



**External Wall Insulation
for existing homes**

**A guide to the thermal improvement
and external redecoration of domestic housing**

About Weber

Weber is a specialist in the manufacture of industrial mortar products and its core product range consists of external renders, construction mortars, tile adhesives and floor screeds. Weber is an international business operating in over 35 countries worldwide.

Weber manufactures all of the renders used in its external wall insulation systems in GB and Ireland. Plants in three locations ensure that products are produced close to the markets they supply and that product quality is maintained throughout – essential to the overall performance of an external wall insulation system.

A key strength of Weber is product innovation and this is clearly demonstrated in the development of systems such as **weber.therm XM**, a durable insulated render system suitable for the major types of insulation and available in a wide range of finishes.

Manufacturing excellence

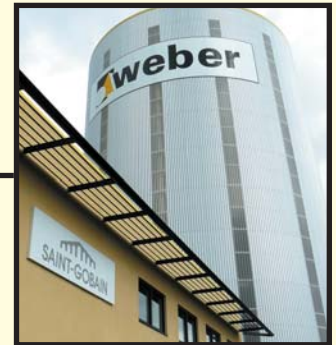
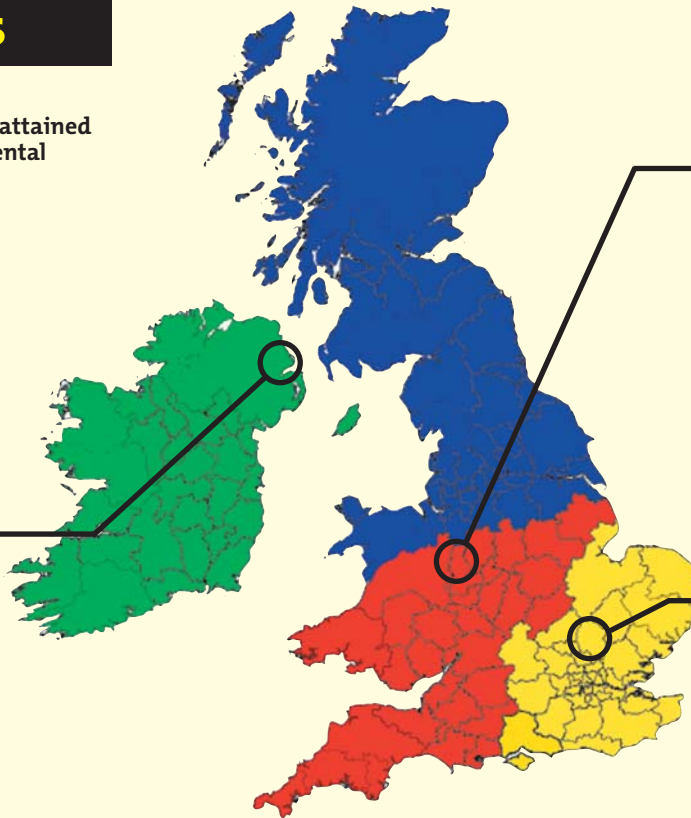


Our locations

All sites currently operate to BS EN ISO 9001:2000 and have attained accreditation to the environmental standard BS EN ISO 14001.



Ballyclare, Co. Antrim



Telford, Shropshire



Flitwick, Bedfordshire

Solutions with substance

Selecting a system supplied by Weber means far more than the products it contains.

Weber provides a complete solution which includes technical support before the system is installed, on-site support whilst

the installation is in progress and guarantees for after the work is complete.

Weber is committed to helping the homeowner select and have installed, a system that will enhance their property for years to come.

Saint-Gobain

Weber is part of Saint-Gobain, one of the world's leading industrial groups with activities in construction products, flat glass and packaging, high performance materials and building distribution.



Introduction

The photographs below perfectly illustrate what this guide is designed to represent – how the use of Weber external wall insulation (EWI) systems can thermally improve and aesthetically transform domestic housing.

Weber has a rich background of providing EWI systems to refurbishment projects going back over 30 years (under its previous name of Eglinton).

