Newsletter

BUILDING LIMES FORUM IRELAND

Comments or articles in this newsletter do not necessarily reflect the views of the board or editor.

Building Limes Forum Ireland is a community of lime practitioners, specifiers, suppliers and producers of lime. The Forum exists to encourage expertise and understanding in the appropriate use of building limes, and education in the standards of production, preparation, application and aftercare. Building Limes Forum Ireland is connected and affiliated to the Building Limes Forums across the world.

Brian, Paddy & the Bear

Elizabethan Plasterwork Course
Bear lodge Scotland

In May 2023, my esteemed colleague and mentor, Paddy Byrne, and I embarked on an journey to Bear Lodge in Kildrummy, Scotland. Our mission: to learn techniques of Elizabethan plasterwork under the watchful eye of Master Plasterer Philip Gaches and his exceptionally skilled sons, William and Jude. This trip was also a delightful reunion, as the charming proprietors of the picturesque Scottish lodge had been our companions on a previous Gaches course in the south of France the year before, along with several other enthusiastic students.

Philip taught us the fundamental principles that define British plasterwork, emphasizing the significance of preserving these venerable techniques. Our project for this course was crafting a ribbed design on a riven lathed ceiling, adorned with in situ modelled enrichments, all from the same lime chalk plaster.

The mortar, a non-hydraulic lime, chalk, and fibers mix was a joy to work with, it was light, buttery, and wonderful to apply. We started by applying the pricking-up coat, pushing the hairy mortar through the gaps between the laths to form a secure key around them, while also covering the underside by approximately 10 mm, creating an open texture.

Our next task was to draft the rib design on the ceiling, a process that was satisfyingly organic and freehand. Using only string and approximate measurements, prohibited from using tapes and

(Continued on page 3)

Brian Tobin putting the finishing touches to a thistle enrichment.

Letter from the Chair

Dear Members,

The BLFI continues to grow from strength to the strength and our calendar of events remains full to the brim. We have had a busy year so far with a successful limeslam followed by our first training event of the year, held in the wonderful setting of Tullynisk House, Birr, County Offaly, in collaboration with the Built Heritage Unit of the Department of Housing, Local Government and Heritage. Two further similar events, aimed specifically at homeowners of vernacular buildings will take place mid-July in County Cavan and Mid-September in County Mayo. Our board members also continue to represent us across the country at events such as the Irish Georgian Societies, Traditional Buildings Skills Event in Birr.

2024 AGM

Master Plasterer Philip Gash was guest speaker at our AGM which was held in the superb setting of the Irish Architectural Archive, Merrion Square on Thursday 23rd May. Philip spoke on the importance of retaining and encouraging hand craft skills, exploring the value and materiality of plasterwork as well as the skill required in its conservation and repair. Philp showcased some of the many illustrious projects he has been involved with, since taking on the family plastering business from his father in 1987.

Master Plasterer, Philip Gash delivering the key note address at the BLFI AGM, 2024.

New board members, Feargal Ó Súilleabháin (left) and Veronika Zemska (right).

The event was preceded by a site visit to view the conserved plasterwork of the 18th century stuccodor Robert West at the Goethe Institute at No.37 Merrion Square. The tour was facilitated by our very own plaster specialist Paul Griffin and conservation architect, Kevin McKevitt of Shaffrey Conservation Architects.

New Faces

At the AGM Kevin Blackwood and Una Ní Mhearain stepped down as long standing board members. Kevin had served as chair between 2013 and 2015 and since then had been the forum's bursary officer. After a term as treasurer, Una, took over the chair between 2018 and 2022. Both Kevin and Una remain active members and we wish to thank them for their many years' service and dedication to the BLFI.

Sad as we are, not to be seeing Una and Kevin at our monthly board meetings, we are delighted to formerly welcome Feargal Ó Súilleabháin and Veronika Zemska to the board. Feargal is a senior architect (Grade 1 Conservation Accredited) at the Office of Public Works and Veronika is an experienced stone and conservation contractor who has worked on many prestigious sites both in her native Czech Republic and here in Ireland. We know both Feargal and Veronika will bring valuable contributions to the board and I look forward to working closely with them.

Dermot Mac Randal
(Chair BLFI)

Brian Tobin, Paddy Byrne and their fellow colleagues beneath the bear ceiling.

(Continued from page 1)

straight edges. We then applied the first coat along the rib lines, forming approximately 20 mm triangles with a small tool or gauging trowel, concluding the first day's labour.

On the second day Philip brought us beautifully crafted wooden handheld running moulds made from oak which would shape the ribs. The previous day's work had stiffened just enough to be ready for the next layer—a slightly softer second coat on the ribs, allowing us to run the mould along the plaster freehand and shape the ribs. This was an enjoyable and challenging experience, as I'm more accustomed to using a straight edge or pivot. Gradually, we sculpted the ribs while sharing laughter and stories with fellow students and co-owner, who worked alongside us.

With the ribs complete, we turned our attention to hand casting thistle enrichments, and other decorative elements like bear head and Jacobean work. Over the next few days, we were given ample time to indulge in these creative tasks, which was immensely satisfying. The junctions of the ribs were cleverly concealed with hand-cast thistle leaves, crafted by pressing the same stiff lime chalk plaster into a carved wooden form and applying it wet-on-wet to the ceiling. An armature was then fitted to the centre of the junction, providing a skeleton for shaping the thistle flower.

