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BBA

INSPECTION SCHEME

FOR INSTALLERS OF LOFT INSULATION

November 2009

Note: This document may be revised from time to time, for example to take account of improvements and amendments to test and assessment methods and material innovations. Readers are advised to contact the British Board of Agrément to check the latest edition.

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More specifically it:

tests and assesses construction products against UK requirements or other relevant recognised documents, issuing Agrément Certificates for those products it considers are fit for purpose;

inspects and certifies manufacturers to confirm consistency of production; and

inspects the installation of products through independent or government schemes.

This scheme has been devised and implemented by the BBA in consultation with **Stakeholders** engaged within the industries of energy supply and energy service, namely:

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INTRODUCTION

The quality of installation of loft insulation is critical in the performance of the completed installation. This Scheme Document sets out the process, requirements and responsibilities for those involved.

The Scheme is based on a two-party arrangement:

- the BBA
- the Approved Installer.

It is a requirement of the Scheme that insulation is installed only by Approved Installers. The method of installation is critical to the performance of the product and poor installation practice can substantially reduce product life including insulation effectiveness and its effect on the future performance of the roof structure, eg reduced ventilation.

Installers applying to join the Scheme are subject to an initial assessment

On successful completion of the assessment process, the installer is accepted into the Scheme as an Approved Installer, is subject to regular surveillance by the BBA and if installing only BBA Approved products, is permitted to use the BBA logo.

Responsibilities

To check that the products are being installed according to this Scheme Document, assessment and surveillance and re-assessment as appropriate of Approved Installers is undertaken by the BBA's own Inspectors who are trained and experienced in the technology and installation techniques.

The Approved Installer is responsible for training and auditing its appointed technicians to ensure that the requirements of this Scheme are met.

DEFINITIONS

For the purpose of this scheme, the following definitions apply:

Stakeholder	Any company or organisation with an interest in insulation and a willingness to work with the BBA to monitor and raise the standards of installing loft insulation.
Customer	The person/homeowner, company or organisation, on whose behalf the work is being undertaken.
Installer	The company or organisation applying for assessment for the installation of loft insulation. Once accepted, the installer is known as an Approved Installer.
Approved Installer	The company or organisation accepted into the Scheme.
Scheme Document	The BBA Scheme Document for the Assessment and Surveillance of Installers of Loft Insulation.
Scheme	BBA Inspection Scheme for Installers of Loft Insulation
Technical Specification	A detailed description of the installation process as defined in the BBA Technical Specification document for the installation of loft insulation.
Product	The material used for insulating the loft space usually available in loose form, rolls or batts of glassfibre, mineral wool , polymer, cellulose or other naturally sourced matter, and either holds an Agrément Certificate or complies, with the requirements of BS 5803-2 or -3 : 1985 or BS EN 13162 : 2001, respectively.
Technician	A person who has satisfactorily completed the Approved Installers' training programme and carries an identity card issued by the Approved Installer.
Office	The administrative centre in which all relevant documentation is kept and from where staff are Managed or supervised
Assessor	A person who has satisfactorily completed the training programme operated by the Installer, who is capable of assessing buildings according to this Scheme Document.

THE APPROVED INSTALLER

The Approved Installer is subject to assessment by the BBA before admittance to the scheme and regular surveillance whilst approved. Assessment and surveillance of Approved Installers shall be undertaken by the BBA to ensure that the products are being installed in accordance with this Scheme Document.

Approved Installers' responsibilities

The Approved Installer has responsibility for:

- assessing the ability of Assessors and Technicians to meet the requirements of this Scheme Document. The Assessors and Technicians must be able to demonstrate that they are fully conversant with the contents and requirements detailed in the Scheme Document and all other factors that could affect the success of an installation including but not restricted to:
 - the scheme technical specification (Appendix A)
 - storage and handling of materials
 - suitability and preparation of the site
 - installation techniques
 - repair and maintenance
 - health & safety, including working at heights, PPE, risk assessments and advising the customer of issues arising from the risk assessment.
- adhering to all statutory requirements applicable to the building to be insulated, for example the Building Regulations
- maintaining robust documentation identifying all work in progress and completed installations
- responding to the BBA for requests of ongoing and completed works
- acting on any actions raised during an inspection and completing the required remedial works within a specific timescale as defined under General requirements page 9 of the scheme document
- ensuring they have been contracted by a Stakeholder, when deemed necessary, to carry out the installation
- maintaining records of all Assessors and Technicians, including dates of individual approval
- monitoring and inspecting the Technicians to ensure they continually comply with the requirements of the Scheme Document. A minimum of one site visit per month shall be made to each Technician; and report made and retained. All such reports shall be made available to the BBA to demonstrate that inspections have taken place
- maintaining technical support to the Assessors and Technicians.

