which are peeling or blistering as flaking or peeling can occur if you paint over weak paint layers. Blend and 'feather' the edges of areas of old paint, as this helps to smooth out the surface. Fill any cracks, holes and open joints with a water based exterior wood filler. Lightly sand the surface to improve paint adhesion. In environments where wood rotting fungi is likely to occur, treat with exterior wood preservative prior to priming. Prepare any knotty or resinous areas as above and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply one coat of Farrow & Ball Exterior Wood Primer & Undercoat, in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats. Please note: Repeatedly repairing cracks, holes and open joints in a surface may indicate that the surface is nearing the end of its life and will require additional effort to maintain it. If this is the case consider renewal or replacement.

New or Unpainted Plaster/Dry Lined Surfaces (Modern Construction) Preparation:

If your plaster is new non powdery and sound you can simply apply a diluted coat of your chosen Farrow & Ball colour. Please note: British Standard 6150:2006 recommends a typical drying time for new plaster of 7 days for every 5mm thickness.

Suggested Maximum Dilution Rates:

Bare dry skim plaster/dry lined walls, bare dry plaster board, patch filled plaster = up to 20% water. NB: The dilution rate will depend on the porosity of the surface. We recommend you test the level of dilution on a patch to determine the level of dilution required. Dilute the top coat (of your chosen colour) with water and apply as a "mist" coat. Please note: When porous plasters are not sufficiently prepared, difficulties in application, variation in sheen or uneven colour may occur.

Previously Painted Walls Preparation:

Apply one coat of Farrow & Ball Wall & Ceiling Primer & Undercoat, in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then follow with two coats of your chosen colour to promote adhesion and full colour depth.

Painting Lining Wallpaper:

For unpainted Lining Paper apply one coat of diluted Farrow & Ball Wall & Ceiling Primer & Undercoat (maximum 15% water), in the correct colour tone for your top coat (see dilution details below) before applying two full coats of your chosen colour. NB: The dilution rate will depend on the porosity of the surface. We recommend you test the level of dilution on a patch to determine the level of dilution required. If you do not want to apply a primer and undercoat, as an alternative, you can dilute the top coat with approximately 10% water and apply as a "mist" coat. Please note: When porous papers are not sufficiently prepared, difficulties in application, variation in sheen or uneven colour may occur.

Using Interior Caulks & Sealants:

Where small gaps and cracks require filling or sealing, best results are achieved with an acrylic based decorators' caulk which is a water-based, flexible filler. Use the minimum of caulk necessary as a smaller bead will dry quicker and will be less prone to cracking. Follow the manufacturer's application instructions and drying times (typically 2 – 3 hours) before applying your chosen Farrow & Ball finish. Estate Eggshell, Full Gloss and Dead Flat – 2 coats may be applied directly (allowing a minimum of 4 hours drying time between coats). Estate Emulsion and Modern Emulsion – Apply an undiluted coat of Wall & Ceiling Primer & Undercoat in the correct colour tone for your top coat (allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats).

Painting Over Interior Wall Fillers

For best results always use a filler which has the same porosity and density as the surface which is being repaired. Fillers which have a different porosity or density may lead to visible differences in colour or tone. Follow the filler manufacturer's application instructions and drying times then apply a diluted coat (20 – 25%) of Farrow & Ball Wall & Ceiling Primer & Undercoat in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats). Then follow with two coats of your chosen colour to promote adhesion and full colour depth. This product may not be compatible with highly alkaline/cement-based fillers. Please note that this product may not be compatible with sand-based filler. Wherever possible, we recommend using an alternative type of filler. However, if no alternative is available, ensure the filler is adequately sanded and free of all dust and contaminants before proceeding with the steps outlined above.

Painting Over Interior Wood Fillers:

Follow the filler manufacturer's application instructions and drying times and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply a coat of Farrow & Ball Interior Wood Primer & Undercoat in the correct colour tone for your top coat. Allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Painting Over Exterior Wood Fillers:

Follow the filler manufacturer's application instructions and drying times and patch prime with Farrow & Ball Wood Knot & Resin Blocking Primer. Apply a coat of Farrow & Ball exterior Wood Primer & Undercoat in the correct colour tone for your top coat. Allow a minimum of 4 hours drying time between coats. Apply two coats of your chosen Farrow & Ball finish, allowing the correct drying time between coats.