So-called 'hard-to-treat' homes are being renovated daily and Weber can make the process easy by offering an extensive variety of systems, full technical and sales back-up and an established installer network, *all of which qualifies for SEI funding.*

There is no better time than now to improve your home with the addition of a Weber External Wall Insulation System.

A weber.therm EWI system will dramatically reduce heat loss and therefore energy bills, the exterior of your home will be rejuvenated with a new, fresh appearance and a substantial amount of the cost can receive grant funding and be installed by an accredited contractor.

Take the first step by contacting Weber on +44 (0)28 9334 3700.



Changing this ...



into this!

Heat loss and high energy bills



Much of the housing stock in Ireland has been built with solid walls—classed as 'hard-to-treat' because they cannot be thermally improved with the use of cavity wall insulation.

Unlike unfilled cavity wall homes which lose approximately 35% of heat through their walls, solid wall homes will lose as much as 45% space heat through untreated walls. Any measures to make heating systems more efficient are made less effective as heat escapes through the external walls.

Weber external wall insulation systems will significantly reduce heat loss, leading to lower heating bills and carbon emissions. As well as improving thermal efficiency, Weber external wall insulation systems at the same time revitalise the appearance of homes and keep the outside walls completely weatherproof.

'We've noticed a significant difference. Our heating bills are way lower than before. The house feels 100% better and there is no maintenance to the outside needed now.'

Benefits of external insulation

Solid wall properties can be insulated either internally or externally. The benefits of insulating externally include:

- Higher heat-saving walls are possible through insulating externally and no internal living space is lost
- As work is carried out to the outside walls, disruption to the household, including internal fixtures and fittings, is minimised
- The risk of condensation within the wall structure and thermal bridging is eliminated
- A weatherproof, attractive and generally maintenance-free new exterior is provided as part of the thermal cladding of the building
- Work can be carried out alongside other trades such as window replacement and re-roofing
- Existing structures will become more stable, as they will be protected from all weathering elements such as wind, rain and frost



Sustainable Energy Ireland grant funding

Upgrading your home with a Weber External Wall Insulation System is eligible for grant funding of €4000 through the Sustainable Energy Ireland (SEI) initiative. Formerly the Irish Energy Centre, the SEI was set up by the Government in 2002 as Ireland's national energy agency and is dedicated to promoting and assisting in the development of sustainable energy.

The Home Energy Saving scheme provides grants to homeowners who are interested in improving the energy efficiency of their homes in order to reduce energy use and costs as well as cutting carbon emissions.

All homes built before 2006 are eligible in the scheme and grant funding is available for individual homeowners as well as

landlords of multiple properties (further details available from www.sei.ie). Alongside the cost of installing efficiency measures, grants are also available for Building Energy Rating (BER) assessments (before and after the work is completed).

SEI scheme targets external wall insulation

External wall insulation (EWI) is one of the measures that the SEI scheme is targeting, particularly on solid wall properties where significant heat loss is experienced.

EWI work on your home may be exempt from planning consent if it does not materially affect the character of the structure or neighbouring buildings. Weber produces a wide range of finishes to provide the most suitable finish to meet local planning needs (if in doubt contact your local planning area).



€4000 SEI grant for Weber external wall insulation

- Eliminates cold and damp from poorly insulated outside walls
- Significantly reduces home heating bills
- Can bring a 25 – 30% improvement in the property's BER rating
- Wide choice of weather-protecting finishes and colours available – minimal long-term maintenance required
- Internal living space unaffected and highly efficient insulation can be used
- weber.therm EWI systems carry NSAI (Ireland's official standards body) certification for domestic refurbishment
- Weber provides a complete technical back-up service for installers of its systems
- NSAI accredited network of specialist trained installers (see opposite page)



Take the first step to radically improving your home's thermal performance and appearance. Contact Weber on +44 (0)28 9334 3700

NSAI Agrément Approval Scheme

If you are having external insulation work carried out on your property you want to have the assurance that both the product manufacturer and the installer are able to provide quality and peace of mind. A recent scheme introduced by the NSAI is able to provide this for you.

