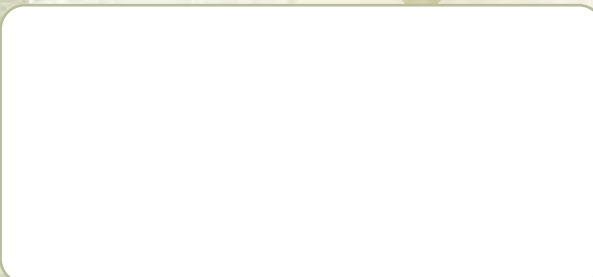




Roundtower Lime, The Forge, Innishannon, County Cork, Ireland

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[www.roundtowerlime.com](http://www.roundtowerlime.com)

Distributor opportunities available



The Natural Choice - From Roundtower

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# Why Lime ?

**During the last 100 years artificial cements effectively took over from natural lime based mortars and plasters, to such a degree that by the 1990s virtually all construction was carried out using cement based materials. This happened despite the fact that lime had been used as the primary binder in mortars for thousands of years previously.**

In the late 1980's a forum of forward thinking experts got together to analyse and understand why so many historic buildings were being damaged by cement based mortars. They discovered that the impermeable and inflexible nature of cement was the primary cause of damage to the original fabric.

Many old buildings have little or no foundations and may move slightly with the seasons. Soft lime mortars take up this slack and even have the ability to self heal small cracks over time. Modern cement mortars and renders are unable to cope with this movement and will tend to crack or delaminate.

It is essential that solid masonry structures breathe. A solid masonry building will take in moisture in certain weather conditions and then leave it go when

the weather changes. One of the reasons that old structures have thick walls is that this continuous process of moisture absorption and evaporation occurs in the other half of the wall.

If the building is repointed or replastered in a cement based mortar, moisture will tend to get into the cracks mentioned above and will be unable to evaporate from the structure due to the impermeable nature of the material. This can lead to a build up of moisture within the wall, which can cause internal dampness.

The initial findings of the forum resulted in considerable research as to the advantages of lime, to the point today whereby all established conservation bodies advocate the use of lime.

## Sustainable and New Build

Since the advantages of lime have been understood its re-emergence has caused great excitement in other areas of construction. Lime is a very sustainable material; it uses less CO<sub>2</sub> in its production and reabsorbs CO<sub>2</sub> from the atmosphere whilst curing.

Lime also allows the designer to use other sustainable materials, which require breathable and flexible mortars and plasters.

The breathable nature of lime provides a healthy living environment and has good insulating properties.



# Roundtower Lime Products

Lime Putty n Non-hydraulic lime	Feebly Natural Hydraulic Lime n NHL 2	Moderately Natural Hydraulic Lime n NHL3.5	Moderately Natural Hydraulic Lime n NHL 3.5 white	Eminently Natural Hydraulic Lime n NHL 5
 <p>Used mainly on historic buildings, soft masonry and where exact mortar matches are important.</p>	 <p>Used for internal plastering and externally where the masonry is made up of a soft material.</p>	 <p>Used mainly for masonry and external plaster works. The most popular material for new build work.</p>	 <p>Another NHL 3.5 with the exception that it has a higher 'whiteness' and is useful when colour matching mortars.</p>	 <p>This material is used in areas of high exposure such as in marine environments, wall copings, lime concrete etc.</p>

# Why Use Roundtower Lime?

**There are many reasons for specifying and using Roundtower Limes:**

**Old and New** - Roundtower Limes are suitable for building restoration and conservation. Equally, they are well suited for new construction as mortars, plasters, concrete and grouts.

**Choice** - Roundtower uniquely has five different natural limes. An NHL 2, two NHL 3.5s (different colours), an NHL 5 and a Lime Putty. This gives the user the widest choice of material. Your Roundtower supplier can advise on the most suitable for your project.

**Natural** - Roundtower Limes are natural products. They contain no additives and are not blended.

**No additives** - no need to add cement, plasticizers, water retainers or waterproofer. Roundtower natural limes give consistently high quality results.

**Compatibility and Suitability** - variety of strengths and colours available to suit existing mortar, whatever age.

**Resistance to salts** - the absence of gypsum and cement ensures sulphate attack and alkali-silica reactions are impossible. Excellent performance even in marine environment.

**Resistance to bacteria and vegetable growth** - alkalinity of lime inhibits growth.

**Flexibility** - compressive strength is gained gradually, allowing for movement.

**Elasticity** - no expansion joints, minimal shrinkage and cracking.

**Permeability** - condensation dispersion, reduces rot, and promotes a healthy

living environment.