Creating the bear heads was particularly engaging, prompting us to reflect on the distinctive elegance of this period's plasterwork and how we might revive these techniques for our conservation projects back in Ireland.

The social aspect of the course was equally rewarding. We enjoyed delightful meals, shared many laughs, forged new friendships, and strengthened existing bonds. Receiving certification for the course was a fitting and gratifying conclusion to this experience.

I whole heartedly recommend participating in a course with Philip, William, and Jude. Their mastery of plasterwork is truly worth while , and the experience is both educational and immensely enjoyable.

Brian Tobin, Limemaster

Traditional & Sustainable Lime Mortars Symposium Ennistymon, Co. Clare

Eoin Madigan of Madigan Traditional Masonry, hosted an exceptional two day event in Ennistymon Co. Clare on Friday 26th and Saturday 27th April. The Friday was specifically aimed at conservation professionals with Saturday dedicated to empowering homeowners and other interested persons. International speakers included David Wiggons and Nigel Copsey with further talks from local industry experts including Lisa Edden, Damien Condon and the main man himself, Eoin Madigan. The event focused on extolling the benefits of using traditional hot-mixed lime mortars with lectures in the morning and practical demonstrations held in the afternoon. The two days generated lots of useful discussion, as interest and the use of hot-mix lime mortars continues to grow from strength to strength.

Eoin Madigan, kicking off events at the two day course organized by Madigan Traditional Masonry (top left).

David Wiggns providing an engineers perspective on the use of hot-mix lime mortars (top right).

Nigel Copsey speaking about the use of hot-mixed lime mortars, particularly with the use of hair for plastering and pointing in England (bottom left).

Lisa Edden (former BLIF Chair) delighting attendees with a round up of her 35 years of working with lime mortars (bottom left).

The Influence of Paint on the Vapour Permeability of Traditional Solid Walls

Introduction

Considerable research has been dedicated to the study of lime plasters and mortars, including investigations into their porosity, vapour permeability, capillary absorption, among other hydric properties. Despite the widespread application of paint on lime plaster surfaces, its impact on moisture transport in lime plasters is often overlooked.

Established guidelines recognize that emulsion-based paints exhibit lower vapour permeability compared to lime plaster, potentially hindering wall drying and leading to moisture accumulation. Recent retrofit guidance from the Sustainable Energy Authority of Ireland (SEAI) advocates for the utilization of vapour-permeable paints such as natural emulsion, lime, or clay-based variants, although specific vapour permeability values are not stipulated [1].

The market for 'breathable' clay and mineral paints has experienced significant growth in recent years. However, the absence of an official classification for "breathable" paints has led to varied interpretations of the term. Many commercial paint suppliers use "breathable" to denote characteristics like odour or volatile organic content (VOC), rather than water vapour permeability. The Sd value (m), as per ISO 12572:2016, is commonly employed to describe the vapour permeability of paint. This value equates to the vapour resistance of an equivalent thickness of air. The term “breathable” varies across sources, ranging from 0.01-0.5m [2], 1 or lower [3], 0.01-0.05 [4] and < 0.01 m in academic research [5,6]

Previous research conducted by various authors has examined the performance of paints on newly fabricated lime plasters [7,8,9]. It is shown that both silicate and acrylic paints reduce water absorption by capillarity, decrease vapour permeability, and impede drying to varying degrees depending on the paint type.

The FabTrads research employs a three-part approach to investigate the impact of paint on Irish historic lime plasters. The impact of multiple historic paint layers on the vapour permeability of historic plaster in a Dublin Georgian house is measured. It also examines the influence of new paints on the vapour permeability of historic plaster. Lastly hygrothermal modelling (using WUFI Pro) of a solid brick wall is undertaken with two paints to determine the potential impact of the paint selection on the moisture conditions of the wall. The full findings of this research will be published in the proceedings of the upcoming CERAI conference 2024. This research is part of the *FabTrad-TradFab* projects in the *Building in a Climate Emergency Research Group* in UCD.

Findings - Impact of layers of paint on the vapour permeability of historic plaster

Several sections of historic plaster were removed from a Georgian house, constructed in c. 1820 in Dublin (Figure 1). There were many layers of accumulated paint evident on the surface of the plaster. The paint was removed on 6 samples and retained on 6 samples. The vapour permeability of the plaster with and without plaster was then measured in accordance with ISO 12572:2016. It was found that the vapour diffusion resistance factor of the unpainted plaster was 24.9 and that of the painted plaster was over five times higher at 122.3. This transforms a highly vapour permeable lime plaster to one of low vapour permeability comparable to a late nineteenth century cement render. This is likely the typical behaviour of accumulated paint layers in many historic buildings throughout Ireland.

Historic plaster with partly removed paint.

Painted lime plasters for vapour permeability testing.

Findings - Impact of new paint on the vapour permeability of historic plaster

Section of plasters were removed from historic buildings in Kilkenny city (built c. 1850) and Co. Laois (built c. 1850). The vapour permeability of the samples was measured in accordance with ISO 12572:2016. The samples were then painted with four types of paint and their vapour permeability remeasured. The paint types were (A) mineral-based paint (B) matt emulsion paint (C) mid sheen paint and (D) matt wall paint based on an acrylic dispersion (figure 2).