The NSAI Agrément Approval (Installers) Scheme – External Thermal Insulating Composite Systems (or more commonly known in Ireland as External Wall Insulation Systems) ensures that both the system and the installer have accreditation with the NSAI, the standards body for Ireland. The system covers all external wall insulation installation but a special category for domestic refurbishment (Small Buildings) has been established.

As a holder of accreditation for its EWI systems (**Weber** was the first to achieve a 60 year design life for its systems onto new masonry residential buildings) **Weber** trains and assesses the ability of contractors to install its systems. An installer can only be NSAI accredited in the use of a **Weber** system if proposed by **Weber**, and **Weber** regularly supports and audits the installer on domestic refurbishment sites. From late 2009, SEI grant funded external wall insulation grants will only be issued if the installer and system have NSAI accreditation under the Agrément Approval Installer scheme. For more information on the NSAI scheme visit www.nsai.ie.

Weber has NSAI certification for its **weber.therm XM** system which carries a 30 year design life and is able to provide a list of installers with NSAI accreditation in the installation of the **weber.therm XM** system in its range of finishes for the domestic market.

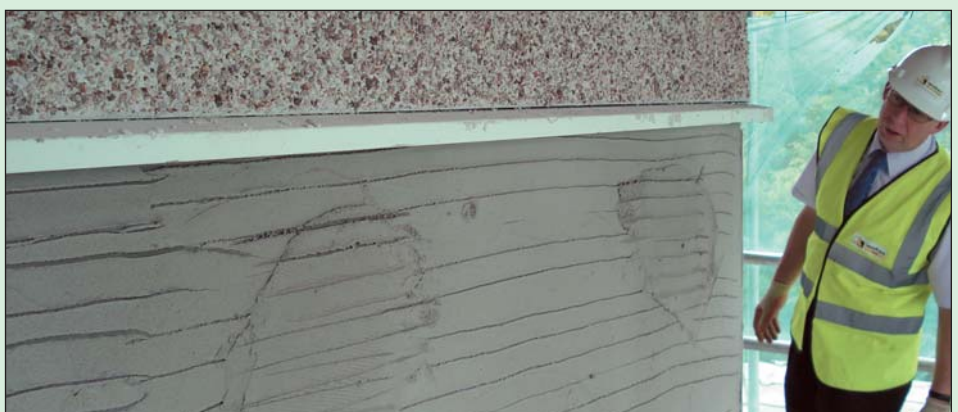
Weber guarantee



Weber provides a 10-year materials guarantee for all of its products and provides a wide range of support services including samples to

help the homeowner choose their preferred external finish and on-site support to assist the installer in the application of the systems.

For more information call +44 (0)28 9334 3700 or visit www.weber.ie



EWI systems explained

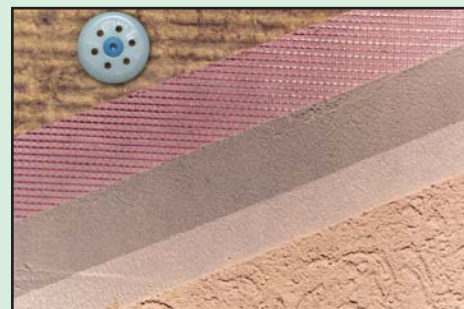
Typical systems

External wall insulation systems comprise a layer of insulation which can be mechanically fixed or bonded to the building substrate followed by a reinforced render and finished with a decorative final coat.

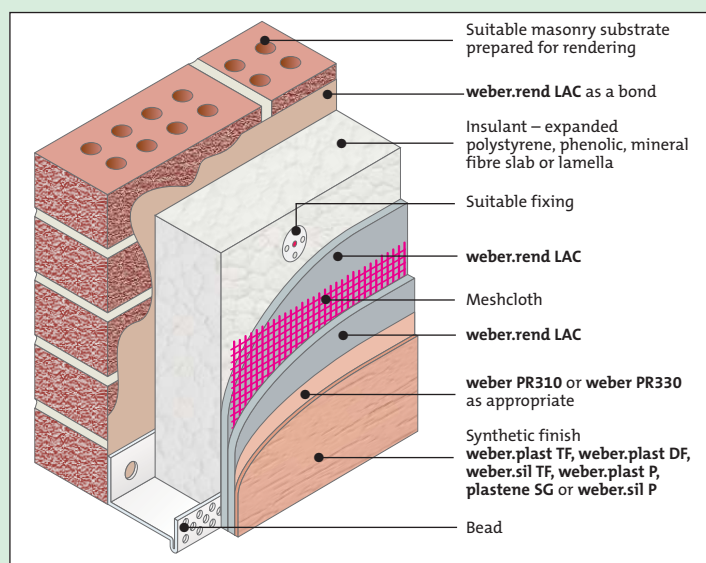
weber.therm EWI systems can be reinforced with either a fibre mesh or a