Assessment of the building

The Approved Installer must ensure that the building in which it is intended to install loft insulation meets the requirements of this Scheme Document. A written assessment report shall document whether or not the building is suitable for the proposed installation and must identify problems that may adversely affect the proper functioning of the building after completion of the installation, together with suitable corrective actions.

The assessment report form shall be approved by the BBA but will be unique to the Approved Installer.

The report shall include, as a minimum:

- the names of the Approved Installer, the Assessor and Technician (if different from Assessor)
- the name and address of the customer and the location of the building
- a signed declaration that the building has been assessed according to the requirements of the Scheme Document
- reasons for omitting areas and a signature from the customer agreeing with these reasons
- ventilation requirements
- the specification of any remedial action that will be required before the installation of the insulation. The responsibility for rectification shall be identified at the time of noting such actions
- a documented risk assessment – before any services are undertaken
- choice of products used and reasons
- the existing level of insulation (if any) and agreed level of insulation thickness to be added (to be defined by the Stakeholder organisation)

- any special requirements/factors for a particular installation, such as restricted access, etc
- a record of the presence or likely presence of asbestos-containing materials in the loft, eg in insulation to water tanks and pipes. If the presence of Asbestos is suspected it should be labelled and reported to the customer. Asbestos-containing materials can be highly dangerous if disturbed. Useful guidance is given in the HSE's website: www.hse.gov.uk/asbestos/.

Before installation of the system, the customer shall be advised in writing of the information contained in the points given above.

All buildings that show, or have shown, evidence of water penetration to the roof space that has not been rectified shall be classed as unsuitable for installation of the product.

Where the building is deemed to be unsuitable for insulation, the Approved Installer shall provide written notice to the customer. The notice shall identify the reasons for unsuitability.

Work instructions

The Approved Installer shall ensure that the following items are documented and made available to the Technician:

- the assessment report
- special instructions to the Technician relating to time, access and services needed by the technician.
- the completed risk assessment and any instructions/actions that need to be followed

Record keeping

The Approved Installer shall make available to the BBA on request records of all work carried out.

As a minimum, the following information shall be provided:

- the customer's details
- a brief specification for the works, including the quantity of material used/required
- a written form of contract agreement
- the site address
- the commencement date
- instructions to the Technicians
- the Assessors building assessment reports and risk assessments
- records of training, the required qualifications and experience of all operatives, including details of the manner in which the individual has obtained practical experience.
- a register of all complaints received concerning work carried out under the approval issued by the BBA. The register shall identify the address, the work/job number, brief description of complaint, action taken and resolution dates.

Health & Safety training and competence

The Approved Installer must ensure Assessors and Technicians work in a safe and responsible manner and be able to demonstrate their ability to manage the types of risk involved with the work. This will include but not be limited to:-

- Ensuring Assessors and Technicians have a satisfactory level of Health and Safety training appropriate to the work being undertaken:
- Keep records of an Assessor/Technicians training and development on a log similar to the sample below (derivatives that perform the same purpose are permissible)
- Provide copies of Task Risk Assessment and Method Statements prepared for the work and evidence that Assessors and Technicians are familiar with them and routinely use and comply with them.
- Provide details of a formal process for Point of Work Risk Assessments and evidence that Assessors and Technicians are familiar with this.

Operatives Name:				
	Date	Completion verified by: (trainer)	Completion accepted by: (Operative)	Comments / recommended further action
Mandatory – in house				
Company induction				
Company Health and safety				
External optional				
CSCS Touch screen test				
Optional				
Industry training				
NVQ qualifications				

The above information shall be maintained by the Approved Installer for a minimum of 6 years.

General requirements

Prior to approval for membership

The BBA shall witness a minimum of three installations and make one inspection visit to each office. Invoicing for these inspections will be made in advance and payment must be received prior to the inspections taking place. A charge will not be made to existing BBA CWI Approved Installers for the office visit.