**Insulation** - permeability reduces moisture in structure.

**Low alumina content** - less susceptible to attack by salts.

**Excellent workability** - free-lime content gives good workability.

**Self-healing** - free-lime content also gives the mortar self-healing properties.

**Versatility of use** - rendering, plastering, pointing, grouts and other building mortars.

**Reworking** - Roundtower Natural Hydraulic Limes can be re-worked within 24 hours.

**Recycling** - building materials used with Roundtower Limes can be recovered and re-used.

**CO<sub>2</sub> Absorption** - lime re-absorbs CO<sub>2</sub> during carbonation of the free lime.

**Examples** - a long list of international reference projects. Please see our website.

**Cost effective** - low bulk density means good economy as sold by weight but used by volume.

**Customer support** - as a customer of Roundtower Lime, you can expect a comprehensive support and advisory service, which is second to none.

www.roundtowerlime.com

# Conservation/Restoration

## Breathability and Flexibility

This project involved the complete restoration of a roofless warehouse in a marine environment. The original structure was conserved using Roundtower Limes, this included re-building collapsed areas of masonry, a complete re-point of the rubble stone substrate and a single coat of lime render following the undulations of the masonry as per the original structure.

Roundtower Lime was chosen by the builder because of its breathability and flexibility. The building is a solid masonry structure and its ability to breathe is essential. The use of lime mortars and plasters allows moisture, which is absorbed by the structure, to evaporate as and when the prevailing weather conditions permit. In effect the building works in harmony with nature.



Before

The Pallace Wharf,  
Scilly, Kinsale, Co Cork

Roundtower Limes used

Re-pointing and external  
plasters were carried out  
using Roundtower NHL 3.5.  
NHL 5 was used near the  
tide line on the quay wall.  
Re-pointing between timber  
and masonry windowsills  
where maximum breathability  
was required was carried out  
using Roundtower Lime Putty.



# Repointing/Rebuilding



## Compatibility

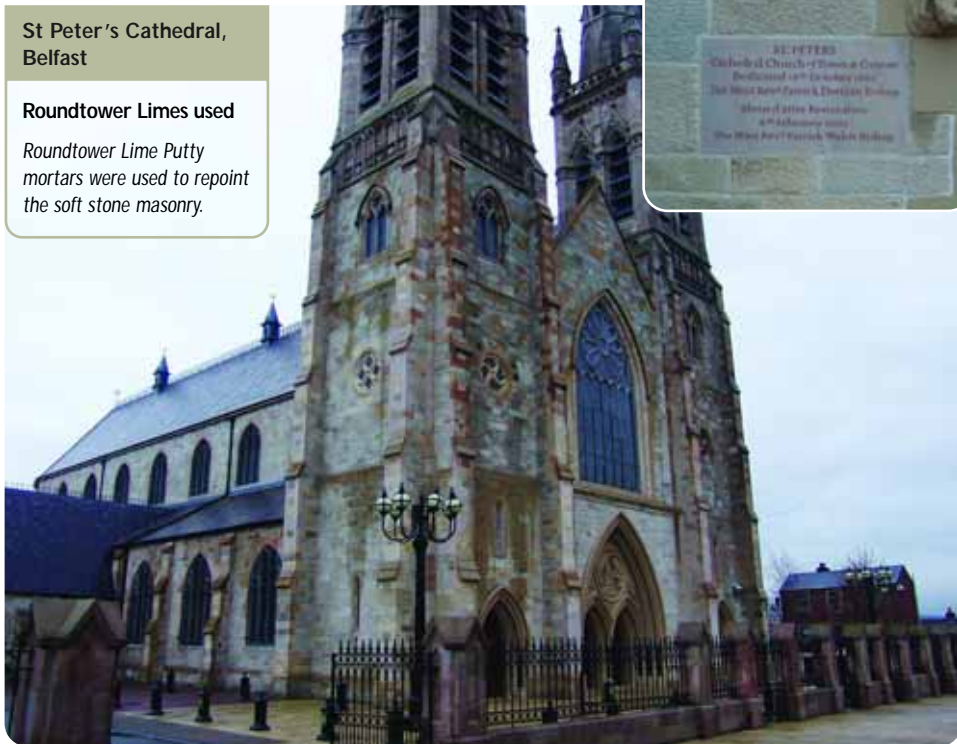
Roundtower NHL 3.5 was chosen as the preferred material for re-pointing and re-building works on the main façade of the Lanyon Building in Queens University, Belfast. Works included the removal of the Chancellor's stone mullioned window, undertaking repairs and its re-insertion.