All paints reduced the vapour permeability of the plaster, but by differing amounts. The average calculated Sd values for 2 coats of paint was Paint A = 0.32m, Paint B = 0.25m, Paint C = 0.95m, and Paint D = 0.53m. Although Paints B and Paint C are both emulsion paints, they have a significantly different effect on vapour permeability. Notably, a hardware store emulsion paint (Paint B) has a lower Sd value than a conservation-grade mineral-based

paint (Paint A). This is product specific and likely not applicable to all mineral-based paints. It was also noted that the effect of the paint on vapour permeability varied depending on the plaster, so the Sd value is not fixed but dependent on the lime plaster.

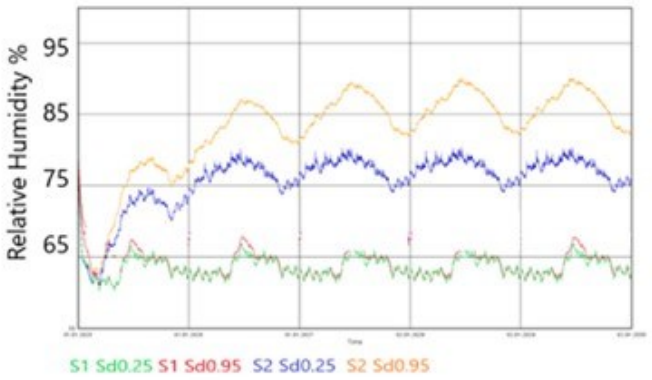
Hygrothermal Modelling of the impact of paint on the performance of a solid brick wall with lime plaster

Hygrothermal modeling was undertaken using WUFI Pro software, which considers factors such as material properties and internal and external boundary conditions. Therefore, the results provided here offer insights into a specific, arbitrary scenario. A model was created for a 220mm thick brick wall with an internal lime plaster finish and was simulated with two types of paint - Paint B and Paint C (which had the greatest difference in Sd values). The wall was investigated under two moisture conditions: moderately wet (scenario 1) and near saturation (scenario 2).
It was observed that when the walls are moderately wet, the vapour permeability of the paint has minimal impact on moisture content at the wall/plaster interface (green and red lines in figure 1). However, in cases of the wall at near-saturation conditions, paint C with low vapour permeability (orange line in figure 1) impedes drying towards the interior, potentially resulting in high interior moisture content and a heightened risk of moisture related decay mechanisms.

Conclusion

Paint decreases the vapour permeability of traditional walls, with the extent of this reduction depending on the specific type of paint and the properties of the plaster. Identification of appropriate paint for use on lime plasters is difficult even for informed practitioners. The research highlights the critical importance of using highly vapour-permeable paints for walls with elevated moisture content to facilitate drying towards the interior.

Rosanne Walker, Anna Hofheinz, Caroline Engel Purcell and Oliver Kinnane , School of Architecture, Planning and Environmental Policy, University College Dublin.



WUFI graph of RH at the brick/plaster interface. Brick wall modelled for two scenarios (near saturation and moderately wet) with two types of paint (Paint B and Paint C). The lower lines (red and green c.63% RH) display RH in the wall for scenario 1 whereby the wall is only moderately wet and the performance of the wall is unchanged by the type of paint. The upper two lines are of a wall near saturated conditions, (scenario 2) whereby Paint C (Sd 0.95-orange c.81-89% RH) results in significantly higher RH at the plaster/brick interface than Paint B (Sd 0.25 – blue c.75-78% RH).

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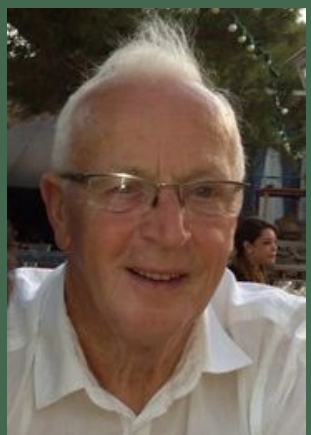
[8]V. Brito, T.D. Gonçalves, and P. Faria, "Coatings applied on damp building substrates: performance and influence on moisture transport," Journal of Coatings Technology and Research, vol. 8, pp. 513–525, Feb. 8, 2011.

John Cotter - A life Remembered



It was with great sadness that the BLFI learned of the death of former member John Cotter on 3rd January 2024. John, an early member of the BLFI is remembered for his enthusiasm, huge knowledge and experience which he was always willing to share. At the age of 18 John started as a timekeeper in the Ballybrew quarry, working alongside his late brother Liam. From there he started a career of almost 50 years in stonework, including time in Ballybrew, Old Leighlin and Ballinasloe quarries before moving into the sphere of conservation and restoration with Stone Developments. His project list over the years spans 32 counties and included Lough Derg, Christchurch Dublin, Leinster House, Heuston station and City Hall Dublin to name but a few. John will be sadly missed by his friends in the BLFI and in the wider construction industry. The BLFI extends its sympathies to John's wife Sally, who often attended events with him, his sons, daughters, grandchildren, the Cotter family and his many colleagues and friends.

The Pen & the Trowel

Those of us who were fortunate enough to attended courses in conservation at West Dean College, Chichester, during the John Ashurst pioneering days will appreciate the benefits of learning about conservation through the pen and the trowel. The late Professor Ashurst was one of the leading authorities on building conservation. He and his wife Nicola produced the first edition of the celebrated English Heritage Technical Handbooks Series in 1988. John was not alone. Colin Burns was his accompanying mason and a close working college. The two particularly came to the fore being partners in teaching at West Dean. They were the Pen and the Trowel. Students would benefit from the theory in the morning provided by John and the practical in the afternoon provided by Colin. Both attending the other's sessions to complete the link between theory and practice.

