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October 2008

# WARMCEL®

**WARMCEL® 500**  
Timber Frame Insulation

**WARMCEL® 300**  
Loft Insulation



**Ultimate Solution for Walls  
Floors and Roofs**

**Sustainable Performance Enhancement**



**EXCEL**  
Fibre Technology

# WARMCEL®

## Sustainable Performance Enhancement

**EXCEL Fibre Technology** is Europe's leading manufacturer of cellulose fibres and fibre delivery systems. Providing tailor-made solutions for the manufacturing and construction needs of companies worldwide, **EXCEL** products are used in a diversity of industries such as road construction and building insulation.

**WARMCEL®** insulation products offer a total solution for the provision of effective insulation in housing, commercial premises and public buildings.



### WARMCEL® 500 Timber Frame Insulation

**WARMCEL® 500** is for use in timber frame structures and boasts a 25 year record of successful installations. It combines high levels of insulation and air-tightness with excellent hygroscopic qualities.

Warmcel 500 is installed by approved specialist installers through a BBA inspected national scheme.

### WARMCEL® 300 Loft Insulation

**WARMCEL® 300** loft insulation is gently pumped into position over the loft floor to a depth necessary to meet or exceed building regulations.

As with Warmcel 500, the loose fill nature of Warmcel 300, ensures that the loft floor is totally covered to provide a complete fill between and over joists, leaving no air gaps through which warm air can escape.

### 100 WARMCEL® The Green Loft Insulation

Developed specifically for the DIY loft insulation market, **WARMCEL® 100** is supplied exclusively through specialist building materials distributors.

It is supplied in conveniently sized bags for manual installation over the loft floor area.

This allows for the same level of coverage and insulation performance as Warmcel 300.

As with other Warmcel products, Warmcel 100 completely fills in between and around joists, wiring and pipework to ensure a fully airtight solution.



**BBA  
INSPECTED**



**WARMCEL®** cellulose fibres are extracted from 100% recycled newspapers putting to good use paper that otherwise could find its way to landfill sites.

**WARMCEL®** has extremely low embodied energy costs requiring far less energy to produce than other mainstream insulation materials resulting in reduced CO<sub>2</sub> emissions.

**WARMCEL®** has zero ODP (Ozone Depletion Potential), better than zero CO<sub>2</sub> rating, contains no added formaldehyde, is free from CFCs and VOCs (Volatile Organic Compounds) and other toxic substances.

**WARMCEL®** insulation plays a major part in reducing CO<sub>2</sub> emissions by reducing heating demand. In fact, Warmcel is 'carbon negative'. The CO<sub>2</sub> saved in use exceeds that level used in the manufacture and installation of the product.



## Walls – Open Panel Structures

For open panel walls (i.e. walls which are insulated prior to the installation of the internal sheathing) sheathed with vapour permeable external sheathing, **WARMCEL® 500** may be damp spray applied.

Once sprayed, it is levelled off to the depth of the studs, ensuring the wall is completely filled, with no air pockets or voids, even around pipework, wiring or other obstructions. Moisture naturally dries out through the sheathing within a few days.



## Lofts – Traditional and Timber Frame Structures

**WARMCEL® 300** can be used to insulate all types of lofts and care should be taken to maintain openings to eaves ventilator trays. The insulation is pumped through a hose attached to the fibre delivery system, allowing access to restricted spaces, such as shallow eaves, or through small loft openings.



## Cavities – Closed Panel Structures

**WARMCEL® 500** is installed for closed panel structures, including walls, floors and sloping roofs using the TurboFill injection system.

The TurboFill nozzle, similar in appearance to those used on Grand Prix Formula 1 refuelling rigs, is docked with the panel by means of pre-drilled access holes, through which the Warmcel 500 is injected.

An ingenious pressure sensing system ensures the void is completely filled to the correct density for optimum performance.

Because the insulation process is totally discrete and unintrusive, it can be undertaken at the same time as following trades are working and, therefore, it does not impact on the build programme.





# WARMCEL®

## The Sustainable Insulation Solution

**WARMCEL®** is installed in over one million homes in the UK alone, and has established its credentials with national housebuilders, architects, local authorities and housing associations over the last 25 years.

**WARMCEL®** is extremely resistant to fire through the addition of simple inorganic salts and meets the Fire Performance Requirements of BS5803 Part 4:1985.

**WARMCEL®** provides U values beyond current or envisaged Building Regulations requirements, with typical constructions achieving values of between 0.30 and 0.10 W/m<sup>2</sup>K.



## Thermal Performance

**WARMCEL®** has an impressive thermal conductivity value, further enhanced by its ability to create a high level of air-tightness, to help seal a building against air infiltration and prevent thermal convection currents.

Methods of application ensure the insulation provides a complete seal to prevent heat loss, eliminating gaps, cracks or other cold bridges.

Air-tightness tests undertaken on a scheme of local authority houses in Cardiff by the Centre for Research in the Built Environment (CRiBE), at Cardiff University, demonstrated the air-tightness of these Warmcel insulated homes out performed good practice requirements.

## Environmental

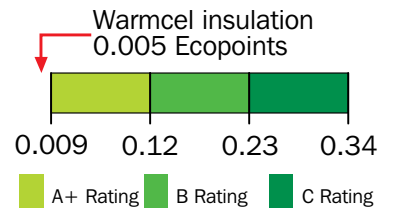
**WARMCEL®** has extremely low embodied energy, as it is manufactured from 100% recycled waste newspaper, so requires far less energy to produce than any other mainstream insulation material.

Warmcel has zero ODP (Ozone Depletion Potential). It does not contain any added formaldehyde and is free from CFCs, volatile organic compounds (VOCs) or other toxic substances.

By reducing heating demand, Warmcel also plays a major part in reducing household CO<sub>2</sub> emissions.

Under the BRE's Environmental Assessment Method (BREEAM), Warmcel achieved Green Guide Ecopoint 'A+' ratings in every application of the insulation in various wall and roof constructions and exceeded the current best 'A+' rating value. One m<sup>2</sup> of installed Warmcel is equivalent of up to -3.7kg of CO<sub>2</sub> over the lifetime of the building.

### BREEAM 'GREEN GUIDE' RATING FOR WARMCEL



### Ecopoints

*Ecopoints per m<sup>2</sup> to achieve thermal resistance of 1.45 m<sup>2</sup>K/W*

BREEAM 'Green Guide' published March 2005

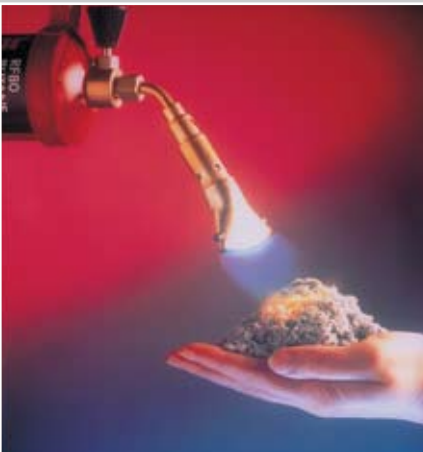


**WARMCEL®** exceeded the current best 'A+' rating value under the BRE's Environmental Assessment Method (BREEAM). One m<sup>2</sup> of installed Warmcel is equivalent to up to -3.7kg CO<sub>2</sub> over the lifetime of a building.

**WARMCEL®** when necessary, can be disposed of safely without creating toxic waste or biodegradability problems.

**WARMCEL®** can be reclaimed from a building at the end of the property's life cycle and can be recycled at the Excel manufacturing plant.

**WARMCEL®** has a 'better than zero' CO<sub>2</sub> rating. The CO<sub>2</sub> saved after installation exceeds that used in the manufacture and installation of the product.



## Durability

**WARMCEL®** is formulated to protect it against any potential hazards that may be encountered in use. It is resistant to biological and fungal attack, treated against insects and is unattractive to vermin. Warmcel is also harmless to other common building components such as copper pipes, electric cabling and metal nail-plate fasteners.

Warmcel can be reclaimed from a building at the end of the property's lifecycle and reprocessed, further reinforcing Warmcel's environmental credentials.



## Sound Insulation

**WARMCEL®** sound absorption properties can provide an effective solution to noise pollution. This is particularly important in applications where airborne sound can cause a problem for people living or working in adjacent rooms.

Warmcel Panels are under test with robust details for Part E of the Building Regulations for Separating Walls - Timber E-WT-2 (Timber Frame With Sheathing Boards).

## Fire Performance

**WARMCEL®** is extremely resistant to fire. Through the addition of simple inorganic salts and meets the Fire Performance Requirements of BS5803 Part 4:1985.

Warmcel is accredited by the Loss Prevention Certification Board (LPCB) for use in composite timber frame wall and ceiling systems in relation to fire resistance. As such, Warmcel is listed in the LPCB 'Red Book', the board's official list of approved fire and security products and services.

In a separate independent fire test, conducted by Chiltern International, on a loadbearing Warmcel wall panel, the fire resistance properties of Warmcel saw the panel exceed 70 minutes when exposed to temperatures of up to 1000°C.



Certificate number 721a



# WARMCEL®

## The Ultimate Insulation Solution

**WARMCEL®** is the product of extensive research and development and has been manufactured in the UK since 1980.

**WARMCEL®** is manufactured by Excel Industries, registered by BBA Quality Assurance as a firm of assessed capability to manufacture cellulose fibre thermal insulation in accordance with BS EN ISO 9001:2000.

**WARMCEL®** has BBA approval for use in timber frame structures and is able to demonstrate a 25 year record of successful insulation.

**Warmcel has also achieved Europe wide approvals...**



## National Network of Approved Installers

Our network of approved BBA inspected installers receive technical and installation training to ensure each and every application provides an effective insulation solution.



## Technical Support

Our HQ based technical team are always on hand to help you with any specification, application or customer service query offering assistance with 'U' value and condensation risk calculations.



In addition your local Excel technical sales advisor is always on call to help, face to face.



## Quality Is Paramount

**WARMCEL®** is manufactured to exacting standards within our advanced, BBA approved ISO 9001 certified production facility, the only one of its kind in Europe.

## Readily Available

From stock or via our installer network **WARMCEL®** is always available where and when you require.



**WARMCEL®** is a range of high performance insulation products offering a total solution for the provision of effective insulation in housing, commercial premises and public buildings.

**WARMCEL®** combines exceptional thermal performance with enviable environmental credentials delivering the capability to downsize space heating systems, maximise heat retention and provide a healthy living environment.

**WARMCEL®** conforms to the requirements of BS5803:1985 Part 3 “Thermal Insulation for Use in Pitched Roof Spaces in Dwellings”.



## Social Housing Cardiff Council

In an innovative recycling scheme, Cardiff Council set up a partnership with Excel to insulate homes on a new social housing development with **WARMCEL® 500** insulation was used and manufactured from recycled newspapers collected from local households.

The scheme of 48 houses was developed by the council to meet high levels of sustainability for a mix of two and three storey houses, ranging in size from three bedrooms to five bedrooms.

## Public Sector/ Commercial

Warmcel-insulated TRADIS wall panels were specified by Falkirk Council for the construction of a new primary school extension in Bo'ness, Falkirk.

Based on the sustainability, insulation performance and structural integrity, the extension to Deanburn Primary School was designed to accommodate 440 pupils in a structure featuring high levels of sustainability and energy efficiency.

## Residential EVT Technology

EVT Technology has been specified for the construction of a forward-looking house design concept devised by architects, 'Gn2 Design', the design concept has been employed in the construction of a five bedroom, 300 m2 contemporary house built in Chelmsford, Essex. The design simplifies the build process and minimises energy consumption and environmental impact, while offering total freedom of internal layout and architectural style.

Contact us for further information on EVT structures.



## Other Excel Sustainable Solutions...



**PHYTOFIBRE™**  
Hydro Seeding



**IMPROCEL®**  
Industrial Fibre



**VISCOCEL®**  
Road Fibre



**TRADIS®**  
Building Solutions



Excel Industries Limited reserves the right to amend product specifications without prior notice. The information given in this document is given in good faith and any recommendations for use should be verified as to suitability and compliance with actual requirements, specifications and applicable laws and regulations.



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