WRAP Business Development Support (BDS)

Project Report for Recovery Insulation Ltd

**Report for** **WRAP**

Ricardo-AEA/R/ED56875014
Issue Number 1
Date 17/04/2013



|  |  |
| --- | --- |
| Customer: | Contact: |
| Waste Resources Action Programme | Chris Hayward Ricardo-AEA LtdGemini Building, Harwell, Didcot, OX11 0QRt: 0123575 3068e: chris.hayward@ricardo-aea.comRicardo-AEA is certificated to ISO9001 and ISO14001 |
| Customer reference: |
| ED58675 |
| Confidentiality, copyright & reproduction: |
| This report is the Copyright of Recovery Insulation Ltd and has been prepared by Ricardo-AEA Ltd under contract to WRAP dated 15/04/2013. The contents of this report may not be reproduced in whole or in part, nor passed to any organisation or person without the specific prior written permission of Recovery Insulation Ltd. Ricardo-AEA Ltd accepts no liability whatsoever to any third party for any loss or damage arising from any interpretation or use of the information contained in this report, or reliance on any views expressed therein. |
| Author(s): |
| Chris Hayward, Nigel Matthews, Gareth Morton |
| Approved By: |
| Adrian Cole |
| Date: |
| 17 April 2013 |
| Signed: |
|  |
| Ricardo-AEA reference: |
| Ref: ED56875014 - Issue Number 1 |

Executive summary

WRAP offers Business Development Support to SME’s and social enterprises operating in the recycling, reprocessing and re-use sectors throughout England, aiding the expansion of capacity; improved access to feedstock and markets and helping companies’ access finance through business planning and strategy development.

Ricardo-AEA have discussed research priorities with Recovery Insulation; identifying four target areas within the insulation market. These include the size of the market and the share currently attributable to green insulation products, the potential route to market of using CE marking or ETA rather than BBA and the comparative carbon footprint of green insulation products; in order to identify Unique Selling Points (USPs). Particular focus was to be given to Recovery Insulation’s primary product, INNO-THERM.

The market for thermal insulation can be divided into domestic and non-domestic, new build and retrofit. When fully certified, INNO-THERM could be used in all four of these applications.

Growth is anticipated in the UK home insulation sector due to the planned increase in the energy efficiency of the UK housing stock. In 2010 the home insulation sector had a value of around £750-800 million. Mineral wool is the primary product for which INNO-THERM can be substituted, therefore the total potential market in this sector is estimated to be 40% of £800million per annum (£320million per annum). Furthermore it is reasonable to estimate that the non-domestic market represents one third of the figure derived above for the domestic market. This would indicate a non-domestic market of approximately £100million per annum.

There is also a significant market for sound insulation in the UK with the most commonly used acoustic insulation materials being either mineral or rock wools. Whilst another application for the material is the filling of gaps/voids in walls and floors.

A number of alternative “green” insulation products are currently available, including recycled denim/cotton (INNO-THERM), sheep’s-wool, hemp wool, warmcell and wood waste.

There are three key barriers for insulation suppliers looking to enter the market, including market concentration among insulation manufacturers, certification and price manipulation. Currently the market for the mineral wool type of insulation is dominated by four suppliers: Rockwool; Knauf; Isover; and Superglass. These suppliers are well established and therefore specifiers and contractors are familiar with the products, distributors carry at least one of them and their performance in many applications is proven, representing a significant barrier for small insulation manufacturers.

Certification is critical to enable designers, contractors and regulators understand and have confidence in product performance. Performance of insulation products needs to be assessed in terms of thermal properties, water penetration, resistance to fire and durability. In the UK certificates are predominantly issued by the British Board of Agrément (BBA). Importantly, these certificates also include an assessment of compliance with the applicable regulatory requirements – in this case, the Building Regulations. The dominance of the BBA certificate acts as a barrier for two reasons; its testing procedures can be slow and it imposes substantial up-front costs and imposes continuing charges for certification.

An alternate method of certification is European Technical Approvals (ETA’s). However ETA’s do not appear to be consistent with BBA certification as installation is not covered in detail by ETA’s due to differing construction practice around Europe. However, as long as Building Control are satisfied that the product is fit for purpose in the specific location where it is used, the fact that a product is certified under an ETA need not be a barrier to its use generally and in particular for its use in schemes such as ECO or the Green Deal. The marking of European conformity (CE markings) for most existing construction products will become mandatory from 1 July 2013, under the implementation of the European Construction Product Regulation (305/2011) ('CPR'). It is possible that CE markings will become the dominant basis for trade in construction products. INNO-THERM insulation will not require CE Marking as there is a lack of any harmonised specifications by the European Commission for a textile based insulation.

Price provides a further market barrier for INNO-THERM. Mineral wool products are sold to the public at subsidised rates, which creates a distortion in the market as non-mineral wool products, such as INNO-THERM, do not benefit from this subsidy. However once certification has been resolved there is no technical reason why green insulation products should not be offered in DIY stores under similar subsidy. INNO-THERM can be available for sale, as long as Building Control are satisfied that the product is fit for purpose and there is evidence, through results of testing, that the product is safe (i.e. FR treated) and equally effective or better in thermal and acoustic performance in comparison to conventional insulation.

Currently the primary Unique Selling Point for INNO-THERM is that it is a product largely composed of recycled textile resources and therefore has a reduced environmental impact. However the inclusion of binder in the insulation matrix may detract from this by reducing the recycled content to approximately 80%. If the plastic content of the binder is manufactured from recycled product this will ensure the recycled content remains high and offer a further reduction in environmental impact. INNO-THERM is easy to handle and install as it is a non-itch and non-toxic alternative to ‘traditional’ fibreglass insulation material.

Recovery Insulation has the opportunity to market INNO-THERM as a sustainable product on the basis of the low embodied energy/carbon. The embodied CO² of INNO-THERM is 393kg/tonne of insulation product, which compares well with wood wool board (980kg/tonne) and mineral wool (1,050kg/tonne). A product with low embodied energy/carbon such as INNO-THERM will therefore be attractive to specifiers once the production and certification issues have been resolved.

Recovery Insulation currently utilise recovered industrial waste and recycled denim clothing e.g. denim jeans to produce INNO-THERM. The feedstock is sourced from Minot in France who process [i.e. pull the denim back to fibres] from Slovenia, Belgium and France. There is no reason why this cannot be sourced locally. It is recommended that Recovery Insulation develop their marketing strategy in order to maximise potential INNO-THERM sales. In particular, Recovery Insulation should focus on key target markets such as organisations/individuals wanting to specify/build using sustainable materials. This must be supported by effective marketing, branding and competitor analysis.