The students group comprised practicing architects and masons, engineers, plasterers, quantity surveyors and others with suitable experience in their field, so that we could all learn from one another and contribute to the course.

The philosophical aspects of conservation were fully explored, as well as the procedures involved in decision making, technical features of materials, their use and methodologies in use, practical issues and techniques and actually doing the work. Not only was this a very satisfying way to learn and work, enjoying a sense of achievement, it helped gain an understanding and empathy for the roles and disciplines of fellow students. This mutual appreciation has proved to be of immense value to the specifier and practitioner alike. This method of teaching conservation is now traditional at West Dean.

In a somewhat similar way, the Building Limes Forum Ireland is the only body that brings together all those involved in the use of lime in the building industry, from the protection of our built heritage right through to sustainable new build, albeit its current focus is on conservation. It embraces all activities and all walks of life and offers a platform for open discussion on issues and problems, posing questions and in providing answers of both a technical and practical nature in an informal setting. Members, both pen and trowel, can share experiences and concerns, consult freely and learn from one another in open discussion. This, in truth, is the main purpose of the BLFI. To be informed in both theory and practice at gatherings of the convivial company of likeminded people. It helps in sharing our mutual interests in the diverse and proper use of lime and brings the pen and the trowel closer together.

While the pen might be mightier than the sword, in conservation the pen and the trowel cannot get along without one another.

Ivor McElveen, Conservation Engineer & Former BLFI Chair

Throw-back to Yesteryear

Ed Byrne demonstrating mixing of traditional lime mortar at Weald and Downland Museum 2002. Ed has been the back bone of the lime revival in Ireland and happily continues to be an advocate for the cause!

The Italian Job

Walking around Rome, Florence or Venice it opens your eyes and mind. You have to stand back and admire the Italians. From Roman times to the Renaissance, to Ferrari and Gucci, the Italians are often the worlds trend setters with great imagination and high-quality products. A lot of the decorative plasterwork we work on in Ireland has roots in and can be traced back to Italy, like the work of Raphael in St Peter's Basilica, to the Swiss Italians like Bossi and Artari who worked across Europe. Not to mention the LaFranchini brothers amongst others, who made a significant contribution to Irelands plasterwork and on highly celebrated Irishmen like Stapelton and West.

On a recent visit to Verona, I took a tour of Castelvecchio. Castelvecchio has been on my to-do list for a while and it was wonderful to see how Carlo Scarpa introduced contemporary finishes into historic buildings. There are books and lectures about the architecture side of things but as a plasterer I was particularly interested in the polished plaster and the fresco paintings.

Polished plaster dates back a couple of millennia and returned to fashion in Venice and elsewhere during the Renaissance (I previously wrote an article for the BLFI newsletter in 2021 about these decorative wall finishes). The technique subsequently died out over the Baroque period. It was the likes of Carlo Scarpa and others who brough back to life, some of these finishes during the mid-20th century – they would start a trend which can still be seen in high end apartments across cosmopolitan cities such as London and New York.

We have completed decorative wall finishes, like these using specialist venetian plaster coatings from viero on a number of high-end properties here in Ireland. I am in the plastering game over 30 years and even after all this time I still get excited creating a range of different plaster types and finishes in a variety of colours. I was particularly interested to see one of Scarpa's finishes at Castelvecchio which is very close to a sample which has recently been prepared by us and passed by the architects for an OPW project…. just goes to show good taste doesn't change.

I also found the Fresco Paintings in Castelvecchio very interesting. Some of the paintings were damaged and you could see the layers of lime plaster which I found of particular interest. While I was attending a course on plaster moulding in Italy, a number of years ago, there happened to be a fresco restoration course going

Mamorino Decorative Wall Finish Ireland.

Lime paints to exterior of properties in Verona, Italy.

on in the classroom next door. When I had a bit of free time, I used pop into the fresco restoration class. I found the process fascinating and it was great seeing how the colour changed from being applied onto the wet lime plaster to what is looked like when it dried out.

While on my visit to Verona you can't help but notice the beautiful colours schemes. To my eye the lime-based paints give such a brilliant finish. These differ from many other paints as the tone of the colour changes depending on the depth of the lime paint. Of course working with premium lime plasters, there is no point in using a nonbreathable paint, which will only seal the plaster and so I always, always recommend a breathable paint finish. I recently provided advice and supplied paint remover to Irish Rail for the removal of layers of non-breathable paint from the booking hall in Hueston Station. We restored all the historic and decorative plasterwork and I am happy to report, we also supplied a breathable paint finish. With the conservation and decorative works complete, the ceiling of the booking hall can, in my opinion hold its own alongside anywhere in the world, including Italy! So next time you are walking through the booking hall on your way to catch a train, look up!

A former classmate, on another course I had attended in Italy was the main restorer on the Palace on Isola Del Garda, on Lake Garda. Since I was in the area, I couldn't pass the opportunity to visit that too. He doesn't have any English and I don't have any Italian so we communicated by exchanging images of each other's work, which was always greeted with a smile, a nod and a thumbs up. Our method of communicating seemed to have worked as we got on great. Stunning island and palace with beautifully modelled plasterwork internally, and lime-based paints to the exterior which work so well with the beautiful carved sand stone.