St Peter's Cathedral,  
Belfast

## Roundtower Limes used

*Roundtower Lime Putty mortars were used to repoint the soft stone masonry.*



Queens University  
Belfast

## Roundtower Limes used

*NHL 3.5 was chosen for its compatibility with the masonry and its curing abilities in a limited time frame for work to be carried out.*

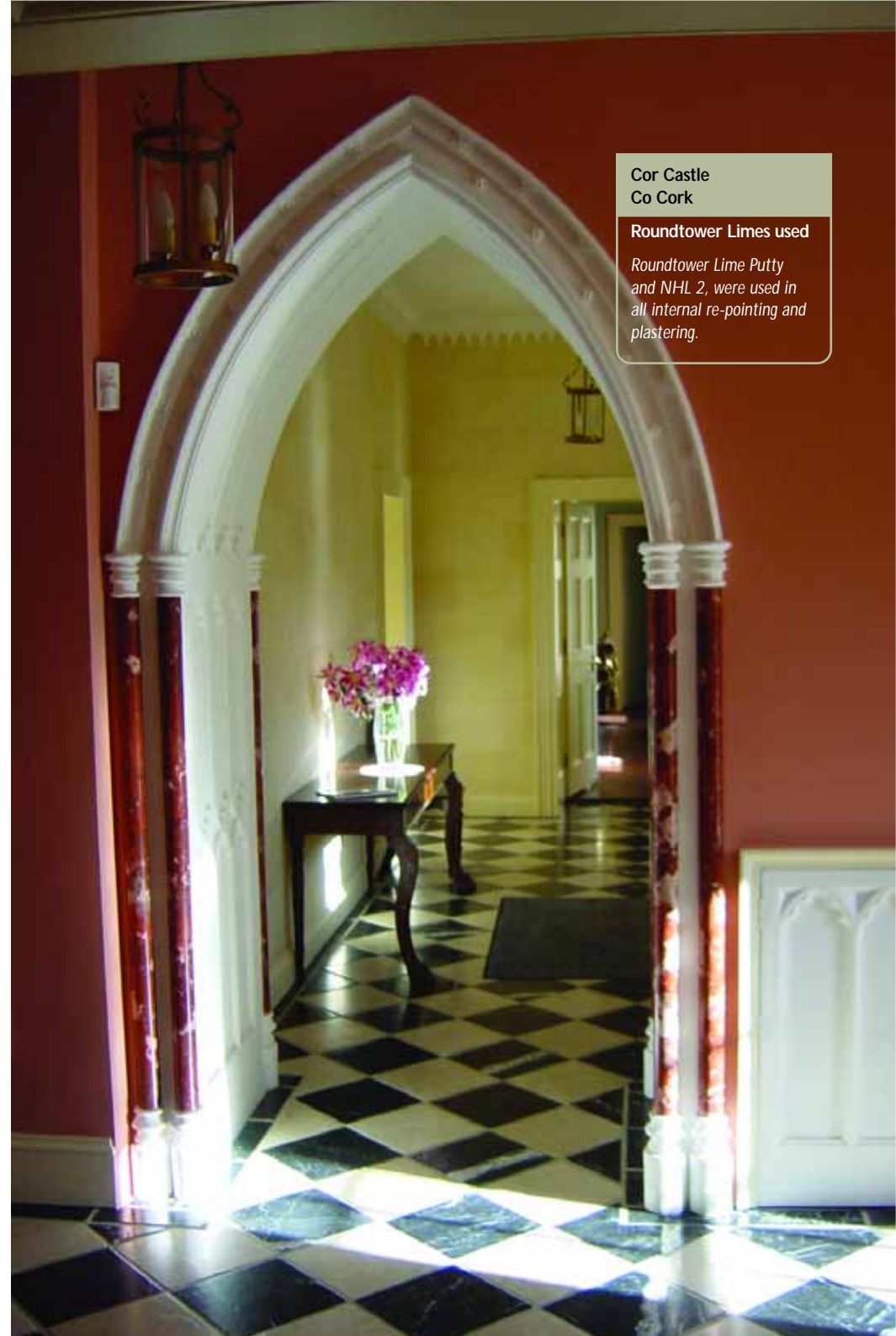


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# Internal Plasterwork

## Internal Works

Cor Castle was a roofless ruin before a major restoration/conservation programme was carried out to bring the building back to life. Roundtower Limes have produced stunning results in this award winning project.



Cor Castle  
Co Cork

### Roundtower Limes used

*Roundtower Lime Putty and NHL 2, were used in all internal re-pointing and plastering.*

# New Build

## Sustainable

The designer chose lime in this project for a number of reasons. The project was a high specification one with aesthetics being very important. The lime mortars allowed this building which is 18m long to be built without any ugly expansion joints. The lime plaster produces a lovely soft finish, which allows the building to sit naturally with its surroundings.



We are all becoming aware of climate change and the need to reduce CO<sub>2</sub> emissions. The owners of these buildings will have the satisfaction of knowing that the lime mortars will absorb CO<sub>2</sub> from the atmosphere whilst curing and when the building reaches the end of its life the building materials can be re-cycled.



County Cork new semi-detached houses

**Roundtower Limes used**  
*This pair of semi detached houses were built in 2004 using cavity blockwork with Roundtower NHL 3.5 mortars. The external render is a Roundtower NHL 3.5 harling, finished with limewash.*



New extension to old building



NHL 3.5 Ashlar render