As part of the branding and marketing review, the website would benefit from a small number of amendments to make it more user-friendly and targeted at the needs of key markets/audiences. Online material should be streamlined and designed with greater visual impact. Emphasis is required on the key features of the product and the marketing campaign should take full advantage of social media. The website should also act as a ‘Call to Action’ for customers, encouraging them to get in touch or provide their contact information in order to create a sales database, opening the possibility for customer surveys. Incentives must be used effectively, recognising that those based on cost/price are likely to have the greatest impact

|  |
| --- |
| Key Issues * There are three key barriers for insulation suppliers looking to enter the UK market: market concentration among insulation manufacturers; certification and price manipulation.
* INNO-THERM’s USP’s are the incorporation of recycled resources and its ease of handling as a non-itch and non-toxic alternative to fibreglass insulation. However Recovery Insulation also has the opportunity to market INNO-THERM as a sustainable product on the basis of the low embodied energy/carbon.
* It is recommended that Recovery Insulation develop their marketing strategy through effective branding and competitor analysis, whilst focussing on key target markets.
 |

Table of contents

[1 Introduction 1](#_Toc361065048)

[2 Insulation Market 2](#_Toc361065049)

[2.1 Domestic 2](#_Toc361065050)

[2.2 Non-domestic 3](#_Toc361065051)

[2.3 Applications 3](#_Toc361065052)

[2.4 “Green” Insulation Products 4](#_Toc361065053)

[3 Barriers to Market Entry 5](#_Toc361065054)

[3.1 Market Concentration 5](#_Toc361065055)

[3.2 Certification 5](#_Toc361065056)

[3.3 Pricing 7](#_Toc361065057)

[4 Environmental impact of green insulation products 8](#_Toc361065058)

[4.1 Assessing environmental impact 8](#_Toc361065059)

[4.2 Results of profiling 10](#_Toc361065060)

[4.3 Thickness comparison 14](#_Toc361065061)

[5 USPs for Recovery Insulation 15](#_Toc361065062)

[5.1 Recycled Feedstock 15](#_Toc361065063)

[5.2 Binder 15](#_Toc361065064)

[5.3 Embodied Energy 16](#_Toc361065065)

[5.4 Non-Itch/Non Toxic Properties 16](#_Toc361065066)

[6 Marketing 17](#_Toc361065067)

[6.1 Marketing fundamentals 17](#_Toc361065068)

[6.2 Target audience 18](#_Toc361065069)

[6.3 Competitor analysis 19](#_Toc361065070)

[6.4 Marketing & Branding 19](#_Toc361065071)

[6.5 Website review 20](#_Toc361065072)

[6.6 Create sales lead database 22](#_Toc361065073)

[6.7 Social media and digital communications 22](#_Toc361065074)

[6.8 Customer survey 23](#_Toc361065075)

[6.9 Incentives 23](#_Toc361065076)

[7 Emirates Business Proposal 25](#_Toc361065077)

**Appendices**

Appendix 1 References for embodied energy

Appendix 2 References for recycled plastics

Appendix 3 Alternatives to denim / cotton suppliers

# Introduction

WRAP offers Business Development Support to SMEs and social enterprises operating in the recycling, reprocessing and re-use sectors throughout England. This contract is delivered for WRAP in England by Ricardo-AEA Ltd. This support can help businesses to grow by:

* Expanding capacity;
* Accessing feedstock and markets;
* Improving business efficiency and quality of outputs; and
* Helping companies access finance through business planning and strategy development.

The support available in the English regions is suitable for entrepreneurs and recycling companies focussed on one or more of the following materials:

* Food waste treatment for Anaerobic Digestion (AD) facilities;
* WEEE recycling and reuse;
* Mixed hard plastics – especially from MSW, C&I and C&D waste streams;
* Textiles – clothing, carpets, mattresses;
* Waste wood – Grades B,C,D; and
* Packaging glass.

Ricardo-AEA has discussed research priorities with Recovery Insulation and the three main areas that were identified for immediate attention were as follows:

* Establish the size of the insulation market and the share currently attributable to green insulation products, together with trends, in order to encourage investors;
* Research the potential route to market of using CE marking or ETA rather than BBA as the latter is expensive up front and to maintain; and
* Research comparative carbon footprint of green insulation products in order to identify Unique Selling Points (USP’s). This could include other environmental impacts such as water use.

This report presents the results of the research together with recommendations for next steps to assist in securing the finance required to expand the business.

# Insulation Market

The market for thermal insulation can be divided into domestic and non-domestic, new build and retrofit. When fully re-certified[[1]](#footnote-1), INNO-THERM could be used by Local Authority projects, for example, in all four of these applications, as loft, sarking, floor or timber frame wall insulation within a structural matrix.

## Domestic

20-30% of the domestic insulation market currently relates to insulation of new build. The remaining 70-80% is retrofit.[[2]](#footnote-2)

The home insulation sector had a value of around £750-800 million in 2010. The Government expects this market to grow significantly over the coming years as a result of its plans to increase the energy efficiency of the UK housing stock.[[3]](#footnote-3) However, early indications of the take-up of the Green Deal have not been encouraging and the delayed transition from CERT and CESP to their replacement scheme (the ECO) led to a slight decrease in installations in 2012 and 2013.

Of this £800million per annum, 40% is made up of mineral wool products and the majority of the remainder is plastic foams including PIR/PUR, polystyrene and phenolic foam. Mineral wool is the primary product for which INNO-THERM can be substituted, therefore the total potential market in this sector is estimated to be 40% of £800million per annum (£320million per annum).

It is important to recognise that there is little consumer-generated demand for the retrofit of insulation and that the majority of the existing market has been driven by the subsidy schemes mentioned above. For this reason, a change in the subsidy regime, together with a gradual exhaustion of the stock of properties which can be easily retrofitted, may have a significant effect on the volume of sales in this market. Changes to the Code of Sustainable Homes will align it with changes to Part L of the Building Regulations which came into effect in October 2010. It also proposed adopting the 2016 definition of zero carbon which should have a significant effect on sales.

Figure 1: Historical and projected number of insulated homes 1976-2022

## Non-domestic

Market statistics are not freely available for the non-domestic sector but in the data may be contained in either of the two following reports for which a fee is payable:

* IAL Consultants (2009 and 2011), ‘The European market for thermal insulation products: Volume 4—UK and Ireland (£860); and
* AMA research (2011), ‘Building insulation market UK 2011-2015 (£675).

Based on the building stock and a slower rate of retrofit than for the domestic sector, it is reasonable to estimate this market at one third of the figure derived above for the domestic market. This would indicate a non-domestic market of approximately £100million per annum.

## Applications

### Sound Insulation

In addition to the market for thermal insulation, there is a market for sound insulation.

Mineral wool is often installed within cavity wall constructions to help ‘deaden’ sound as it passes through. In a clear unfilled cavity, sound can reverberate around the void. The application of the wool deadens the reverberant build up and thus improves the performance of the wall overall. For this application, a mineral wool with a density of around 10-30kg/m3 is used. Isowool seems to be the most commonly used product, mainly because it is supplied by British Gypsum who also supply the plasterboard and metal frames it can be combined into one order.

If acoustic consultants are to specify a product, they would need to provide sound insulation test data. A typical test might be a cavity wall between two rooms tested with and without the insulation so that they can assess the level of improvement against the current ‘industry standard’ products.

The ‘most commonly used acoustic insulation materials are mineral/rock wools provided by companies such as Isover, Rockwool and Knauf Insulation.

RI succeeded in securing agreement from the British Olympic Association [BOA] to include the following in our website and marketing materials: INNO-THERM installed for acoustic application at the London Games 2012  by  National Broadcasting Company & will be reused in the XXII Winter Games (Sochi) 2014.

INNO-THERM has also been used extensively by a sub-woofer company , as insulation for speakers and for a number of domestic refurbished sound studios in UK.

### Void filling

Another application for the material is the filling of gaps/voids in walls and floors (e.g. at the top of a block work wall where it meets the underside of a slab to provide an airtight joint that still allows the building to flex) – for this application a denser wool tends to be used - around 30-60kg/m3.