Paul Griffin, Griffin Plastering and Stucco WorkShop

Booking Hall, Heuston Station, Dublin.

Walking Tour of Armagh

The 2023 annual walking tour took place in the historic city of Armagh, the ecclesiastical capital of Ireland where both the Roman Catholic and Church of Ireland denominations have their cathedral which has contributed to the built heritage and architectural richness of the city. The city is compact and picturesque with a population of just over 16,000, full of interesting buildings and urban set-pieces like the main street and the Mall which were easily reached on foot despite the steep hills.

The tour started at Armagh Observatory where we were given a tour of this Francis Johnston-designed building's internationally famous planetarium, library and offices, by one of the PhD students who also showed us the fascinating astronomical clocks and the Grubb 10" diameter and Calver 18" telescopes. This was followed by a tour of The Mall and the changing fortunes of the city's Courthouse and Gaol since the Belfast Agreement was signed in 1997.

After lunch we were given a tour of Armagh's Robinson Library which is one of the city's architectural gems. Designed by Thomas Cooley and built in 1771, this elegant building was doubled in size in 1845. In the reading room we were given access to some of the historic books in the library's collection. Both the observatory and the library were commissioned by Primate Richard Robinson (1708–1794) who commissioned these buildings with the intention to develop a university in the city, a goal which has yet to be achieved.

Then we proceeded down the street to the Diocesan Registry at 5 Vicar's Hill, another building commissioned by Primate Robinson. It was built as part of a terrace in 1772 among similar buildings but has a surprising interior – a double-height open space with surrounding mezzanine. The building is used as a registry office for personal papers and civil records and is accessible to the public. The tour concluded with a visit to the Archbishop's Palace and its chapel which are on the other side of the city. The building is now used as a local authority office.

The day was a success and BLFI would like to thank all those in Armagh Observatory and Planeturium, staff at the Armagh Robinson Library and at the Archbishop's Palace for facilitating the tour and welcoming us.

Feargal Ó Súilleabháin

Lime Mortars Workshop for Owners of Traditional Buildings

The National Vernacular Skills and Repair Workshop was presented by the Building Limes Forum Ireland (BLFI) at Tullynisk, county Offaly on Friday and Saturday, 10th and 11th May 2024. The workshop was sponsored by the Department of Housing, Local Government and Heritage (DHLGH) as an action of the National Vernacular Strategy. The event in Birr was the first of several two-day workshops which will be presented by BLFI at several venues around the country this summer and autumn. Our hosts were Alicia and Nathaniel Clements of Tullynisk House, and the venue was the courtyard and surrounding outbuildings which are a mix of buildings from the seventeenth to the late nineteenth century.

The workshop included demonstrations of many different applications of lime: raking out and repointing of defective mortar joints, mixing and preparing a natural hydraulic lime mortar mix as well as a hot lime mortar, preparation and application of shelter coats, lime wash and lime renders. The workshop was attended by a variety of people of all ages, abilities and backgrounds: absolute beginners, building owners, tradespeople – everyone wanted to learn about the importance of lime and improve their confidence in its many uses in the repair, maintenance and protection of historic and vernacular buildings.

The two-day event was structured around presentations in the morning by Grade 1 conservation architects (Feargal Ó Súilleabháin and Tom McGimsey), and practical demonstrations in the afternoon by experienced practitioners (Henry Thompson and Damien Condon), followed by opportunities for discussion and question and answer sessions. The attendees got their hands dirty and put into practice what they had learned with a hands-on approach. The event was a great success, and the attendees expressed satisfaction to BLFI afterward. Fortunately, we were blessed by fine weather for the two days and the event was capped off by awarding the much coveted 'Trowel Award' (a trowel) to two attendees who were considered to have completed the best repointing.

Workshop participants working on the walls.

Further Vernacular workshops are planned in Virgina Park, Virgina Cavan on 19th and 20th July and at Westport House, Co. Mayo on the 13th and 14th September. For further details please contact info@blfi.net

Feargal Ó Súilleabháin

Damien Condon slaking hotlime.

Henry Thompson demonstrating the protection of lime mortar.

WALKING TOUR—Kilmalock, Co. Limerick 24th August

This Years BLFI Summer Walking Tour is to historic Kilmallock, Co. Limerick on Saturday 24th August. The tour is being organized by BLFI member, Sarah McCutcheon and will take in the Dominican Friary, Blossom Gate and King John's Castle. If you are interested in attending please contact info@blfi.net

2024 BLF Annual Gathering Brighton, UK

This year, the Annual Gathering is being hosted by the BLF from 6th to 8th September at the University of Brighton Falmer Campus.

This year's conference will focus on sustainability as well as on aggregates and additives.

For further details and to book tickets please go to https://www.buildinglimesforum.org.uk/events/2024-blf-conference-and-gathering/

Hot Lime Mortar Database

The Hot Lime Mortar Database has been set up by the BLFI to gather, store and collate information on Hot Lime Mortar uses in Ireland. The data captured includes how the Hot Lime is being used, mixed, its performance, its durability and suitability, the successes and the pitfalls associated with its use and other information as the database evolves over time.

The purpose of this database is to create a written record, a library, of the traditional ways we mix and use Hot Lime Mortar on the island of Ireland.