metal lath and come in a wide variety of decorative finishes.

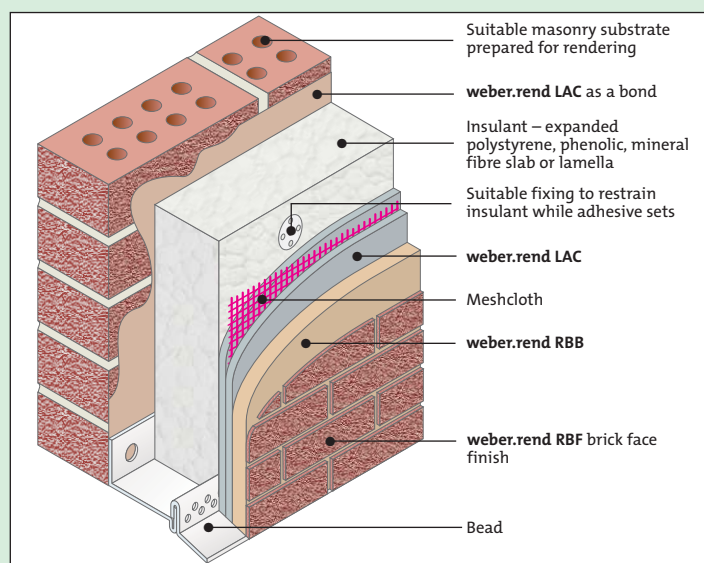
An idea of the wide choice of finishes available is given on page 9, allowing the homeowner to choose the colour and texture most preferred as well as satisfying any planning restrictions that might be applicable.




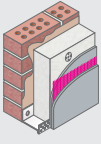

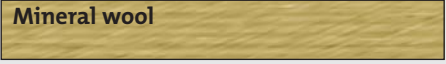





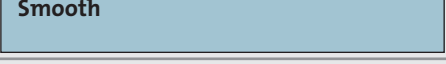
weber.therm XM with synthetic finish



weber.therm XM with weber.rend RB finish



Product selector

System →	 weber.therm XM External Wall Insulation System CERT No. 09/0338	weber.therm XM <i>Lath system also available</i>	 weber.therm XM with weber.rend RB
Choice of insulant			
		✓	✓
		✓	✓
		✓	✓
Choice of finish			
		✓	
		✓	
		✓	✓
		✓	
		✓	

weber.therm XM

These systems are more traditional in nature incorporating a basecoat render with various finishes as second or third coats. **weber.therm XM** and **weber.therm XL** are suitable for all major insulation types.

weber.therm XM is a lightweight EWI system using polymer renders and meshcloth reinforcement. The first coat of render is 5 – 6 mm and once cured a further 6 mm of render can be applied and finished in a scraped texture or with dry dash aggregate. Alternatively a simple finish of primer and light synthetic texture can be applied directly on to the cured base coat in an array of colours and shades.

weber.therm XL is a heavyweight EWI system using traditional and polymer-modified renders and metal lath reinforcement. The first coat of render is 10 – 12 mm and once cured a further 6 mm of render is applied and finished in a scraped texture or dry dash aggregate. The topcoat can also be finished with a primer and light synthetic texture.