Painting Over Putty:

If replacement putty is required for new or existing glazing, for best results use an acrylic based glazing putty which is designed to work well with modern water based paints and primers. Bare wood must first be primed with an undiluted coat of Farrow & Ball Exterior Wood Primer & Undercoat, including the end grain, and allowed to dry for a minimum of 4 hours before applying the glazing putty. Apply the glazing putty following the manufacturer's application instructions and drying times before applying your chosen Farrow & Ball finish as follows: Exterior Eggshell and Full Gloss - Apply an undiluted coat of Farrow & Ball Exterior Wood Primer & Undercoat in the correct colour tone for your top coat (allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats). Ensure the glass is thoroughly clean and overlap the final top coat onto the glass by approximately 1mm to achieve a seal.

Painting Interior Brickwork:

Interior brickwork must be completely dry and free of damp before painting. Interior brickwork which is powdery, flaky or unstable should first be patch primed using one coat of Farrow & Ball Masonry & Plaster Stabilising Primer. The following Farrow & Ball finishes may be applied to interior brickwork: For Full Gloss, Estate Eggshell and Exterior Eggshell - Apply an undiluted coat of Farrow & Ball Interior Wood Primer & Undercoat in the correct colour tone for your top coat (and allowing a minimum of 4 hours drying time between coats) followed by 2 coats of your chosen top coat (once again allowing a minimum of 4 hours drying time between coats). For Exterior Masonry – apply 2 coats directly, allowing a minimum of 5 hours drying time between coats. Do not use Farrow & Ball Masonry & Plaster Stabilising Primer as a general primer on sound brick surfaces.

Waxed or Highly Polished Surface Preparation:

If you are painting onto previously waxed or highly polished surfaces, you will need to remove the existing coating of treatment by sanding back prior to painting. We recommend testing a small area as Farrow & Ball paints may not be compatible with some waxes and polishes.

How to Apply Paint to Walls by Brush:

Stir thoroughly before use. Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Please note that flaking or peeling may occur if you paint over weak paint layers - to avoid this sand back any previous weak paint layers before you start painting. Where required apply Farrow & Ball Wall & Ceiling Primer & Undercoat to improve paint adhesion and promote depth of colour. Using a fine-tipped synthetic bristled brush, apply the paint in a vertical direction then spread the paint out evenly in a horizontal direction. On application of the final coat lay off the paint in a single direction to ensure that any brush marks and brush patterning effects (sometimes visible in certain lighting conditions) are minimised.

Painting Terracotta:

The following Farrow & Ball finishes may be applied to terracotta: Exterior Masonry, Full Gloss and Exterior Eggshell – 2 coats may be applied directly (allowing a minimum of 4 hours drying time between coats).

How to Apply Paint to Walls by Roller:

We do not recommend applying Full Gloss by roller to large areas such as walls and ceilings as a decrease in sheen level and a slight surface texture (stippling) may be visible.

How to Apply Paint to Trim by Brush:

Stir thoroughly before use. By 'trim' we mean: skirting boards, picture rails, dado rails, doors, door frames and architraves, interior window sills and window frames (providing they aren't plastic). Farrow & Ball paints are water borne, and unlike solvent borne paints, water borne paint is more resistant to sagging and you will achieve the best finish by painting a thicker coat. For best results use a quality fine-tipped synthetic bristled paint brush (e.g. Farrow & Ball Paint Brush). Load the brush well and apply a generous first coat. Brushing first in a vertical direction then in a horizontal direction until an even coating has been applied. Finish by 'laying off' the paint in one direction using light pressure, with the brush held at an angle of approximately 30°. Do not "overwork" the paint or attempt to brush it out in thin even coats as you would a traditional solvent borne paint as this may create excess brush marks. Allow to dry completely (for a minimum of 4 hours) before applying a second coat following the same technique as before.

How to Apply Paint to Trim by Roller:

Stir thoroughly before use. By 'trim' we mean: skirting boards, picture rails, dado rails, doors, door frames and architraves, interior window sills and window frames (providing they aren't plastic). This paint finish can also be applied using a Medium Pile Woven Polyester Roller. This will provide a good finish with minimal stippling and is a quick method of application. However, where an optimum finish is required, we would recommend brush application using a Farrow & Ball fine-tipped, synthetic bristled brush.

Advice for Repairing Damage and Touching In:

If your paintwork becomes damaged or marked you may need to repaint. To achieve the best results we recommend applying a single coat of paint over the entire wall or walls that have the damage, using the same batch of paint you originally carried the work out with. This best practice will avoid any noticeable variation in colour or finish. If you do chose to touch-in to repair damage, the following recommendations will help you achieve the optimum finish.

1. Always aim to use the same batch of paint. If you use a different batch, although we control colour to tight specifications, you may observe slight colour and sheen variations. If you are unable to use the same batch of paint we recommend that you apply a single coat of a different paint batch to an entire wall as any slight variations will be much less noticeable when observing from wall to wall.
2. Always use the same preparation techniques when you make any repairs as you used when you originally painted the wall. It may not always be possible to achieve a perfectly consistent finish – if for example you have used filler which has a different texture and absorbency to the rest of the wall, this may cause a slightly patchy finish.
3. Always use the same application tool and method as when you originally painted this wall. Ensure that the edges of the touched in paint are blended in "feathered" to make the transition between old and new paint areas less noticeable.
4. Over time the colour of the paint, whether on the wall or in the tin, may slightly alter. Therefore the newer the paintwork is, the better the finish you will achieve by touching-in.

Please note that when touching in the darker the colour and higher the sheen the more difficult it will be to achieve a uniform finish compared to lighter coloured, lower sheen paints.

Spray Settings:

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Airless Spraying - Good results can be achieved by the set up of 15 thou (381µm) 65° angle tip or 18 thou (457µm) 65° angle tip using a pressure of between 2300 - 2700 psi (159 - 186 bar). HVLP Spraying – Depending on the apparatus used, the paint may need to be diluted with water by up to 30%. Experiment with air control valve, material flow adjustment, fan size and spray pattern settings on a piece of cardboard or an inconspicuous area until a satisfactory finish is achieved. Apply several thin coats, allowing each coat to dry fully before applying the next one.

Over Coating Pale Colours with Dark Colours:

Changing the shade of exterior woodwork from light to dark will greatly increase the amount of heat the surface is able to absorb from the sun. In some cases, this additional heat may cause resin and gases to be released by the wood, particularly from any knots. This can result in peeling and blistering, which may not have occurred when painting the same surface with a lighter shade. To minimise the risk of this happening, and to achieve a long-lasting finish, we recommend removing as much of the previous coating as possible to expose any knots and resinous areas so that they can be prepared as above, before patch priming with Farrow & Ball Wood Knot & Resin Blocking Primer. This should be followed with a coat of the Farrow & Ball Exterior Wood Primer & Undercoat in the correct tone for your new paint colour, and then by your topcoat.

Other Product Applications:

If you wish to use Farrow & Ball products for any applications which are not featured here, please contact Customer Services for advice on +44 (0) 1202 876141 or email customer.services@farrow-ball.com. Please note that calls may be recorded for training purposes.

Application Information:

Do not paint in temperatures below 10°C or in excessive heat above 30°C. Avoid painting in direct sunlight. Avoid applying outdoors if there is a likelihood of rain. For best results apply early in the day, allowing the product time to dry before the evening (when condensation can occur).

Coverage Rate (m2/l per coat): : Up to 12

Drying Time: : Dry in 2 hours.

Typical Recoat Time: : Recoat after 4 hours

Curing Time: : Please note that some darker paint colours will take up to 14 days to achieve full hardness, strength and durability.

Sheen Level: : 95%

Recommended Number of Coats: : 2*

*Darker/stronger colours may require additional coats. Please note: The drying and Recoat times provided are based on applying paint in normal conditions - drying times may be longer in cooler and/or higher humidity environments. Darker colours may take longer to dry. Allow a minimum of 14 days before applying over solvent based coatings.

Density: : 1.2 - 1.4 g/cc

Wet Film Thickness: : 80 - 120 µm

Application Humidity: : < 80 % RH

Wet Abrasion Class: : 1

Substrate Moisture Content:

Plaster Walls & Ceilings = < 0.5 % : Interior Wood = < 15 %

Exterior Wood = < 15 % : Interior Brick = < 1 %

Water Absorption according to DIN EN 1062 3 (w24 [kg/m2√24h]):

0.02 (Class III, limit <0.1). This is the volume of water absorbed into a 1m2 area through the paint surface within a 24 hour period. The lower the w24 value, the more waterproof the paint film. Paint water absorption is class rated, from Class I to Class III. Class III in this instance denotes the highest waterproof rating. We are pleased to confirm that Farrow & Ball Estate Eggshell is rated - Class III (Low).

Water Vapour Permeability according to DIN EN ISO 7783 2 (sd [m]):

2.767 (Class III, limit >1.4). This is the resistance of the paint film to water vapour expressed as the equivalent thickness of air in metres. The lower the sd value the more breathable the paint film. Paint breathability is class rated, from Class I to Class III. Class III in this instance denotes a low level of breathability.

Colour Accuracy:

Check for colour accuracy prior to use as Farrow & Ball will not be liable for decorating costs caused as a result of an incorrect colour being applied. When more than one tin of the same colour is to be used ensure that batch numbers are identical or intermix before use. Stir thoroughly before use.

Water Contact:

To extend the service life of this finish, standing surface water should not be allowed to pool on horizontal surfaces.

Cleaning:

Full Gloss is washable, wipeable and stain resistant. Wipe gently with a soft damp cloth or sponge.

Clean Up:

Remove as much product as possible from brushes or rollers. Clean brushes / rollers with warm soapy water.

Storage Advice:

This product is water based and must be protected from frost and extreme temperatures. Use within 6 months of purchase. We accept no responsibility for the deterioration of contents or packaging after this date.

Formulation:

A water based paint made using a traditional alkyd binder.

Environmental & Disposal Advice:

Do not empty into drains or watercourses. Dispose of contents/container to waste disposal site in accordance with local/national regulations. Contact the local Environmental Department for disposal instructions. Metal containers may be recycled.

VOC Content Information:

EU limit value for this product (cat. A/[d]): 130g/l (2010). This product contains max 13g/l VOC.

Lead Advice:

Special precautions should be taken during the preparation of old paint surfaces (especially those from pre-1970), as they may contain harmful lead. For further advice and guidance see coatings.org.uk/paintsafe.

Health & Safety Advice:

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Keep out of reach of children. Ensure good ventilation during application and drying. Do not get in eyes, on skin, or on clothing. If medical advice is needed, have product container or label at hand. IF ON SKIN: Wash with plenty of soap and water. Do not use solvent thinners or White Spirit. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Call a doctor if you feel unwell. Safety data sheet available on request.

Contact Us:

For advice on colours, paint finishes or wallpaper our customer services team is on hand to help you, just call +44 (0) 1202 876141, email sales@farrow-ball.com, or write to us at Farrow & Ball, Uddens Estate, Wimborne, Dorset, BH21 7NL, UK. Please note that calls may be recorded for training purposes. Imported in EU by Farrow & Ball, Kaiserstraße 25, Frankfurt am Main, Deutschland, +49 (0) 69 2424 6269.

Disclaimer:

The information given in these specification sheets and technical advice – whether verbal, in writing or by way of trials – is for guidance and is given in good faith but without warranty, since skill of application and site conditions are beyond our control. For further information please contact our Customer Services Department. We can accept no liability for the performance of the products arising out of such use, beyond the value of the goods delivered by us. This does not affect your statutory rights.

Issue Date: 24/08/2020

Product Data Sheet

Earthborn Claypaint

Earthborn Claypaint is a luxurious ultra-matt emulsion with great coverage power, perfect for interior walls and ceilings. It is highly breathable and is washable to DIN53778. It is free of oils and acrylics and virtually VOC free. It has no unpleasant odours or emissions and Licensed to carry the EU Ecolabel (Licence No UK/044/001)

1. Coverage

Approximately 10m^2 per litre. However coverage is dependent on absorbency of substrate and application technique. It often requires fewer coats than conventional emulsions.

2. Colours

Earthborn Claypaint is available in 72 standard colours.

3. Pack Size

100ml. 2.5L & 5L

4. Thinner (Depends on product if needed)

Water

5. Uses

Earthborn Claypaint is excellent for painting dry, absorbent, grease-free surfaces such as wallpaper, wood, plaster and most common mineral surfaces. Earthborn Claypaint is highly breathable so ideal for use over lime plaster. Earthborn Claypaint can also be used on previously painted sound surfaces and is easy to apply.

6. Ingredients

Marbles, Humpty Dumpty, Freckle & Flower Pot: Water, various clays, chalk, kaolin, vinegar ester, methylcellulose, various pigments, 0.1% synthetic preservatives*. Other colours: Titanium Dioxide and various pigments.

7. Properties

Earthborn Claypaint has exceptional breathability and absorbs variations in humidity. It does not build up static and has proven beneficial to many asthma and allergy sufferers. Thanks to its high proportion of solids the paint has exceptional opacity.

8. Preparation

Loose paint should be removed with a brush or scraper. Stains which bleed through the paint (such as water stains, nicotine etc.) should first be treated with Earthborn Isolating Primer. Very smooth, non-absorbent surfaces must be sanded. **Clay/lime plaster must be moistened before the application of Earthborn Claypaint.**

9. Instructions for Use

Stir before use. Do not apply in temperatures below 8°C. Apply the paint with brush/roller or spray in a thin, even coat.

10. Application

Spread the paint evenly in all directions. On light-coloured, smooth surfaces one coat is often sufficient. On very absorbent surfaces such as fresh plaster use a priming coat of Claypaint diluted with 20% water and finish with an undiluted final coat. Allow each coat to dry before the next is applied. Because Earthborn Claypaint is made from natural ingredients, there may be subtle variations in shade between batches; avoid starting a new container in the middle of a wall. To avoid picture framing, ensure that areas of cutting in do not dry before painting/rolling up to them.

11. Colouring

N/A

12. Drying Time

The paint can be recoated after 6-12 hours, depending on room temperature and relative humidity. Fully cured after 10 days.

13. Tools

Apply with short pile roller for best results.

14. Cleaning

Clean rollers, brushes and tools using warm soapy water immediately after use

15. Maintenance

The term washable (DIN53778) refers to the durability of the paint and its resistance to abrasion. It is often possible to remove surface marks using a pencil eraser or very fine emery paper (test on a small area first).

16. Storage & Disposal

Keep containers sealed and store in a cool frost-free place. After being allowed to dry, Earthborn Claypaint can be disposed of by normal waste disposal methods.

17. Safety

No hazard or risk groups. Please refer to Material Safety Data Sheet.

18. Water Vapour Permeability

Sd value = 0.02m

19. Moisture Vapour Transmission

MVT value = 1115g/m² per 24hours

20. VOC Content

This product has a VOC content of less than 0.5g/L

21. Safety of Toy Standards (EN71-3:1995)

NB: The user is recommended to test the product on the intended surface to ensure its suitability.

**Synthetic preservative Contains 1,2-benzisothiazol-3(2H)-one and 2-methyl-2H-isothiazol-3-one, which may produce an allergic reaction. Please see MSDS for more details*

Earthborn
Frodsham Business Centre, Bridge Lane, Frodsham, Cheshire, WA6 7FZ
Tel: 01928 734171
www.earthbornpaints.co.uk