It is a first of its kind in these parts, as prior to this all the data and information was passed down from generation to generation through practise and the spoken word. This database will prove to be a valuable source of information in the Hot Lime Industry for future generations. It will be used for educational and training purposes and over time we will be able to observe trends for informative purposes.

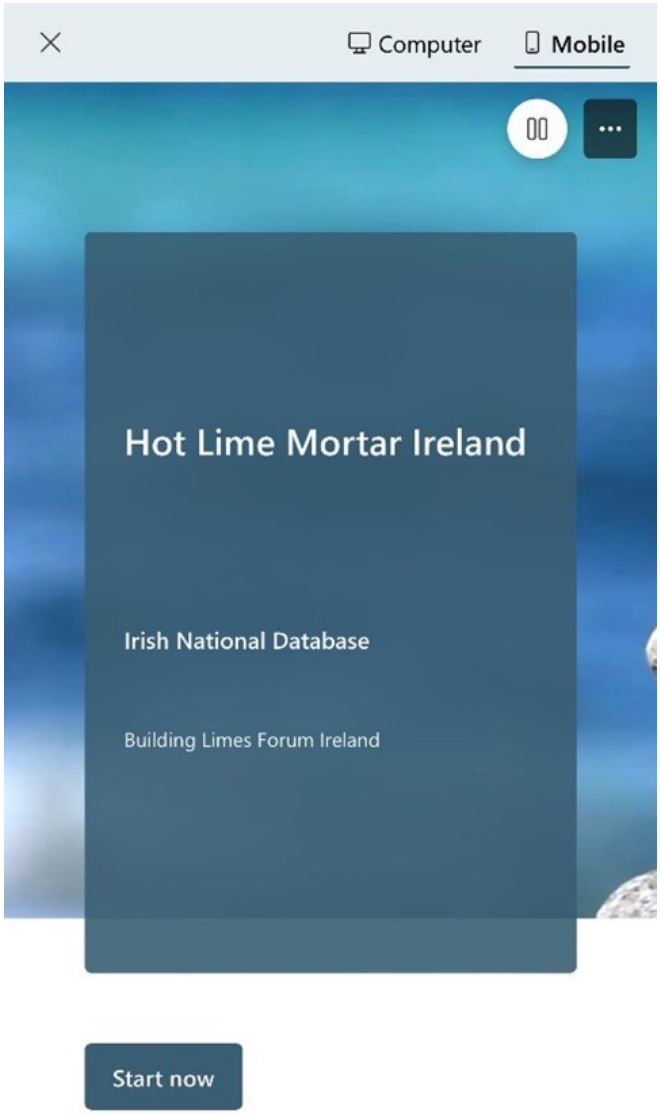
The BLFI aim to produce an annual review of the activities of Hot Lime practitioners throughout Ireland.

For the database to be successful, we will need all Hot Lime practitioners to contribute to its growth. We have designed a very user-friendly online survey to collect the data. You can access it via your mobile, it takes approximately five minutes to complete and can be used for all and every Hot Lime Project. Some of the answers are compulsory while others aren't. We would encourage contributors to be as detailed and specific as they can as this will produce a more qualitative record.

As this process is in its infancy, we welcome feedback to improve the way we collect the data and the quality of data we collect over time.

You can access the survey here: Hot Lime Mortar Ireland Hot Lime Mortar Ireland (office.com)

Ursula Condon, Clax Restoration



User interface on the mobile app.

Work to St. Patrick's Basilica

St Patrick's Basilica was built between 1924 and 1931. The monumental structure dominates Station Island, on Lough Derg. Having been built using cement mortars the fabric of the building is now showing signs of moisture related damage, particularly to the internal elevation of the drum. We have been undertaking repointing works to the drum and after one year the results are evident. Work is continuing to the remainder of the basilica.

Teddy Duffy, Doohamlet Construction

Culture Moves Europe - Lime in Ireland

The Italian architect Daniela Re is currently undertaking research in relation to the use of lime in Ireland, with a comparison between Italian and Mediterranean techniques. Her research is assisted by the European Commission programme, 'Culture Moves Europe'.
Daniela has worked with lime since 2010, during this time she has organised more than a hundred workshops throughout Italy teaching lime techniques: limewashing, plasters, renders, floors, fresco paintings, sgraffito decorations and so on.

During her study trip in Ireland Daniela is visiting construction sites, interviewing architects and lime suppliers and taking part in our very own BLFI workshop in Cavan! On completion of her research Daniela will produce a 'Lime handbook' both in Italian and English. Her work can be followed on her website and social media
https://ecoprogetto.wordpress.com/lime-in-ireland-2/lime-in-ireland/
FB Daniela Re Tour Guide
IG Danielare_tourguide

The programme Culture Moves Europe, an individual mobility action, is funded by the European Union and the Goethe-Institut.

Daniela will be hosting an online talk for our members on Monday 22nd July at 7pm. To book contact info@blfi.net

A Note of Thanks

The traditional farm buildings grant scheme has received a 2024 European Heritage/Europa Nostra award.

Many members of the BLFI have been involved in the scheme over the years…grant assessment panel… carrying out repairs…inspections…training… materials supply… oversight… …upskilling… presentations…sounding boards.

I can't tell you the difference these meaningful connections and inputs have made to the scheme.

Thank you.

Anna Meenan

The traditional farm buildings grant scheme has supported over 1,000 buildings since in 2008, many of which using lime mortars, renders, washes and parging…here is just a selection of some of the many buildings assisted by the grant.