These systems have been used on solid wall housing for many years including low rise units as well as high rise accommodation. More examples can be seen on the case studies pages 10 – 11 or on www.weber.ie

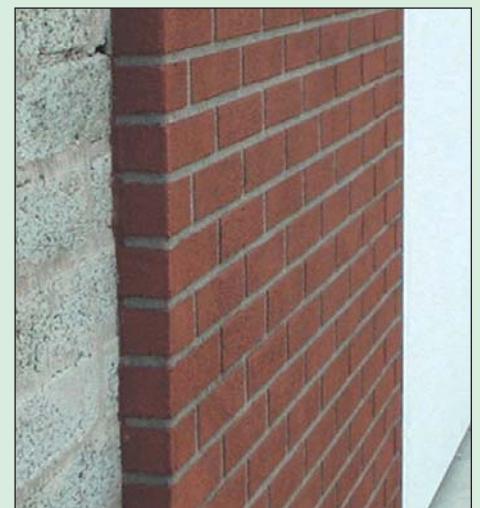


weber.rend RB

Brick appearance can also be achieved through using two coats of render. The **weber.rend RB** process uses the same renders as for the **weber.therm XM** system with the 'mortar joint' coat being applied first followed by a thin coat of the brick coat.

The appearance of brickwork is achieved by cutting out the brick coat to reveal the underlying mortar coat.

The wide range of render colours available means that almost any brick/mortar combination can be achieved.



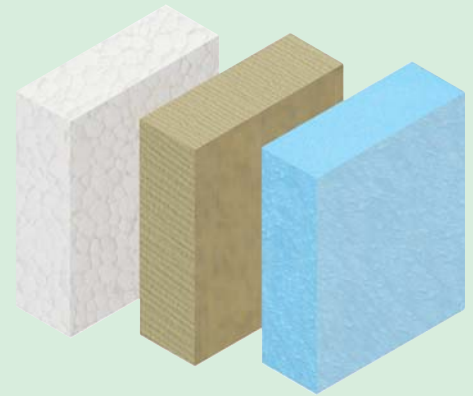
U-values

The measure of performance

U-values and insulation type

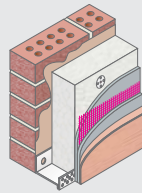
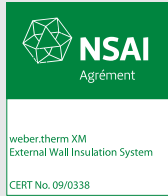
All construction materials have a measure of their thermal conductivity (Lambda value). Used together, various materials will determine the overall thermal transmittance of a wall, known as the U-value. The lower the U-value, the more thermally efficient the wall construction is. A typical 215 mm hollow block solid wall has a U-value of 1.92 W/m²k.

Through the use of different insulation types and thicknesses in external wall insulation systems, the thermal performance of a property can be dramatically improved and U-values of 0.18 and below can be easily achieved.

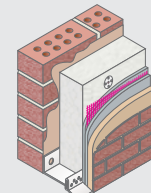


weber.therm systems U-value guide

System →



weber.therm XM



weber.therm XM with weber.rend RB

Existing U-value W/m ² K	System	Target U-value W/m ² K	weber.therm XM			weber.therm XM with weber.rend RB		
			Polystyrene	Mineral fibre	Phenolic	Polystyrene	Mineral fibre	Phenolic
1.92	12 mm plaster/215 mm hollow block/16 mm render	0.27	120 mm	110 mm	70 mm	120 mm	110 mm	70 mm
		0.22	160 mm	150 mm	80 mm	160 mm	150 mm	80 mm
		0.18	200 mm	180 mm	100 mm	200 mm	180 mm	100 mm
1.25	12 mm plaster/300 mm cavity wall cons/16 mm render	0.27	110 mm	110 mm	60 mm	110 mm	110 mm	60 mm
		0.22	150 mm	140 mm	80 mm	150 mm	140 mm	80 mm
		0.18	180 mm	170 mm	100 mm	180 mm	170 mm	100 mm
1.01	12 mm plaster/500 mm random rubble wall/16 mm render	0.27	110 mm	100 mm	60 mm	110 mm	100 mm	60 mm
		0.22	140 mm	130 mm	80 mm	140 mm	130 mm	80 mm
		0.18	180 mm	170 mm	100 mm	180 mm	170 mm	100 mm
1.55	12 mm plaster/215 mm blockwork/ 16 mm render	0.27	120 mm	110 mm	70 mm	120 mm	110 mm	70 mm
		0.22	150 mm	140 mm	80 mm	150 mm	140 mm	80 mm
		0.18	190 mm	180 mm	100 mm	190 mm	180 mm	100 mm

Note: values are correct at the time of publication (August 2009).