## “Green” Insulation Products

There are a variety of green insulation products currently on the market. As substitutes for mineral wool these include:

* Recycled denim/cotton (INNO-THERM);
* Sheepswool (Black Mountain, Thermafleece);
* Hemp wool (Isonat, Naturepro, Breathe, Thermafleece Hemp, Steico Canaflex);
* Warmcell ( paper); and
* Wood waste (Pavaflex).

While at present it may be the case that consumers may decide to source a green insulation product and then choose between those listed above, the ultimate goal is to gain a greater market share for green insulation products by displacing more of the conventional mineral wool insulation market.

# Barriers to Market Entry

The report on the Call for Evidence carried out by the OFT in August 2012 identifies three key barriers to market entry for insulation suppliers in the construction industry:

* Market concentration among insulation manufacturers;
* Certification; and
* Price manipulation.

## Market Concentration

Four suppliers dominate the market for mineral wool type of insulation:

* Rockwool;
* Knauf;
* Isover; and
* Superglass.

These suppliers are well established and therefore specifiers and contractors are familiar with the products, distributors carry at least one of them and their performance in many applications is proven.

This is a significant barrier to market entry for small insulation manufacturers and getting architects to specify green products is the first objective. Once this has been achieved, a sufficiently wide range of distributors must carry the product in order for contractors to be able to source it with confidence and for there to be effective price competition. If contractors cannot vary an order, take back excess material or order extra for fast delivery, there will be practical consequences for the programming of work. All these factors mean that the market dominance of the large players is self-reinforcing.

## Certification

Certification and independent house testing for performance is critical to enable designers, contractors and regulators to understand and have confidence in product performance. Performance of insulation products needs to be assessed in terms of:

* Thermal properties;
* Thickness stated
* Water penetration;
* FR: resistance to fire [flammability and smouldering];
* Durability.

Although architects or other designers may be confident that a product will perform adequately, Building Control need to be satisfied that it will perform as expected in its intended location for an insulation product to gain wide acceptance. If Building Control approval cannot be achieved then a completion certificate could be withheld and this would act as an effective deterrent in most cases. In some circumstance Building Control will allow the use of an insulation product but will need evidence that testing by an independent testing house accredited by UKAS has been successfully conducted for FR and thermal performance.

### British Board of Agrément (BBA)

At present in the UK, there is little competition in the market for the certification of building products. The vast majority are issued by the BBA. Importantly, these certificates also include an assessment of compliance with the applicable regulatory requirements – in this case, the Building Regulations. Other certificates lack this assessment and are more generic and therefore may not be acceptable to Building Control. In theory, other test houses can issue certificates as long as they are themselves accredited by UKAS but in reality few other certificates are issued. The dominance of the BBA certificate acts as a barrier for two reasons; its testing procedures can be slow and it imposes substantial up-front costs and imposes continuing charges for certification.

### European Technical Approvals (ETA’s)

The OFT call for Evidence notes that: “Some international manufacturers have also complained that they are at times unable to use certification obtained in another European country to market their product in the UK because ‘specifiers’ (see paragraph 4.38) require a BBA certificate even though , in most respects, it replicates the testing carried out for the foreign certificate.”

ETA’s do not appear to be based on an entirely consistent set of tests. In contrast with BBA certification, installation is not covered in detail by ETA’s, due to differing construction practice and climate around Europe. It is also important to note that an ETA, like other certification, does not demonstrate compliance with Building Regulations as the designers would need to show the inspector that the tests carried out (recorded in the ETA) are sufficient to satisfy the regulations in each case. However, as long as Building Control are satisfied that the product is fit for purpose in the specific location where it is used, the fact that a product is certified under an ETA (rather than a BBA) need not be a barrier to its use generally and in particular for its use in schemes such as ECO or the Green Deal.

In terms of demonstrating compliance, it is also necessary to bear in mind the comments on CE marking below.

### CE Marking

The marking of European conformity (CE markings) for most existing construction products will become mandatory from 1 July 2013, under the implementation of the European Construction Product Regulation (305/2011) ('CPR'). The CE marking is a neutral label and is not owned by a specific certification body (unlike the BBA).

Importantly, Article 8 of the CPR states:

*‘For any construction product covered by a harmonised standard, or for which a European Technical Assessment has been issued, the CE marking shall be the only marking which attests conformity of the construction product with the declared performance in relation to the essential characteristics, covered by that harmonised standard or by the European Technical Assessment.*

*In this respect, Member States shall not introduce any references or shall withdraw any references in national measures to a marking attesting conformity with the declared performance in relation to the essential characteristics covered by a harmonised standard other than the CE marking.’*

On this basis it is possible that CE markings will become the dominant basis for trade in construction products but designers may continue to require further evidence to ensure compliance with local (in this case England and Wales) Building Regulations. A separate assessment of regulatory compliance could be necessary to convince specifiers (and inspectors) in the interim.

## A representative of the BRE stated he *‘cannot find any related harmonised technical specification for a textile-based insulation’.* INNO-THERM insulation does not require CE Marking as there is a lack of any harmonised specifications by the European Commission for a textile based insulation.[[4]](#footnote-4) Pricing

Mineral wool products are sold to the public at subsidised rates by the DIY stores. This creates a distortion in the market as non-mineral wool products such as INNO-THERM do not benefit from this subsidy and therefore cannot compete on price. Once certification has been resolved there is no technical reason why green insulation products should not be offered in DIY stores under similar subsidy, as certification and associated testing would be adequate evidence to convince various parties that the product is safe and equally effective in comparison to mineral wool, these being:

* Administrators of the subsidy schemes (previously CERT[[5]](#footnote-5) and CESP);
* Retailers; and
* Customers.

Prices paid to insulation manufacturers by distributors are typically individually negotiated and that actual prices paid are often heavily discounted from the list price.

Volume-based rebates by the largest manufacturers could exclude competitors by locking in distributors to purchasing from a single supplier.

# Environmental impact of green insulation products

## Assessing environmental impact

This section provides the background information that can be used to assess the potential USPs for INNO-THERM based on its sustainability credentials.

Determining the USP of the product in question requires the analysis of information available on the product and its competitors. Sustainability can be measured in a number of ways however this work considers the following:

* Competitors in the eco-insulation market;
* Global warming potential of the product based on a Life Cycle Analysis, assessing both embodied carbon dioxide and embodied energy; and
* Analysis of the production methodology.

There are a significant number of products on the market which are marketed as being environmentally sustainable. There are a number of metrics that are used to demonstrate the sustainable criteria of the products such as BREEAM-BRE Eco points[[6]](#footnote-6). The BREEAM-BRE Eco points are a weighted value based on the manufacture process and include factors such as:

* + Climate change;
	+ Fossil fuel depletion;
	+ Ozone depletion;
	+ Human toxicity to air;
	+ Human toxicity to water;
	+ Waste disposal;
	+ Water extraction;
	+ Acid deposition;
	+ Eco-toxicity;
	+ Eutrophication;
	+ Summer Smog; and
	+ Minerals Extraction.

While Ecopoints themselves are not used publically as a comparison method in the market, they form the basis for the Green Guide to Specification – also published by the BRE. In order to become listed in the Green Guide, it is necessary to go through the Ecopoints assessment and certification process. We understand from BRE that to take a single product through this process costs between £13,000 and £20,000.

In 2008 Defra funded a study: Life Cycle Assessments of Natural Fibre Insulation Materials.

[[7]](#footnote-7) This study was undertaken at the instigation of the National Non-Food Crops Centre (the NNFCC), with funding provided by the UK Department for Environment, Food and Rural Affairs (Defra). The study examines the ‘environmental profile’ of insulation materials for construction that are based on the use of natural fibres using Life Cycle Assessment (LCA) methods. A specific element of the study is an evaluation of the potential for optimisation of the environmental profile of natural fibre insulation material(s). The LCA results obtained for the natural fibre insulation materials are placed in context by reference to available LCA information on example existing insulation products.

Conclusions: This LCA study has found environmental advantages from the NFI materials in some areas when compared with the provided benchmark data. The main area in which the NFI materials perform well against the benchmarks is that of GWP100 due to the renewable carbon sequestered in the material that reduces the amount of CO2 in the atmosphere. The current Thermafleece product fares comparably to the benchmark products in most other environmental impact categories, except where those products’ datasets have little or no impact (as discussed in the sensitivity analysis). It is clear the higher mass of the Isonat NFI hampers its environmental performance in comparison with the other insulation materials. Conversely, the very low density of the Knauf glass wool insulation material provides it with advantage with regard to its LCA profile.

## Results of profiling

The following table provides details of various insulation materials available in industry providing some of their physical properties. As various sources were consulted there were varying property descriptions and been noted accordingly.

Table 1 Insulation properties

| **Type** | **Example product** | **Material make up** | **Recycled content** | **Density kg/m³** | **Thermal Conductivity W/m/K** | **Embodied Carbon kgCO2/kg** | **Embodied energy MJ/kg** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **[1]** | **cradle to grave** |
| **INNO-THERM** |  | Reused and recycled cotton textiles | 80% | 19.97 | 0.037 | 0.39 |  |  |
| **Cellular Glass [6]** | Foamglas  | Recycled, post-consumer waste, silica, sand and elements of glass production. Recycled and new glass with mixed carbon. | 66% | 100-120 | 0.038-0.045 [1] |  | 27 | 26 |
| **Cellulose [7]** | Excel Warmcel 300 | Recycled newspaper with non-toxic additive. | 100% | 32 | 0.0036 |  | 0.94-3.3 | 16.64 |
| **Cellulose [7]** | Termex | Recycled newspaper with non-toxic additives. | 100% |   |   |   |   |   |
| **Cork [2]** |   |   |   | 105-120 | 0.038-0.05 | 0.19 | 4 |   |
| **Fibreglass (Glass wool) [3]** | DriTherm | Glass cullet, sand, binder. | 80% | 16-24 | 0.032-0.044 [1] | 1.35 | 28 |   |
| **Flax (Insulation) [4]** | Isovlas | Flax 80%, Binder 12%, Salts 8%. |   | 30-35 | 0.038 | 1.7 | 39.5 | 39.5 |
| **Mineral wool [5]** |   |   |   | 24-40 | 0.034-0.044 [1] | 1.2 [1] 1.05 | 16.6 | 16.8 |
| **Rockwool (stone wool) [5]** |   |   |   | 24-40 | 0.031-0.04 | 1.05 | 16.8 | 16.8 |
| **Paper wool [1]** |   |   |   |   |   | 0.63 | 20.17 |   |
| **Polystyrene [4]** |   |   |   | 15-35 | 0.029-0.031 [1] | 2.5 [1] 2.55 | 88.6 |   |
| **Polyurethane [5]** | Kingspan Thermaroof TR21 | Urethane core, faced on both sides with glass reinforced perforated cellulose autohesively bonded to the insulation core during manufacture. | 30% | 30-40 | 0.023 [1] | 3 [1] 3.48 | 72.1 | 101 |
| **Wood wool (loose) [1]** |   |   |   |   | 0.038-0.049 [1] | 0 | 10.8 |   |
| **Wood wool (Board) [1]** |   |   |   | 50 |   | 0.98 | 20 | 10.8 |
| **Wool [2]** | Black Mountain Insulation | Sheep's wool  |   | 25 | 0.04 | 0 | 20.9 | 20.9 |
| **Wool [2]** | Eden Thermafleece | Sheepswool |   |   | 0.039 |   |   |   |
| **Hemp fibre [4]** | Isonat | Hemp, recycled cotton, polyester. | 100% | 40 | 0.039 |   |   | 10.5-33 |
| **Polyester [5]** | YBS Non-itch | Polyester | 85% |   | 0.039-0.0425 |   |   |   |
| **Wood fibre [6]** | Pavatex-NBT | Wood fibre and paraffin boards, mineral render, natural insulation, plasterboard. | 99.50% | 160-240 | 0.040 |   |   | 17 |
| **Hempcrete [1]** |   |   |   | 220-330 | 0.07 |   |   | 2-5 |
| **Aerogel [3]** |   |   |   | 180 | 0.013 |   |   | 53 |

Innotherm compares well on most categories above having relatively high recycled content and relatively low density. It compares well on embodied carbon and is on a par with comparative products (i.e. direct competitors) for thermal conductivity. As is noted in Section 5 of this report there is an opportunity to increase the recycled content to 100% by changing the binder and to source a more locally-produced feedstock, further reducing embodied carbon.

## Thickness comparison

The following table sets out the thickness of material required to achieve a given level of insulation.

Table 2: Embodied energy calculation for insulation to achieve a U value of 0.2W/m²/K per m² of insulation

| **Insulation type** | **Thickness m/m² insulation** **for U value of 0.2 W/K/m²** | **Mass kg /m² insulation** **for U value of 0.2 W/K/m²** | **Embodied energy MJ /m² insulation** **for U value of 0.2 W/K/m²** |
| --- | --- | --- | --- |
| INNO-THERM | 0.190 | 3.79 |  |
| Cellular Glass [6] | 0.208 | 22.88 | 606 |
| Cellulose [7] | 0.180 | 5.76 | 45 |
| Cork [2] | 0.220 | 24.75 | 371 |
| Fibreglass (Glass wool) [3] | 0.190 | 3.8 | 147 |
| Flax (Insulation) [4] | 0.190 | 6.175 | 205 |
| Mineral wool [5] | 0.195 | 6.24 | 112 |
| Rockwool (stone wool) [5] | 0.178 | 5.696 | 102 |
| Polystyrene [4] | 0.150 | 3.75 | 369 |
| Polyurethane [5] | 0.115 | 4.025 | 348 |
| Wood wool (Board) [1] | 0.218 | 10.9 | 168 |
| Wool (Recycled) [2] | 0.200 | 5 | 110 |
| Hemp fibre [4] | 0.195 | 7.8 | 170 |
| Wood fibre [6] | 0.200 | 40 | 680 |
| Hempcrete [1] | 0.350 | 96.25 | 337 |
| Aerogel [3] | 0.065 | 11.7 | 620 |

# USPs for Recovery Insulation

## Recycled Feedstock

Recovery Insulation currently utilises recovered denim cotton fibres to produce INNO-THERM. The feedstock is sourced from France but there is no reason why it cannot be sourced more locally, with a number of large textile recycling organisations being based in Yorkshire and the North-East. However, these organisations often source their stock of recycled denim clothing from Europe.

**Alternative sources of feedstock**

Research is needed to assess the availability and suitability of alternative cotton products to denim/cotton, as limiting the raw material to this one source of feedstock could restrict supply and alternative sources would provide Recovery Insulation with contingency arrangements in the event that denim became scarce.

In September 2006 a study funded by Defra was published by NIRI [Nonwovens Innovation Research Institute] of Leeds University and Oakdene Hollins Ltd, Salvation Army Trading Company Ltd: Recycling of Low Grade Clothing Waste[[8]](#footnote-8). The primary purpose of the study into the Recycling of Low Grade Clothing Waste is to integrate an economic and market study of the used clothing recycling industry in the UK with technological developments which are aimed at improving the markets for recycling grades of clothing. The study also considers possible economic instruments and policy interventions, based on optimum financial and environmental impacts that could further develop secondary textile markets.

Appendix 3 provides information in relation to calls made to local textile recyclers including charity collection companies, charities, Yorkshire based textiles manufacturers (found during research) and the current suppliers. No one was willing to discuss cost on the spot because they are new to the idea of vending cotton separately. Anglo Recycling only deal in recycled denim. Feedback is set out in the *Notes* column of Appendix 3.

## Binder

Currently the most compelling USP for INNO-THERM is that it is a product largely made from recycled resources. This reduces environmental impact and provides a market for recycled material, reducing waste to landfill.

However, in order to achieve a stable batt/roll form of insulation, especially for use in vertical applications such as stud walls, it is necessary to add a small amount of binder to the matrix to stiffen the batt/roll. At present this reduces the overall recycled content of INNO-THERM down to circa 80%, which is lower than Warmcel, Hemp or Wood Waste in the table above.

If the oil based plastic content of the binder be manufactured from recycled product this would increase the recycled content back up towards 100% and reduce the environmental impact still further.

It is not known what specification would be required with regard to any recycled plastic content used as a binder but this would undoubtedly add to the environmental/carbon credentials of the Innotherm product. There are many types of waste plastics available that could be utilised but more research is needed in relation to the most appropriate types, blends and available feedstocks. There are a number of local plastics reprocessors that could be approached for feedstock’s and manufacture into the most appropriate format for binding purposes.

In 2007-2009,RI and NIRI submitted R&D funding bids to the TSB, which were unsuccessful. The objective of the R&D was to investigate manufacturing fibrous building products from sustainable materials. The aim is to develop binder technology to manufacture a truly sustainable 100% recycled thermal and acoustic insulation. Potential binder material was to be researched. One class of binder material is thermoplastic proteins from recycled materials. In the field of insulation there are “green” products made, for example, with sheep’s wool or hemp; however, even these products are reliant upon synthetic binder technology. Concurrently a UK source of waste textile fibre for insulation products was to be developed. The most cost-effective supply chain was to be investigated for diverting textile waste from landfill, and that of waste plastics, for conversion into insulation products. RI sought to substitute synthetic products, and those manufactured from unsustainable sources, with a sustainable alternative.

## Sources of recycled plastics and further information on this can be found at Appendix 2.Embodied Energy

The embodied CO2 of INNO-THERM is 393kg/tonne of insulation product[[9]](#footnote-9). This compares well with wood wool board (980kg/tonne) and mineral wool (1,050kg/tonne).

In 2012/13 a PhD student at the University of Sheffield commenced his study that will focus on a full life cycle assessment of conventional [2] and eco [3] insulation products. The study is in collaboration with Recovery-Insulation One of the outcomes is to establish an eco-payback model/framework for a recycled denim/cotton insulation. The results of the study will help to inform potential users of INNO-THERM’s cost effectiveness and carbon emissions in manufacturing.

Recovery Insulation has the opportunity to market INNO-THERM as a sustainable product on the basis of the low embodied energy/carbon. In order for this to be most effective, clients and specifiers need to be educated as to the importance of embodied energy/carbon. The key selling point is that as the emissions from buildings in which it is used fall due to increased insulation and air tightness and the low embodied energy of the product reduces the total life cycle costs of the building. A product with low embodied energy/carbon such as INNO-THERM will therefore be attractive to specifiers. .

## Non-Itch/Non Toxic Properties

Another primary USP for the INNO-THERM product is that it is easy to handle and install as it is a non-itch material and offers a non-toxic alternative to traditional fibreglass insulation. It does not contain any hazardous/toxic materials like carcinogens, fomaldehyde and volatile organic compounds.

# Marketing

## Marketing fundamentals

Recovery Insulation has an excellent product in INNO-THERM. A market analysis and cost matrix analysis and routes to market list [now including 7 distributors] of the supply chain to set-up a manufacturing facility for ***INNO-THERM®*** in Yorkshire, UK have been completed..

However its implementation has always been constrained by a lack of finance and personnel.

It is recommended that a thorough marketing review is undertaken to focus effort on key target markets and to improve the presentation of Recovery Insulation and its products. This report highlights a number of areas and issues which require further work by the team at Recovery Insulation and includes:

* Marketing and branding;
* Marketing to schools
* Website review;
* Sales led database;
* Social Media; and
* Incentives,

Marketing and sales support is being provided through the Sheffield Community Network. A website review and redesign is being completed and financed by FUSE Support Fund: FUSE is a new partnership that brings together infrastructure organisations that provide support to Sheffield's voluntary, community and faith sectors .The timescale of the WRAP project work means that it was not possible to ascertain the extent of any work in progress.

The key marketing fundamentals are:

INNO-THERM

* **Right product** – the product is good – it meets industry quality standards, has comparable, and excels in thermal and acoustic, performance with other insulation products and has good environmental credentials.
* **Available product to sell** – This has been an issue with inconsistencies in supplies due to change in manufacturing supplier leading to, at times, low stock. RI is aware of this issue and this is a key focus for its current activities.
* **Right market/s** – understanding who wants to buy INNO-THERM and why it is crucial to its short and longer-term success. RI has developed an extensive ‘Routes to Market’ listing.
* **Right price** – INNO-THERM is more expensive than the market leaders and the market is dominated by price. Recovery Insulation therefore needs to identify and target markets where its sustainability credentials give it a better chance to compete on specification and price (as it will be competing against similar sustainable products rather than the cheaper less sustainable market leaders). RI has always faced a major challenge in marketing INNO-THERM to the general public; to include building contractors, self-employed builders and investors. The customer does not necessarily distinguish an eco/natural/green insulation product from a conventional insulation product. One can perceive they are comparing like for like because both products types are called ‘insulation’. Price is first in the mind without regard to performance and sustainability [i.e. total life cycle cost of/carbon foot print of a product]. The challenge is to place and show evidence of a financial value to an eco/natural/green – low carbon product.
* **Added value –** RI is a social enterprise with charitable linksto the Schools &Homes Energy Education Project/Solar-Active which provide useful added value benefits to customers but are secondary to those factors already mentioned.

For its marketing to perform better the business must focus on the fundamentals:

* Ensure it maintains its excellent performance to sell at the right price; and
* Identify its market niche and focus on its USPs:
	+ Product performance – meets industry quality standards, performs as specified etc., easy/safe to use;
	+ Environmental/sustainable credentials - recycled materials, lower carbon footprint, sourced & manufactured locally (if applicable); and
	+ Ethical credentials – not-for-profit, charity link etc.

## Target audience

The next fundamental is the focus on the key target market/s. These will include organisations/individuals wanting to specify/build using sustainable materials such as:

* Public sector organisations (developing/specifying sustainable buildings);
* Green building architects/designers/developers; and
* Environmentalists (a catch-all term for any member of the community who wants to make their home more sustainable).
* Educational Market

INNO-THERM is planned to be sold to schools as a safe-to-handle fibre-based insulation as a thermal experiment. The material would support key curriculum activities and be a case study in recycled building materials. The educational material would not need BBA approval. It has high added value when sold as part of a lesson kit or delivered in a facilitated workshop.

All of the projects cited in Recovery Insulation’s literature appear to be ‘eco-homes’ and sustainable developments and it is these markets where INNO-THERM can utilise its product USP’s and be able to command a premium because of the customer’s desire for performance AND environmental credentials. Most other markets will be operating purely on cost where INNO-THERM will be uncompetitive. Green DIY’ers are likely to be another key market but will be very difficult to secure volume sales without a significant national distribution/sales network, probably utilising a large retail chain or builders’ merchants.

## Competitor analysis

Recovery Insulation has undertaken a competitor review in 2011. In 2013 another review of competitors was conducted to gain knowledge of their websites and incentives being offered. This will, of course, need to be on-going –looking at for example, companies/products like the following:

* Nature Pro: <http://www.natureproinsulation.co.uk/>
* Breathe™Insulation: <http://www.hemptechnology.co.uk/insulation.htm>
* Thermafleece <http://www.thermafleece.com/>
* Warmcel <http://www.warmcel.co.uk/>
* Black Mountain Sheep’s Wool

The review should focus on their marketing material, websites etc. to see:

* How the business compares;
* Whether any of their marketing strategies would be suitable for promoting Recovery Insulation’s products:
* What marketing literature is produced by competitors and does this provide any useful examples of format and content that Recovery Insulation could use?
* What sort of case studies do competitors use?
* Which markets do they target and are any of these markets in which Recovery Insulation could compete?

## Marketing & Branding

Marketing and branding can be expensive but it needn’t be. Websites, electronic literature and digital communications (e-mail and social media) mean effective marketing can be carried out at a reasonable cost. The key is to identify and maximise low-cost/no cost communication routes to reach the key target audiences. Some key recommendations include:

* Develop a clear brand for the company that is reflected across all company literature and communications;
* Source more and better quality pictures of the product and projects where it has been used;
* Develop a house style for documents e.g. letters, reports, proposals, case studies and marketing materials that can be produced inexpensively on office PCs; and
* Develop a suite of core marketing and product information materials that can be produced inexpensively on office PC and/or are downloadable from the website.

## Website review

As part of the branding and marketing review, the website would benefit from a small number of amendments to make it more user-friendly and targeted at needs of the key target markets/audiences. In general a lot of the material could be edited down to be punchier and easier to see on-screen (less scrolling). The following changes are recommended for consideration.

### Home page

* This page appears to be ‘selling’ Recovery Insulation Ltd rather than the products. It needs to highlight the product and its features and environmental/sustainable credentials which are very important in a way that is relevant to the target markets;
* It would also benefit from better imagery and the imagery needs to be the most prominent feature on the page – you need to sell the ‘idea’ of INNO-THERM. The details can come on other pages;
* The drop-down boxes are easy to miss – our reviewer only found them on the second visit to the site;
* The Twitter feed is good. This needs to be updated regularly – e.g. weekly;
* Include link to Facebook page; and
* Having a ‘Contact Us’ info box is also a good idea.

### About Us page

* The only thing that is changed from the home page is the text. The company may want to consider ways in which is can be made more visually attractive.

### News page

* See previous comment regarding the ‘About Us’ page.
* The news feed should be kept up to date and have engaging headlines, for example:
	+ INNO-THERM secures funding from Key Fund and ERDF;
	+ PhD student begins work placement at INNO-THERM; and
	+ INNO-THERM to feature on BBC’s DIY/SOS.

### Educational Information page

* See previous comment about overall design/layout; and
* This is less important and should appear after the blog on the top banner.

### Product Information page

* This is the key sales page. It is important and should be presented second (after the home page) in the top banner;
* The links to the different markets (Domestic/DIY, Architects, Trade) should to be more prominent on this page; and
* Would benefit from more/better product imagery and of buildings/projects where it has been used.

### Domestic & DIY ‘micro-site’

* DIY Home use –emphasise the environmental credentials/benefits;
* Easy to Install – appears to be a customer endorsement but it would have more impact if it was shorter and accompanied by ‘sales’ text’ explaining how it is easy to install etc.; and
* Costs – remove this information from the site – see more below.

### Architects ‘micro-site’

* Anns Grove New build – this is a good case study but it is now quite old and the page would be improved by including some more up-to date case studies. Also the PDF is has White-Design branding where it should have Recovery Insulation Ltd.;
* Case studies – needs to include more recent examples. Specific recommendations include:
* Anns Grove School - takes you back to the previous page which seems a bit superfluous;
* Anns Grove press release – should be in the news section but really should be removed as it’s quite old. It would be better to incorporate into a revised Anns Grove case study;
* Executive Summary of Textile Recycling – is not a case study. Some of it is interesting and relevant but could probably go elsewhere as background information to RI or INNO-THERM;
* Architects deciding to use Recovery – again interesting but it’s dated and relates to Anns Grove again. It would be better to have as a separate page on its own and review to make it sound more current; and Home use – again it’s a bit dated and is it more a DIY project.in which case it should be moved to the Domestic/DIY section.

### Downloads

* Anns Grove PowerPoint – Anns Grove again. A different one would be better
* 1930’s House – it’s a balanced report (so says good and not so good things about INNO-THERM). It would be better to make it into a shorter case study on the website and to edit the information substantially and bring out INNO-THERM’s benefits advantages instead of telling the world everything.
* Information for Architects – Whole life costing - this information is useful/relevant to architects but it may need further explanation to spell out the benefits to other stakeholders in the decision-making and supply chain. It would be beneficial to refer back to the product and why whole life costing is important in relation to sustainability issues and using INNO-THERM?
* Insulation Comparisons – retain the technical product information
* Technical Specifications – retain the technical product information; and
* Embodied Energy – This is interesting but it should relate back to the product in terms of how INNO-THERM impacts on the embodied energy of buildings and other benefits.

### Trade ‘micro-site’

* This only presents has costs and does not emphasise the benefits or give specific information for trade enquirers. This area needs developing.
* Costs – remove this information from site – see more below.

### Costs page

* This page should be removed or changed to say something similar to “prices start from £xx per m2 – please contact us for a quotation”. At present, visitors to the site can get the costs from the website and then leave without any interaction with the company. If they contact you for a quote, Recovery Insulation will have the opportunity to:
* Discuss their project with them and ‘sell’ the benefits of INNO-THERM before you get to the issue of price; and
* Capture their contact details which can then be used to develop a sales database so you can contact them another time – send them product news etc.
* Furthermore, if your customers can see the prices, so can competitors - which may allow them to undercut prices in a tendering situation.

## Create sales lead database

Recovery Insulation has a sales database and this needs to be checked regularly to ensure it is accurate and up to date. Contacts should be categorised by type/sector so marketing activities can be tailored specifically for each type of client. It should also contain a record of when they were contacted last, what projects they were working on, why they were interested in INNO-THERM so customer profiles can be created and relationships built up. The records should also note when to contact them next.

As mentioned earlier, product prices should be removed from the website to encourage customers to contact the company directly for the information. This will build the sales database and also gain market intelligence on the potential customer base for INNO-THERM.

The database can then be used as the basis for customer surveys (see Section 5.4).

## Social media and digital communications

### Facebook and Twitter

Recovery Insulation already makes use of Facebook and Twitter but should be posting and/or Tweeting regularly e.g. once per week in order to be noticed and build up followers. Direct news and information about Recovery Insulation and INNO-THERM would be the most relevant material but anything topical that is linked in some way to insulation issues and/or sustainability could be publicised.

### E-mail newsletters

Another way to maintain contact with customers is to send regular e-mail newsletters with information about the company, the product and issues affecting the industry/customers. The list can be generated from the sales database.

## Customer survey

The sales database can also be used to for a customer survey to find out what they think of INNO-THERM. There are many useful on-line survey systems around e.g. Survey Monkey although it is worth checking where the IPR lies and whether this could be an issue for Recovery Insulation. A customer survey could be used to:

* Increase market understanding;
* Provide insights into what potential customers think about your product/company;
* Identify issues or trends in the marketplace that you might be able to exploit; and
* Generate news stories for the website, Facebook and Twitter.

## Incentives

Incentives to generate interest in a product as well as increase sales can be a useful tool but have to be used intelligently i.e. the right incentive targeting the right audience.

Incentives, unless they are price/cost based, will not influence potential buyers who just want insulation – they will buy the cheapest regardless. Therefore, the incentive targeting self-employed builders with a free breakfast previously trialled by the company did not work because:

* The e-mailer system (mail chimp) was thwarted by spam filters;

The incentives of the type highlighted in Fig:1 below (educational kit and solar car kit) are interesting but are more likely to be viewed as added value rather than deal makers. For the key target markets/s (people/organisations interested in sustainable building and insulation material) the product has to be fit for purpose, meet industry standards and have the right environmental credentials. Only after that will added value benefits be considered.

Fig:1 - Educational Kit and Solar Powered Car

 



Greater marketing effort should be directed towards other elements of the marketing mix that are more likely to influence potential buyers.

# Emirates Business Proposal

A separate review has been carried out on the business proposal to potential Emirate investor/s and this has been sent to RI. We recommend the document is restructured as follows:

1. Executive summary (a short 1-2 overview of main points of the proposal)
2. Forward/Introduction
3. Aim/Objective of proposal
4. Description of RI
5. The Product
6. Proposal (what you want to investment for and how you will spend it):
	1. Stages of project for the setting up a manufacturing facility: feasibility studies, acquire premises and/or build new, equipment, etc.
	2. Project timescales
	3. Financial information (costs, etc.)
		1. Breakdown of costs for feasibility study - to include: source of recycled cotton/denim, routes to market e.g. government building project, domestic etc.
		2. Costs for equipment, set up costs to include consultancy costs to set up and some training
		3. Staff costs (you can’t do all this part/time)
		4. Sales projections
	4. What will the investor [ or consortium] get - time it will take to get money back – Return on Investment
7. Confidentiality
8. IPR

Appendix 1: References for embodied energy

1. Prof Geoff Hammond and Craig Johns, Bath Inventory of Carbon and Energy (ICE) version 1.6A
2. 08/03/2012, <http://envestv2.bre.co.uk/help/index.jsp?pageID=36>
3. 08/03/2013, <http://www.greenspec.co.uk/insulation-plant-fibre.php>
4. 08/03/2013, <http://www.greenspec.co.uk/insulation-mineral.php>
5. 08/03/2013, <http://www.greenspec.co.uk/insulation-oil-derived.php>
6. 08/03/2013, http://www.greenspec.co.uk/products/external-insulated-render/foamglas-wallboard/
7. 08/03/2013, http://www.greenspec.co.uk/products/timber-frame-floor-joist-zone-thermal-insulation/excel-warmcel-300/
8. 08/03/2013, <http://www.greenspec.co.uk/products/loft-insulation/termex/>
9. 08/03/2013, http://www.greenspec.co.uk/products/built-in-partial-fill-insulation/earthwool-dritherm/
10. 08/03/2013, http://www.greenspec.co.uk/products/loft-insulation/isovlas/
11. 08/03/2013, http://www.greenspec.co.uk/insulation-mineral.php#rock
12. 08/03/2013, http://www.greenspec.co.uk/products/concrete-flat-roofs-warm-roof/kingspan-thermaroof-tr21/
13. 08/03/2013, http://www.greenspec.co.uk/products/breathing-ceiling/black-mountain-insulation/
14. 08/03/2013, http://www.greenspec.co.uk/products/loft-insulation/second-nature-thermafleece/
15. 08/03/2013, http://www.greenspec.co.uk/products/loft-insulation/isonat/
16. 08/03/2013, http://www.greenspec.co.uk/products/loft-insulation/ybs-non-itch-cavity/
17. 08/03/2013, http://www.greenspec.co.uk/products/external-insulated-render/pavatex-nbt-diffutherm-system/
18. 08/03/2012, <http://www.levistrauss.com/sites/default/files/librarydocument/2010/4/Product_Lifecyle_Assessment.pdf>
19. 08/03/2012, [http://www.levistrauss.com/sustainability/product/whatweremade](http://www.levistrauss.com/sustainability/product/what-were-made)
20. 08/03/2012, [http://www.guardian.co.uk/sustainablebusiness/levirethinkingtraditionalprocesswater](http://www.guardian.co.uk/sustainable-business/levi-rethinking-traditional-process-water)
21. 08/03/2012, <http://www.natureproinsulation.co.uk/application.htm>
22. 08/03/2012, <http://www.oriontrent.co.uk/pdf/SIG_Insulations_Sustainable_Materials_Guide_08.pdf>
23. 08/03/2012,June 01, 2010, Alex Wilson, http://www2.buildinggreen.com/blogs/avoidingglobalwarmingimpactinsulation

Appendix 2: References for recycled plastics

1. <http://www.wrap.org.uk/sites/files/wrap/UK%20Plastics%20Waste.pdf>

2. <http://www.mytumwasterecycling.com/index.php/9-main-content/latest-news/50-plastic-recycling-company-yorkshire>

3. <http://www.enviroplastics.co.uk/index.php>

4. <http://www.mrw.co.uk/directory/Yorkshire-Plastic-Recycling-Limited/14910.details>

5. <http://regainpolymers.com/>

6. <http://www.plasticrecyclingsouthyorkshire.co.uk/>

7. <http://www.premierwaste.uk.com/>

8. <http://www.plasticrecyclingsouthyorkshire.co.uk/>

9. <http://www.eastex.org.uk/>

10. <http://www.eastex.org.uk/south/results_specific.asp?Transaction=a&Material=pr&Locale=n>

Appendix 3: Alternatives to denim / cotton suppliers

**Textile Manufacturers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Company** | **Telephone** | **Website** | **Contact** | **Email** |
| **A W Hainsworth & Sons Ltd.** | 0113 257 0391 | http://www.hainsworth.co.uk/contact-hainsworth/ | Ivana |   |
| **John Foster** | 01274 655900 | http://www.john-foster.co.uk/products.htm | John Foster |   |
| **John Cotton** | 01924 496 571 | http://www.johncotton.co.uk/content.php?page=contact |   |   |
| **Arville Textiles Limited** | 01937 582735  | http://www.arville.com/contact.html |   |   |
| **HUDDERSFIELD CLOTH** | 07539 354424 | http://www.huddersfieldcloth.com/ |   |   |
| **Yorkshire Wiper Company** | 01924 461401 | http://www.yorkshirewiper.co.uk/ | Helen May |   |
| **Dalesbred** | 015242 51798 | http://www.dalesbred.co.uk/contact-dalesbred.html | Sally/Simon Robinson |   |
| **Bespoke Soft Furnishings Yorkshire** | 01759 371309 | <http://www.bespokesoftfurnishingsyorkshire.co.uk/> |   |   |
| **Philip Walton** | 01943 831 258 | <http://www.philipwalton.co.uk/> |   |   |
| **Modus Interior Design** | 01482 875794 | <http://www.modusinteriors.co.uk/> | c/o Liz, FAO: Helen/Kelvin Hall | info@modusinteriors.co.uk |
| **Brisbane Moss** | 01706 815121 | <http://www.brisbanemoss.co.uk/> | Ian Darrah | iandarrah@chapmangroup.co.uk |

**Current Suppliers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Company** | **Telephone** | **Website** | **Email** | **Notes** |
| **Glass Onion Vintage** | 01226 381007 | <http://www.glassonionvintage.com/> |   | Supply only recycled denim clothing and cut-offs from jeans – after jeans are made into denim shorts |
| **John Spencers Synthetics** | 01282 423111 | <http://www.johnspencer.com/contact.html> | sales@johnspencer.com | They do not supply waste cotton to client. JSS pulls the cut-offs from Glass Onion. |
| **Anglo Recycling and Rawsons** | 08458 350218 | <http://www.anglorecycling.com/> |   | John Cotton, Anglo Recycling and Rawson made the insulation in the past. Anglo supplied the FR treated denim/cotton to Rawson for the last stage in the manufacturing process.. The denim/cotton was sourced from denim recyclers in Slovenia, Belgium and France and pulled by Minot in France. No other cotton stream potential |

**Charity Collection Schemes/organisations/companies etc**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Charity** | **Telephone** | **Website** | **Contact** | **Email** |
| **Childrens Cancer & Leukemia Fund** | 07795 055 804 | www.childrenscalf.co.uk  |   |   |
| **Save the Children** | 0845 366 4076 | www.savethechildren.org.uk |   |   |
| **Kidney Research UK** | 0845 070 7601 | [www.kidneyresearchuk.org/](http://www.kidneyresearchuk.org/) | Dorothy Hardie | dorothyhardie@kidneyresearchuk.org |
| **Against Breast Cancer** | 01235 534 211 | http://www.againstbreastcancer.org.uk | Wendy Taylor-Hill | wendy@againstbreastcancer.org.uk |
| **RNLI** | 0845 122 6999 | [www.rnli.org/](http://www.rnli.org/) |   |   |
| **British Heart Foundation** | 0207 554 0000 | http://www.bhf.org.uk/ |   |   |
| **Cancer Relief UK** | 01246 863112 | [www.cancerreliefuk.org;](http://www.cancerreliefuk.org;/) |   |   |
| **Cystic Fibrosis Trust** | 020 8464 7211 | [www.cftrust.org.uk](http://www.cftrust.org.uk/) | Elisa | elisa.cappello@cysticfibrosis.org.uk; ecapello@cftrust.org.uk |
| **Leuaemia & Lymphoma Research** | 0845 271 4989 | [www.beatingbloodcancers.org.uk](http://www.beatingbloodcancers.org.uk/) |   |   |
| **St.Oswalds Hospice** | 0191 246 9071 | www.stoswaldsuk.org |   |   |
| **YMCA** |   |   |   |   |
| **World Cancer Research Fund** | 0844 873 2199 | [www.wcrf-uk.org](http://www.wcrf-uk.org/) |   |   |
| **Cancer Recovery Foundation/Breast Cancer Partnership** | 0844 800 4274 | [www.cancerrecovery.org.uk/clothes-collection](http://www.cancerrecovery.org.uk/clothes-collection) |   |   |
| **NSPCC (Scotland)** | 0845 072 2780 & 0207 288 8545 | [www.nspcc.org.uk/childlinev](http://www.nspcc.org.uk/childlinev) |   |   |
| **Action for Children** | 0844 873 2199 | www.actionforchildren.org.uk  |   |   |
| **WellChild** | 0845 072 2780 | www.wellchild.org.uk |   |  |
| **Age UK (combines Age Concern & Help The Aged)** |   | www.ageuk.org.uk  |   |   |
| **Collection Company** |   |   |   |   |
| **Collected by Recycling & Management Services Ltd** | 0800 028 8321 | [www.randms.co.uk](http://www.randms.co.uk/) |   |   |
| **Local Community Recycling Services** | 0845 673 0103 | www.lcrsl.co.uk | Mike Blades | mike@lcrsl.co.uk |
| **Salvation Army** | 0845 458 1812 / 01865 246278 | [www.salvationarmy.org.uk/](http://www.salvationarmy.org.uk/) |   |   |
| **Recycling Clothes Company Ltd** | 0129 361 2512 | www.recyclingclothescompanyltd.co.uk |   |   |
| **GT Recycling** |   | www.gt-recycling.com | Awaiting contact details from Cancer Relief. |   |
| **East London Textiles** | 0208 501 0743 | www.east-london-textiles.com | Darren Collins | info@east-london-textiles.com |
| **Care2Collect** | 0844 873 2199 | www.care2collect.com | c/o Caroline, FAO: The Directors | caroline@igcohen.com |
| **Clothes Aid** | 0207 288 8545 | www.clothesaid.co.uk | c/o Caroline, FAO: The Directors | caroline@igcohen.com |
| **Precycle** | 0844 870 0407 | [www.precycle.eu/](http://www.precycle.eu/) | Aparna Sharma | asharma@precycle.eu |



The Gemini Building
Fermi Avenue
Harwell
Didcot
Oxfordshire
OX11 0QR

Tel: 0870 190 1900
Fax: 0870 190 6318

www.ricardo-aea.com

1. Recovery Insulation secured the finance to test INNO-THERM by the BBA in 2003. The testing was satisfactorily completed and a BBA Certificate was issued in 2003 and upgraded in 2006 (No. 03/4027) for timber frame, loft and sarking installations. Now that we have a new manufacturing facility we will apply for the re-issue of the Certificate. . [↑](#footnote-ref-1)
2. AMA research (2011), ‘Building insulation market UK 2011-2015’ as cited in the report below. [↑](#footnote-ref-2)
3. OFT, August 2012 ‘Home insulation - A report on the Call for Evidence carried out by the OFT’

 [↑](#footnote-ref-3)
4. This can be confirmed by using the links below, in which case in respect of the Construction Products Regulation INNO-THERM does not require CE Marking is correct.

<http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/construction-products/index_en.htm>

<http://www.eota.eu/en-GB/content/endorsed-etag-s/9/>

<http://www.eota.eu/en-GB/content/eta-s-without-etag/12/> [↑](#footnote-ref-4)
5. INNO-THERM in 2009/10 was certified on the UK CERT scheme through EDF Energy. However, EDF Energy decided to withdraw their insulation offer as part of their CERT obligation. INNO-THERM was also part of the Sheffield City Council CERT Free Insulation scheme in 2010/12. [↑](#footnote-ref-5)
6. <http://envestv2.bre.co.uk/help/index.jsp?pageID=36> [↑](#footnote-ref-6)
7. Prepared by the NNFCC in 2008 by: Dr Richard J. Murphy and Mr Andrew Norton, Division of Biology, Sir Alexander Fleming Building, Imperial College London, South Kensington Campus, London SW7 2AZ [↑](#footnote-ref-7)
8. © Oakdene Hollins Ltd, Salvation Army Trading Company Ltd. Nonwovens Innovation & Research Institute Ltd September 2006. Defra Contract Reference: WRT152 [↑](#footnote-ref-8)
9. Carbon Footprint of INNO-THERM® Insulation Carbon Footprint Product Research Report - Andrew Timms, E-Futures project, University of Sheffield 2011 [↑](#footnote-ref-9)