LIMECRETE CASE STUDY - CASHEL PALACE HOTEL

FGA being installed over a geotextile membrane.

Built in 1730, to the designs of EL Pearce, Cashel Palace was the former residence of the Archbishop of Cashel. The building was sold by the Church of Ireland in 1960 and has been in operation as a hotel ever since. The current owners bought it in c.2015 and undertook major repair and conservation works to the building and the site, along with a new extension.

The basement of the building was extremely damp. The high chimneys were demolished in the late 1950s and the brick rubble, we discovered, was dumped into the front lightwell. This brought the external ground level up 1m higher than the internal floor level, with the result that the internal face of the external walls were saturated. Salt laden water was also coming up through the flagstone floor.

As DPCs & DPMs are unsuitable for use in historic solid wall construction, a fully breathable limecrete floor seemed like the appropriate solution. Firstly, the fill in the front lightwell was removed. Historic cobbles and a French drain were uncovered.

The historic flagstones were surveyed, lifted, and set aside for reinstatement. In some areas the flagstones had been laid directly on earth and in other areas there was poor quality concrete below. The water level was quite high, and part of the basement sub-floor was contaminated with fuel. The floors were excavated down to foundation level. (There was a structural engineer on board.)

50mm of sand blinding was laid, then a layer of geotextile membrane, followed by 250mm of foamed glass aggregate FGA. This works as a hardcore and an insulation layer and provides good permeability. Another layer of geotextile membrane was laid over the FGA. The limecrete was made up of 1-part NHL5: 3 parts Leca (non-coated) graded 20mm – 1mm. The floor was laid in 2 layers of 50mm, the second layer was applied when the first layer was still green. Perimeter cork board was installed to prevent cold bridging. Water content was kept to a minimum to prevent shrinkage. The limecrete mix is considerably drier than a normal concrete mix. A 75mm screed of 1-part NHL5: 2 parts washed sharp sand was laid over the limecrete floor. Provision was made for service ducts and underfloor heating.

The flagstones were then reinstated. As this is a fully breathable floor, no adhesives or non-breathable finishes can be used. The hotel kitchen is located in the basement and requires a clean room finishes specification, and so a raised floor was introduced to allow for a vinyl flooring to be laid and with adequate cross ventilation to overcome the breathability issue. The limecrete floor has been very successful. The damp has been eliminated from the basement. It functions as dining rooms and a bar, serviced by the adjoining kitchen. Limecrete floors were also used in three other historic structures on the site.

Una Ní Mhearain, Consarc Conservation Architects

Flags reinstated & floor complete.

CHURCH RUIN, MALAHIDE CASTLE DEMESNE
CMF 2023 REPAIR WORKS IN FINGAL

Fingal County Council continued its SAR (Structures At Risk) repair programme on council-owned heritage sites with a further two Community Monuments Fund projects in 2023. The Stream 1 Works project, at the Church Ruin – sometimes referred to as 'Malahide Abbey' - and Graveyard (RMP DU012-031-001 to 006 & RPS 384 & NIAH 11344020) at the centre of Malahide Castle Demesne is described in this article. A Steam 2 CMP (Conservation Management Plan) was also submitted for St. Mary's Church (DU013-01001-) and Graveyard, Mulhuddart.

The 2023 works at the Church in Malahide Demesne were informed by the Stream 2 CMP (Conservation management Plan), including Measured Building and Topographical Surveys, that was submitted under CMF2021. The Condition Report element of the CMP followed the model described in I.S. EN 16096: 2012 'Conservation of Cultural Property- Condition Survey and Report of Built Cultural Heritage'. A Cost Breakdown was included against the schedule of repairs, which was updated for the CMF2023 Stream 1 Application.

Works in progress in progress looking into the nave.

The church ruin in Malahide Castle Demesne has been dated to the late fifteenth century by a reference in Archbishop's Alen's 1532 account to it being one the chapelries of Swords. There is no historic evidence to justify the title 'abbey'. The church is located close to Malahide Castle, itself a 14th century foundation, and they appear to be aligned. On early estate maps that predate major estate rebuilding in the early 19th century, a roadway ran past the castle and church to the south, continuing down to the Broadmeadow estuary at the site where Malahide village and harbour later developed. The two opposing doors on the north and south side of the church chancel suggests a formal approach from this old road on the southern side at one stage. The kink and mural structure in the graveyard boundary wall on the southern side possibly indicates set of steps up from this roadway, where the ground is lower.

The church buildings consist of a distinct nave and chancel, of different widths, with a central chancel arch rising to form an intermediate roof gable. There is an adjoining two-storey sacristy to the south east end, vaulted on the ground floor. The stonework throughout is mainly grey limestone and calp, with carved stone quoins and arches, suggesting later remodelling. There is an extensive stepped battlement, with trough and saddle stone gutters, and individual parapet outlets disposing over a projecting/ corbelled string course. Two traceried windows are built into the gables, one Dundry stone assembly facing west, the other facing east in grey limestone. A large triple-arched belfry tops the west gable, which appears from the ashlar construction, to be a later addition – a 'folly-like embellishment' according to William O. Frazer, archaeologist, who authored the Archaeological Assessment commissioned by FCC in 2009.

The site has some other unique historic features including six monuments – the church itself, two older red sandstone Sheela-na-gigs, a carved red sandstone stoup, a 15th century tomb slab - dedicated to Maud Plunkett, wife of Sir Richard Talbot, Lord Talbot of Malahide - and the sub-circular graveyard wall. The boundary wall of the graveyard is a curious construction in places, again folly-like, with its array of roughly built peaked merlons facing the re-positioned estate road that now runs past the church on the northern side.

As with every heritage site, the list of repairs is unique, and at Malahide the works ranged across the architectural features just listed, as well as the site topography. The first steps in the

diagnoses of the sometimes-unusual faults and failures on a ruined monument, after vegetation removal (completed at Malahide in the winter of 2022-23), involve a reading of the history, shape and siting of the structures, as well as an understanding of how the traditional construction of these structures functioned, or didn't function, against water ingress and weather. And the diagnoses exercise is only fully completed after inspection from a scaffold during the works. Therefore outline repair specifications developed from the ground at tender stage must anticipate some elaboration later.

The following is a selection of repairs that were identified and completed at Malahide.

Most of the trough and saddle parapet gutter, on the north wall of the nave, had been raised out of position by extensive root growth. Vegetation had become embedded under the level of the gutter, along the exposed horizontal stone shelf where a timber sole plate originally existed, and where the masonry would have been fully protected from the weather. The tender repair had allowed for the taking down and rebuilding of a significant amount of masonry at the top of the wall. After the scaffold inspection the masonry rebuild was limited to chasing and cutting out peripheral root growth, and entombing the embedded tap roots, leaving an exposed pipe for follow-up treatment. A simple flaunching of the stone shelf was added to the re-pointing specification to assist water run-off. Additionally, a large amount of loose masonry gutter pointing (a mixture of Portland cement and original lime-based mortar) was removed and raked out, and the masonry then re-pointed in position.

The graveyard boundary wall, roughly circular, was divided into four sections at tender stage matching the four identifiable constructions or conditions of the wall. Each had its own repair specification. A minimal repair intervention was identified for the two sections of decorative, peaked merlons, comprising consolidation of loose masonry in situ or from fallen stones, plus a reinstatement of flaunching at the crenels/ embrasures. Specific flaunching and repointing repairs were also completed at the tall mural structure at the break in the north wall to arrest further erosion of the top of the wall and at a buttress or chimney structure that had become detached from it. An historic 19th c view of Malahide church ruin revealed a possible roofed building in this location. On the last section of the boundary a re-bedding specification was completed on a roughly crenelated, traditional estate wall coping. A Training Day was organised around this repair involving outdoor staff from Fingal County Council's four Works Depots. This section of wall was chosen as an appropriate model for the council's maintenance work on traditionally-built estate and boundary walls in heritage properties and on public roads.

PROJECT TEAM

Client was Christine Baker, FCC Heritage Officer on behalf of FCC

Archaeologist – Aidan O'Connell, Archer Heritage Planning

Conservation Engineer – John Kelly, David Kelly Partnership

Conservation Architects – FCC Architects Department

Conservation Contractors - Francis Haughey Construction Ireland with Thomas Rooney & Sons, Masons, Kilkeel.

Sample mortars, and plaster remains, were taken from all three sites for analysis by Dr. Jason Bolton.

Repairs:

Repair of the wall-tops was carried out with 1 part Otterbein 3.5 + 2 sharp coarse sand + 0.25-0.5 8-5mm grit to match existing.

Repointing was carried out with 1 part Otterbein 2 + 1.5 sharp coarse sand + 0.25-0.5 8-5mm grit to match existing.

Brian O'Connor, Architects Department, Fingal CoCo.

Completed works and sensitive presentation of the site.

Dates of your Diary

Italian Lime Techniques
Zoom Presentation
Monday 22nd July

Kilmalock Walking Tour
Saturday 24th August

Annual Gathering
Brighton, UK
6th - 8th September

Vernacular Workshop
Westport House, Co. Mayo
13th -14th September

Training & Education

- Madigan Traditional Masonry, Co Clare ph:0857679753 email:madigantraditionalmasonry @gmail.com
- Stoneware Studios Ltd., Co. Cork, ph:024 90117 · email:mail@stonewarestudios.com Visit www.stonewarestudios.com/
- The Lime Store, Dublin 12 ph:01 450 8624 email:info@thelimestore.ie Visit www.thelimestore.ie/
- Traditional Lime Company, Co Carlow ph:059 9151750 email:info@traditionallime.com Visit www.traditionallime.com/

What is Building Limes Forum Ireland?

The Building Limes Forum encourages expertise and understanding in the use of building limes. It aims to achieve this goal by:

- exchanging, collating and disseminating information, through publication of a regular journal and by holding meetings and conferences;
- encouraging practical research and development through field studies, trials, monitoring and analysis;
- encouraging development of appropriate industrial and craft skills and techniques;
- educating building professionals, builders, conservators, craftsmen and women, and property owners in the appropriate use of lime in building through demonstrations, publications and courses;
- developing contacts with institutions and individuals outside the forum and in other countries that have relevant experience or knowledge.

Communicating With Your Forum

If you would like to get involved please contact us by post or by email on **info@blfi.net**

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Membership

Membership of the Building Limes Forum offers:

- the opportunity to participate in conferences, courses, workshops, demonstrations and visits organised by the Forum
- an informal network of contacts that is prepared to share information and to discuss matters of general interest
- annual bursary to assist with training and education

For a membership form go to:
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