BER ratings

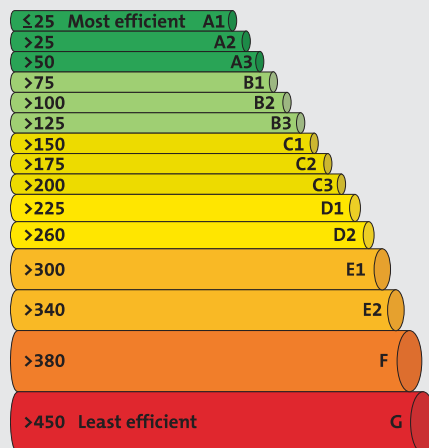
A Building Energy Rating or BER is similar to the energy label on your fridge with a scale of A – G. A-rated homes are the most energy efficient and G the least efficient.

From 1st January 2009, a BER certificate is compulsory for all homes being sold or rented in Ireland.

Typically houses built before 1980 will have poor BER ratings (D2 or E1 for example) with running costs for a 3 bed semi-detached house around €2280* per year. Installing external wall insulation can significantly improve the BER rating, thereby reducing energy costs and carbon emissions and adding to the value of the property.

* Source: BER Guide

Building energy rating kWh/m²/yr



Carbon dioxide (CO₂) emissions indicator kgCO₂/m²/yr



The less CO₂ produced, the less the dwelling contributes to global warming.

Colours and finishes

The range of colours and finishes available for **weber.therm** EWI systems are too numerous to show in this guide.

Shown below are representations of the different types of finish. Colour cards are available upon request and samples can

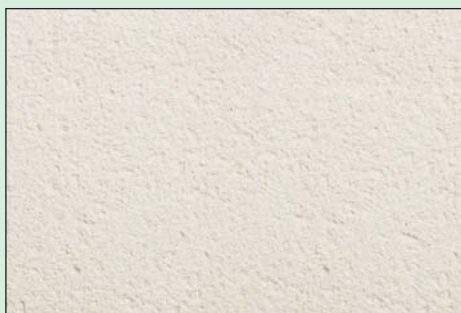
be provided in the various finishes shown.

Mineral and aggregate finishes

Mineral renders are extremely hardwearing and a wide range of colours and textures are available using traditionally finished mineral renders.

Scraped textures provide a natural stone appearance and require no long-term maintenance over the life of the system. Mineral renders can also provide a spray roughcast texture popular in SW England

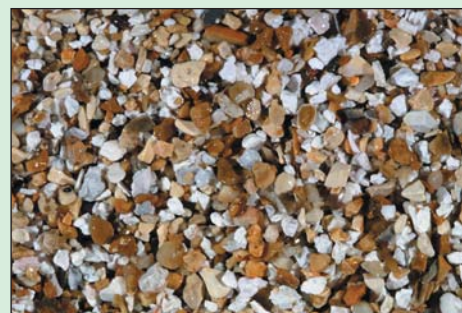
and Scotland. Attractive dash aggregate finishes can be achieved through the use of different colour combinations of render and aggregate.



Scraped texture



Spray roughcast texture



Dry dash aggregate

If more vibrant colours are required the use of synthetic finishes with a light aggregate texture are recommended.

A wide range of colours is available and can be selected from **Weber's** colour card, freely available upon request.



Light synthetic texture

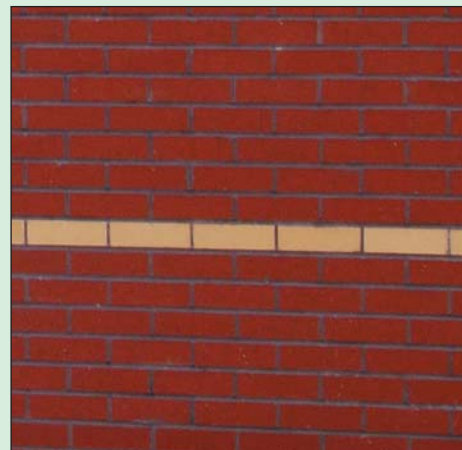
Synthetic finishes



Brick-effect finishes

As already described on page 7, finishes to match or replace traditional brickwork can be achieved using **weber.therm** EWI systems.