After becoming an Approved Installer

The BBA will inspect the Approved Installer according to:

The inspection frequency for each Approved Installer will be 1% of installations completed from each of their depots in the preceding 12 months, with a minimum of 12 and a maximum of 50 per depot. Nominally, 25% of the inspections shall be undertaken whilst the installer is on site and the installation ongoing, with the balance made after the installation has been completed.

Inspection

An annual report will be collated by the BBA in respect of the Scheme for review/comment by the Stakeholders and Approved Installers. Individual Approved Installer performance details will be shared with the Stakeholders to whom the Approved Installer is contracted, observing confidentiality as necessary

A minimum pass rate of 85% for each Approved Installer must be achieved within two years of joining the Scheme. Progression to achieving this pass rate may require sanctions to be applied – these may include additional inspections, failure to achieve the minimum pass rate may result in suspension or expulsion from the Scheme but the BBA reserves the right to suspend or expel for other reasons that it considers relevant.

The BBA will require all remedial work to be completed within 14 days of the notification of a non-compliance and all identified non-compliant works, at the discretion of the BBA, will be re-inspected. Where an inspection reveals that any work completed could affect the safe operation of combustion appliances or electrical equipment, the inspector will notify the installer by telephone. The Approved Installer must rectify the non-compliance within 24 hours of being notified. In such circumstances, the Approved Installer must liaise closely with the BBA until satisfactorily completing the remedial works.

Approved Installers achieving the minimum pass rate may benefit from a reduction in surveillance:

- where the Approved Installer operates from more than one office, each office shall, be treated as a separate Approved Installer for the purposes of inspections and invoicing.
- the BBA will invoice all Approved Installers for surveillance visits annually in advance. Non-payment of fees by Approved Installers will result in the withdrawal of Membership. Invoicing for remedial inspection visits will be made after the visit has taken place and payment must be received within 30 days of the date of the invoice.
- the BBA reserves the right to carry out extra visits when serious discrepancies or concerns are encountered. These extra visits will be charged to the Approved Installer.

Appendix A

BBA Technical Specification for Installers of Loft Insulation

Requirements

The Approved Installer is responsible for providing skilled and experienced technicians, adequate supervision and good quality products to complete the installation. Technicians shall leave the fitted products, the areas being worked on and the surrounding areas clean and undamaged. Clean dust sheets and appropriate protection of furnishings and decorations within the property shall be maintained whilst the work is undertaken.

The installation shall be carried out according to this Scheme Document, the BBA technical specification and the Assessor's report. Before installation, a Technician shall check the building to confirm that it is in accordance with the Assessor's report and is suitable for installation of insulation. If the Technician has reason to doubt that the building is suitable, he/she shall seek advice from the Approved Installer before proceeding with the installation. This information shall be entered on the work instructions.

The Technician shall record the amount of material used during the installation of the system.

Insulation products/materials

The material used for insulating the loft space may be in loose form, rolls or batts of glassfibre, mineral wool, polymer, cellulose or other naturally sourced matter, and must either hold an Agrément Certificate or comply with the requirements of BS EN 13162 : 2001 or BS 5803-2 or -3 : 1985. In confined spaces, insulation batts or loose fill should be considered.

All pipe and cistern insulation products must conform to BS 5422 : 2009 and be installed as appropriate.

Important – the BBA Scheme Document for the Assessment and Surveillance of Installers of Loft Insulation does not specify the individual Stakeholder scheme requirements for allowable existing loft insulation depths; these must be agreed with the Stakeholder before commencement of the installation.

1 Assessments

- 1.1 Before the installation commences adequate assessment shall be completed to ensure that the roof space, its contents and structure are accessible, clear of debris and:
 - is in such condition as to ensure there is no obvious possibility of rainwater penetration or leakage from existing pipework or tanks
 - provides adequate cross-flow ventilation; if existing insulation impedes the ventilation requirements, this must be removed before commencement of the installation
 - do not show evidence of mould growth, condensation, or wet or dry rot.
 - do not show evidence of decomposition to metal structural supports
 - electrical wiring and hot and cold pipework services do not exhibit obvious defects.
- 1.2 The responsibility for the removal of stored items and lifting of external boarding lies with the customer. This must be clearly explained in advance of the installation visit.

Important: Asbestos and asbestos-containing materials are sometimes found in loft spaces where it has been used to insulate water tanks and pipes. If the presence of Asbestos is suspected it should be labelled and reported to the customer. **Asbestos-containing materials can be highly dangerous if disturbed. Guidance on this subject is given in the website: www.hse.gov.uk/asbestos/.**

2 Exclusions

- 2.1 Any existing pipework or cistern/water-tank insulation that is installed in accordance with this specification and conforms to BS 5422 : 2009 shall be retained; additional insulation is not required.
- 2.2 Old insulation on pipework shall be removed and replaced. If removal may cause damage to pipes the owner of the property must be informed and any repairs undertaken before the commencement of the installation. If removal is deemed too difficult, a pre-formed material with a larger than normal bore or a proprietary product may be installed over the existing material; the thermal resistance of this type of installation must be the same as the equivalent pre-formed material.
- 2.3 Sections of uninsulated pipework which lie below the upper level of the new material and included in the roof space insulation works, shall not be insulated.
- 2.4 Existing cold-water storage tanks insulated with an insulation jacket conforming to BS 5422 : 2009 need not be disturbed. Where a standard jacket is not fitted, one must be installed* that:
- is secure but not airtight
 - is opaque
 - is a material unlikely to fragment or contaminate any condensate which may form on its underside
 - does not promote microbial growth
 - prohibits insects
 - will not impart taste, colour, odour or toxicity to the water
 - is made of materials compatible with those of the cistern.

* Other methods of tank insulation are permissible provided that they provide at least an equivalent level of performance to the jacket described above.

- 2.5 A roof space over an existing building extension which has had insulation installed and meets the thermal performance required by current Building Regulations or Stakeholders' requirement.

3 Insulation installation works covered by this scheme and technical specification

- 3.1 Roof space including:
- all cold-water cisterns in use in the roof space (clauses 5 and 2.4)
 - all accessible roof space (clause 4)
 - all water supply and expansion pipes (clause 6)
 - notification of completed works (clause 7).

4 Installing loft insulation

- 4.1 The loft spaces shall be insulated in full and in a neat and tidy manner. Where rolls of insulation are used, they shall be installed with adjoining layers close butted without voids. The first layer of insulation shall be laid between ceiling joists and the second and subsequent layers cross-laid.
- 4.2 It is the responsibility of the Approved Installer to ensure adequate roof ventilation is provided following the completion of the installation. The installation shall not take place unless there is sufficient ventilation to allow air movement both before and after the insulation has been fitted. The roof space ventilation shall be maintained and not restricted in any way as a result of the installation of the product. Where necessary, proprietary eaves ventilators shall be used to ensure that the installation of the insulation does not prevent air circulation from the eaves and soffit areas. In some installations, purpose-made tile vents or airbricks in gable ends may be necessary.
- 4.3 The installation must not take place if there is any evidence of excessive condensation.

- 4.4 All access points for services, such as pipes to and from the loft, shall be sealed using silicone sealant, foam, tape or a combination of these or other suitable products.
- 4.5 The insulation must not be allowed to enter the cavity of any cavity walls.
- 4.6 The insulation product shall be installed to ensure a clear minimum area of 150 mm is retained around all electrical fittings penetrating the ceiling, an example would be recessed light fittings. If the product is loose-fill insulation, a permanent restraint shall be used; any cable passing over the restraint shall be protected by the restraint.
 - 4.6.1 Wherever possible, electrical cables should feed over the insulation. Cables to high-load appliances, such as cookers and showers, should remain uncovered or lifted above the insulation. If this is not possible, and to provide adequate ventilation, a minimum space of 75 mm around the cable is to be retained along its full length within the loft space.
 - 4.6.2 If, in the opinion of the Technician, the condition of the electrical wiring in the roof space gives rise (visually) for concern, the customer must be notified and the installation must not take place until rectified or checked by a competent electrician registered for work under Part P of the Building Regulations in England and Wales
- 4.7 Loft hatches shall be insulated to provide the equivalent of at least the same degree of insulation as the rest of the loft space. The insulation must be fitted and contained in a suitable covering to protect it from damage and securely fixed to the hatch.
 - 4.7.1 Insulating the area below or surrounding a loft ladder may not be possible. Appropriate solutions should be discussed and carried out in agreement with the customer.
 - 4.7.2 Where blown fibre products are installed, the loft hatch must be provided with a suitable upstand surrounding the opening to ensure the product does not escape when the loft hatch is opened.
 - 4.7.3 A draught-proof strip must be fitted to all sides of the loft hatch using two hooks and eyes to retain the hatch in place.
- 4.8 Wherever boarded areas exist in the roof space, other than those used for access to water tanks or HVAC equipment, the boards should be removed prior to installation of the loft insulation (with the customer's agreement). Where removal of boarding may cause damage, it may be left in place and the insulation laid on top. Where boarding is retained, the gaps under the edges of the boarded area must be sealed with insulation to prevent ingress of cold air under the boards. In all cases, the customer should be informed fully of their options. If quilt is to be laid over boarding, the customer must give specific written permission before work commences.
 - 4.8.1 All materials used shall be Class 1 fire-rated, non-hygroscopic, vermin and asbestos-free.
 - 4.8.2 On completion of each installation, the products, the areas being worked on and surrounding areas must be left clean undamaged and free from debris
 - 4.8.3 Best practice suggests that all improvements resulting from loft insulation installation should, where appropriate, include loft boarding in order to provide safe access to the cold water tank.
- 4.9 Dormer cheeks - Wherever vertical walls exist that are accessible and are not boarded insulation must be installed to the full depth of the stud work and secured with netting or battens.

Important: Asbestos and asbestos-containing materials are sometimes found in loft spaces where it has been used to insulate water tanks and pipes. If the presence of Asbestos is suspected it should be labelled and reported to the customer. **Asbestos-containing materials can be highly dangerous if disturbed. Guidance on this subject is given in the website: www.hse.gov.uk/asbestos/.**

NOTE: When topping-up existing insulation, the total nominal thickness of insulation will be as agreed between the Stakeholder and Approved Installer irrespective of the different materials used. This information must be documented and available for inspection on request.

5 Cold-water cisterns

- 5.1 Cold-water cisterns located 300 mm or more above the ceiling joists shall be completely insulated, including the underside. If the cold-water cistern is located less than 300 mm above the ceiling joists, the cistern support or structure will be considered as integral with the cistern and insulation can be omitted from beneath the cistern.
- 5.2 Care must be taken to ensure the insulation or its fixings **do not** interfere with the correct operation of the water control valves or mechanisms associated with cold-water cisterns, water tanks or expansion tanks situated within the loft space.
- 5.3 Accessibility must be maintained to the cold-water cistern/water tank or expansion tank after completion of the installation.
- 5.4 If not in place, a correctly sized insulating jacket, treated and approved to BS 5422 : 2009 shall be applied to the cistern.

6 Water supply and expansion pipes

- 6.1 All pipework insulation material should comply with BS 5970 : 2001 *Code of practice for thermal insulation of pipework and equipment in the range of -100°C to +870°C*. Reference should also be made to BS 5422 : 2009 *Method for specifying insulating materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range -40°C to +700°C* and BS 3958-4: 1982 *Thermal Insulating material – Bonded preformed man made mineral fibre pipe sections*. All materials shall be installed in accordance with the manufacturer's instructions.
- 6.2 The pipework, stopcocks and fittings shall be fully insulated. All old pipework insulation must be removed.
- 6.3 All materials used shall be Class 1 fire-rated, non-hygroscopic, vermin and asbestos-free.
- 6.4 All pipes, stopcocks/valves, etc. shall be individually insulated and not wrapped together in a common insulation covering. Insulation thickness should be a minimum of 25 mm (minimum U value of $0.038 \text{ Wm}^{-1}\text{K}^{-1}$) on 15 mm diameter pipework.
- 6.5 Special care must be taken to ensure all pipes are insulated correctly and the insulation material is mitred and jointed tightly to the pipe profile. All insulation should be fixed together with insulation tape at not more than 500 mm centres.
- 6.6 Where there is a likelihood of mechanical damage occurring to the insulation, additional protection shall be applied to the insulation to avoid such damage. This may include additional insulation tape at 300mm centres and/or extra insulation.

7 Completed works notification

On completion of the works, a 'notification of complete works' encapsulated in clear plastic must be attached adjacent to the loft hatch. This notification shall record:

- the Approved Installer's name and address
- the Technician's name
- the name and address where the installation took place
- the area insulated and amount of insulation used
- the material used to insulate the area, pipes, cold-water cisterns and hatch and the depth of insulation.
- a warning that the ceiling joists may be covered with insulation material and the ceiling may not support the weight of a person or persons and that persons should not enter the loft space unless a crawl board is placed across the joists and adequate precautions are taken to ensure safe access.
- omitted areas, the justification for them and the Technician's signature confirming that the customer has given permission after an explanation of the possible consequences.
- justification why insulation has been laid on top of boarded areas including the customers signature as defined in 4.8 of this document