

- **Sheepswool Insulation**
- **Traditional Building Consultancy**
- **Practical Courses**
- **Paint for the Perplexed**
- **Roundtower Natural Hydraulic Lime**

The Natural Approach – Sheepswool Insulation is an insulation 'batt' produced from wool which is bound using polyester fibres for reinforcement and treated with an inert, naturally occurring mineral, to provide pest, fungal and enhanced fire resistance. These can be used in a wide variety of roof, wall and floor constructions and offer greater environmental, technical and performance benefits than conventional alternatives.

Sheepswool insulation batts are suitable for use as insulation in solid or cavity 'breathing wall' construction, fire barriers and for reducing airborne and impact noise. Sheepswool insulation batts retain their insulating properties when wet and naturally regain their loft after compression, and can absorb and release moisture without degrading or significant loss of thermal resistivity. This gives it a margin of safety against the formation of interstitial condensation.

The last century has seen the wide adoption of new type of construction methods and materials. These have brought clear benefits in new build practice. However, in this time most historic buildings were repaired and maintained using materials which are unsympathetic or incompatible, materials which often have no regard for the way in which old structures deal with moisture. This is evident in the range of symptoms in many such 'unhealthy' buildings.

Lochplace Building Conservation can assist in the evaluation of these problems, and provide advice on potential solutions to the many hazards faced by historic buildings. The following services are available to anyone who deals with old structures:

- **Mortar Analysis** – we offer scientific analysis of mortars and other building materials. We can advise on the appropriate materials to use, the correct methods of application and actions to prevent further decay.
- **Site Inspections** – our highly experienced building inspector is available to examine a site with specific requirements in mind or where works are proposed to a historic building.
- **On-Site Demonstrations** – we can attend your site to introduce and discuss appropriate working methods. This may include mortar mixing, background preparation, application techniques.



Reporting – drafting recommendations into a full report stating our findings, and also the conservation, repair work including the basic principles of repair, material choice, working practice, standards and management of lime-based works.

If you have a specific project in mind or would just like to discuss these services further, please contact us at the old Forge: 021 477 6677

Practical Courses in using Traditional Lime Products

People often ask 'why should lime be used in the repair and maintenance of old buildings?' This question elicits a range of responses which are best answered in a practical context. Essentially, this course aims to provide numerous answers to the question of 'why lime?'

For many years, Lochplace Building Conservation has provided the much-needed practical courses in using traditional building materials. This one-day event continues to prove very popular with high demand for places. Topics covered include the lime cycle,

advantages of lime in period buildings, preparing and selecting mortars, practical techniques and much more

The courses are held at The Forge, Innishannon, Co Cork and include a tour of Cor Castle, a Lochplace project, where the use of lime at all stages can be viewed. As well as technical advice there are opportunities to gain hands on experience in the various lime mortars and plasters.

The course is suitable for architects, surveyors, engineers, town planners, builders, craftsmen, owners of period

buildings and anyone interested in lime technology. We highly recommend this course for anybody involved with period buildings.

The cost of the day is 150 Euro. This covers seminars, workshops, demonstrations, materials, tools, refreshment, lunch and a tour of Cor Castle. **There is no VAT to pay.**

Two more days are scheduled for 2003:

- Friday 12th September
- Friday 7th November

A few places are still available, so call now for booking details.

Website Update

www.lochplace.com has recently been expanded even further to offer our clients and customers a more comprehensive service.

This invaluable and informative site now provides extensive information on the dozens of ecological building products available from Lochplace.

As part of our commitment to promote the viability of sustainable development in Ireland, a new page has been included on our website. This provides the viewer with a gateway into alternative building materials manufactured by **NBT**. Via the NBT website, you can gain technical information on all of the NBT products that we supply here in Ireland.

Hundreds of alternative building materials and finishes are illustrated by description and in photograph, which assists with visualisation of each product. Alongside are case studies to illustrate how these materials can be used.

A Guide to Paint for the Perplexed

The world of paint can often be something of a minefield, particularly where manufacturers claim unique qualities such as 'breathability and 'environmental awareness'. This short article, by Neil May of Natural Building Technology, attempts to explain and explore some of the main issues.



What is paint?

Paint is basically:

- Solvent
- Binder
- Pigment

The solvent is the medium, in which the pigments and binder are carried,

This is particularly useful with some of the more unusual products such as self-coloured clay plasters.

The extensive NBT product range is generally divided into four categories:

- natural insulation
- boards, plasters, renders and mortars
- paints
- blocks

In this way, when viewing their website, one may quickly focus on the materials of particular interest. However, some multi-functional materials, such as Diffutherm boards, cross from one boundary to another, so if you are looking for a specific item and can't find it, you might try another category.

The section on newly launched NBT Systems also proves very informative. These new additions to the NBT stable go some way towards offering 'off-the-shelf' ecological new build, with numerous wall and roof types to choose from. There is even a section on insulative refurbishment of both new and old buildings.

which then evaporates when the paint is on the wall. The binder glues the pigment to the wall. The pigment gives the colour and opacity.

A simple paint is soft distemper: this is water (solvent), rabbit skin glue (binder), and chalk and if desired coloured clays (pigment). In addition to the main three constituents, however, a number of other ingredients are commonly added to make paint easier to use, longer lasting and better in its performance. These additions vary according to whether the paint's solvent is water or organic solvent (such as white spirit or turpentine).

Common additives are

- Flow promoters
- Thickeners
- Coalescing solvents - only necessary in water based products
- Preservatives (Biocides) –only necessary in water based products
- Anti skin agents- only necessary in solvent based products
- Driers - only necessary in solvent based products

Flow promoters and thickeners ease application. Coalescing solvents help

The NBT website offers some interesting thoughts on ecology, with varied topic headings to select from, one of which (*'Paint for the Perplexed'*) has been included in this newsletter.

So, next time you visit the Lochplace website, click on the NBT link to find out more about the wide range of alternative products that we supply to Ireland.

Further updates on the Lochplace website include a link to the website of **'Construct Ireland'** – a periodical publication which, for the first time, looks carefully at the issues of sustainable development in Irish construction.

The enthusiasm and energy with which the editor, Jeff Colley, and his team work, is evident in each printed page. Articles cover a wide range of areas such as natural insulation, renewable energy sources and latest legislation. Regular authors include Duncan Stewart from television's 'About the House' series.

with the paint's film formation particularly in emulsions (for this reason there are actually solvents in nearly all emulsions). Preservatives preserve water based paints in the tin, and are necessary to give products shelf life. (They are not necessary for the paint once it is on the wall.) Anti-skin agents prevent skin forming on organic solvent-based products in the tin. Driers help organic solvent-based products to dry when out of the tin, i.e. on the wall/ windows etc.

Types of paint

- Water based and Organic Solvent based
- Organic and Inorganic (mineral based)
- Synthetic (petroleum derived) and Natural (whether plant or mineral based)

These divisions cross over each other. As regards the first pair these terms only refer to the solvent. Water based paints can be organic or inorganic, as regards the rest of their ingredients. The term "organic" in chemistry means containing carbon. Carbon is a very special element and can combine with other elements in an almost infinite number of ways

because of its atomic structure. It is the building block of all living things, and as such is also the main element of petroleum, which is based on matter that was once alive. 'Inorganic' means everything else that does not contain carbon.

'Synthetic' in this context refers specifically to petroleum-derived products. Natural products are anything else, and can be plant based, mineral, water or organic solvent based.

Building Health:

Breathability is not about air but water. It is not only about vapour permeability, but also capillarity and hygroscopicity. Capillarity means the absorption or wicking of water in liquid form. Hygroscopicity means the absorption of moisture from the air, and its storage and release according to rising or falling levels of relative humidity. In all buildings it is a very important way of modifying the moisture levels, and most of this function is performed by the first 10 to 15 mm of the surface.

Not all paints should be vapour permeable or have capillary qualities. External joinery should be sealed if it is made from softwood which is prone to swell and shrink with the seasons. There's no point having a door if you can't open it.

The life expectancy of a paint is a significant cost and also affects the building health if the break down of the product causes other difficulties. This is the problem with most impervious masonry paints.

Environmental Issues

The production, transportation, application and disposal of paint have a huge environmental effect locally and globally. It also has serious implications for human health and in many instances for the health of the building fabric. These in turn effect the environment, just as environmental degradation affects human and building health. The main issues include: global warming, ozone smogs, habitat destruction, pollution of land sea and air and resource depletion.

The degree to which the building health qualities of a paint are significant depends on the paint and the application. In some paints it is important to have a high degree of vapour permeability, and in others for this to be restricted. The same goes for capillarity.

As regards anti fungal and anti bacterial qualities these are achieved in some paints just by their pH (paints such as limewash and silicate paints) and in some by biocidal additives. Not all paints require these qualities. It was however an important function of paints historically, and spring cleaning usually involved a coat of limewash all round to help get rid of bugs and moulds.

Understanding what a paint is for helps to underline the importance of correct technical understanding. It also shows the significance of correct preparation and application. If a paint is doing the job of allowing a building to breathe, then do not prepare a crumbling surface with a vapour impermeable stabiliser.

Health Issues

A number of products in paints have toxicological warnings, and some are carcinogenic. This includes both synthetic and natural products. Some of the worse ingredients are toluene, xylene, and chemicals that contain forms of chlorine, lead and cobalt. *Hormone mimics:* Commonly used in paints previously, and still in the USA, can get into water courses and cause hormonal problems to humans. Furthermore, people are becoming increasingly sensitised to a wide number of chemicals resulting in allergies.



On the other hand if the object of gloss paint on timber windows is to stop both water droplets and vapour from getting into the wood (so as to have a rot free and stable window), then not rubbing down between coats defeats the object of the painting as the first coats will almost certainly raise the grain, and allow fibres to poke through the surface of the paint, thus drawing moisture and droplets into the wood.

'So', you may ask, 'Is there a solution to these issues?' Well, in many ways yes. NBT have manufactured a range of paints which specifically takes account of these problems and can now offer a cost-effective, user-friendly alternative to most conventional paints. For further advice on please contact the Forge.



ROUNDTOWER – Ireland's New Natural Hydraulic Lime

Our website has lots more
useful information:

www.lochplace.com

8 Reasons Why Roundtower makes an ideal choice for mortars:

- 1) Strength – a suitable strength to match each construction situation.
- 2) Strength - gained slowly to allow for movement.
- 3) Versatility of use – rendering, pointing, building.
- 4) Reworking – can be reworked up to 24 hours.
- 5) Permeability – condensation dispersion.
- 6) Low alumina content – less susceptible to attack by salts.
- 7) Elasticity – no expansion joints, minimal shrinkage and cracking
- 8) Economy – low bulk density means good economy as sold by weight but used by volume.

LOCHPLACE
BUILDING CONSERVATION

The Forge, Innishannon, Co. Cork, Ireland
Tel: 021 477 6677 Fax: 021 477 6063
email: mail@lochplace.com