The use of the **weber.rend RB** render can produce brick and mortar colours as part of the NSAI accredited **weber.therm XM** system. A wide range of brick and mortar colours are available and because the effect is achieved by scoring into the thin top coat of render, different sizes of brick or stone finishes can be achieved.



Case studies

External wall insulation systems



After

Project
Location
System
Finish
Features

Refurbishment of private housing
North Dublin
weber.therm XM
weber.plast TF150

This 1960s built private house is now thermally insulated to a high level and has a new exterior finish following the installation of the **weber.therm XM** system with a synthetic finish. Polystyrene insulation to a depth of 120 mm was fixed to the existing walls to which was added the render adhesive coat with mesh reinforcement, a primer and synthetic top coat, chosen in a warm beige colour by the homeowner. The property is now warmer and has a refreshed appearance. The **weber.therm** system neatly adjoins the neighbouring house through the use of special beads and trims supplied as part of the system.



Before



Before



After

Project
Location
System
Features

Knocknaheeny social housing
Cork

weber.therm XM

Weber's extensive experience in domestic housing refurbishment includes nearly 12 years in the regeneration of Knocknaheeny where **Weber** has supplied external wall insulation systems to almost 300 houses.

Most recently **Weber's** external wall insulation system was used to upgrade 70 houses using the NSAI approved **weber.therm XL** system, identical to the **XM** system apart from the use of a metal rather than fibre reinforcement in the render.

The build system on these houses comprised of 70 mm phenolic insulation finished with scrape textured finish. **Weber** will soon be on site again to upgrade another batch of dwellings in late 2009.



After



Project
Location
System
Finish
Features

Refurbishment of private house
South Dublin
weber.therm XM
weber.plast TF150
The owner of this property wanted to improve its thermal performance and at the same time give the outside façade a modern appearance. The **weber.therm XM** system was selected which, in this instance, incorporated 120 mm polystyrene insulation with the adhesive coat render and synthetic finish in a light cream colour. The system was quick to install with minimal disruption and the family lost none of their living space by insulating externally.



Project
Location
System
Features

Housing refurbishment
Claddagh, Galway City
weber.therm XM
The **Weber** system used on this house is **weber.therm XM** NSAI 30 year system. The client, the architect and the building contractor were delighted with the finished product. The house is now insulated and has a bright new facade.



Project
Location
Client
System
Finish
Features

Refurbishment of precast concrete panel houses
Brownhills, West Midlands, England
Walsall Housing Group
weber.therm XM and **weber.therm XB**
weber.rend PTC and **dry-dash finish**
Walsall Housing Group has recently refurbished over 200 Reema, large precast concrete panel system-built properties, in Brownhills, West Midlands. **Weber** was chosen as the preferred system supplier for the external wall insulated render system.

weber.therm XM and **weber.therm XB** were used throughout this substantial renovation programme and have achieved dramatic thermal efficiency improvement, aesthetically attractive exterior renovation and on-time project completion.

"We used to turn our heating off at 11 pm when we went to bed. Now we turn it off at 8.30 and the house is warm all night. It's a terrific improvement – we don't feel ashamed when we have visitors now"



Weber Literature

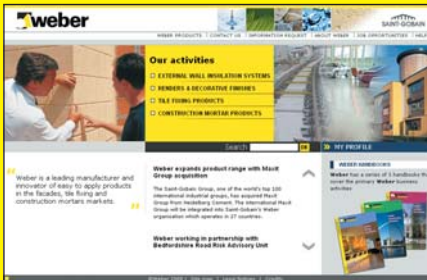
Weber provides complete documentation and technical data on its full range of products in the Weber handbooks and pocket guides. Contact Weber for further information.



Website

Weber's new updated and dynamic web site offers specifiers, applicators, distributors, stockist and clients alike, extensive, up to date and immediate information regarding its product portfolio.

www.weber.ie



This brochure can be downloaded from our website.

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Further details available from:

