



NSAI Agrément

Document Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 1 of 37 4
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NSAI Agrément Approval Scheme for Installers of Blown Cavity Wall Insulation (CWI) Systems

Contents

1.0 Introduction

2.0 Scope

3.0 Definitions

4.0 Requirements

5.0 Application and Assessment Procedure

6.0 Fees and Invoicing

Appendix A:	Guidance Notes
Appendix B:	Sample Survey Sheet
Appendix C:	Sample Installation Record
Appendix D:	Density and Flow tests for Fibre CWI systems
Appendix E:	Density and Flow tests for Bead CWI systems
Appendix F:	Determination of average cavity width
Appendix G:	Use of boroscope to check adequacy of fill
Appendix H:	Typical Technician's Safety Check sheet
Appendix I:	Installer's Declaration
Appendix J:	Agrément application form for installers of CWI
Appendix K:	Use of NSAI Agrément symbol
Appendix L:	Ventilation

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 2 of 37
		Revision	4

1.0 Introduction

NSAI Agrément regards the quality of installation and workmanship to be critical to the performance of Cavity Wall Insulation (CWI) Systems. NSAI Agrément established the approved installer scheme '**NSAI Agrément Approval Scheme for Installers of Cavity Wall Insulation (CWI)**' to evaluate and monitor the ongoing performance of installers of NSAI Agrément certified CWI systems.

Among other changes, this third revision of the scheme document introduces new measurements and calculations (including cavity width average, machine output and installed coverage calculation) to enable improved estimates of the thermal resistance of the actual installed product, and a requirement for an Installer's Declaration is introduced.

The document also includes examples of survey and installation record templates in Appendices B and C which are available for use by Installers. It is important to note that the use of these sample templates is not mandatory – alternative suitable templates may be used by Installers.

Installers are subject to evaluation in the form of a registration audit before approval. If the evaluation is successful, the Approved Installer will:

- a) Be allocated a CWI Approved Installer Number associated with the relevant Certificate.
- b) Be included on the NSAI Agrément website register as an 'NSAI Agrément CWI Approved Installer for the system specified in the relevant NSAI Agrément certificate.
- c) Be issued with an Installer's Certificate of Registration, which will be valid for 12 months from the date of issue. Before a new certificate is issued for the following 12 months, the annual surveillance audit must be completed.
- d) Be required to continue to meet these certification criteria. Failure to do so will result in removal of the Approved Installer from the NSAI Agrément register.

2.0 Scope

This scheme provides for the evaluation, approval and on-going surveillance of NSAI Agrément CWI Approved Installers against the requirements set out in:

- a) The valid NSAI Agrément certificate.
- b) The Certificate holder's installation manual.
- c) Any other relevant information provided by the Certificate holder.
- d) Any additional requirements specified in this document.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 3 of 37
		Revision	4

3.0 Definitions

3.1 Approval

A favourable technical assessment of the ability of the applicant to install CWI in accordance with the requirements of this scheme.

3.2 Approved Installer

Company approved by NSAI Agrément to install the certified CWI on buildings. An installer will:

- Be trained and approved by a Certificate holder as an approved installer.
- Employ staff trained to CWI Operative and Surveyor level. The CWI Operative and CWI Surveyor can be the same person.

3.3 Assessment Body

The organization carrying out the assessment of the CWI installer; in this case, the assessment body is NSAI Agrément.

3.4 Authorised Personnel

Suitably qualified personnel employed or subcontracted by the Assessment Body to carry out the approval or ongoing surveillance of the Approved Installer.

3.5 Buildings under construction

A building shall be deemed to be under construction until connection of the electrical supply.

3.6 Certificate Holder

The owner of the relevant NSAI Agrément certificate as defined in NSAI Agrément Terms and Conditions.

3.7 CWI Operative

An operative who:

- Has successfully completed the Certificate holder's training program.
- Has been approved by the Certificate holder as an installer of their system and has been issued with a CWI Operative ID card.

3.8 CWI Surveyor

A surveyor who:

- Has successfully completed the Certificate holder's training program.
- Has been approved by the Certificate holder as a surveyor for their system and has been issued with a CWI Surveyor ID card.

3.9 CWI Team

Team responsible for the installation of CWI on a building, consisting of at least one CWI Surveyor and CWI Operative (can be the same person).

3.10 Existing Buildings

A building shall be deemed to be "existing" when it is greater than 3 years old.

3.11 Installation Manual

The Installation Manual prepared by the certificate holder and approved by NSAI Agrément.

3.12 Registered Installer

An installer company that has been granted registration by NSAI into the CWI scheme.

3.13 System

The system comprises the insulation, machinery and method of installation (as well as any conditions defined in the Certificate) installed by an operative and as defined in the Agrément Certificate for which the Installer is approved or as agreed between the certificate holder and NSAI Agrément.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 4 of 37
		Revision	4

4.0 **Requirements**

The NSAI Agrément Scheme for the assessment and surveillance of Installers of cavity wall insulation is based on a three party arrangement.

The three parties are

The NSAI Agrément
The Agrément Certificate holder
The Approved Installer.

The responsibilities of the three parties are set out in this scheme.

4.1 **Certificate Holder**

The Certificate holder shall:

- a) Prepare and implement an approval scheme for CWI Operatives and Surveyors, including relevant documentation/records etc. Criteria should include as a minimum:
 - Training requirements – training course content to be agreed with NSAI Agrément.
 - Proven knowledge of the certified system (practical and theoretical). This may be demonstrated by way of practical and theoretical examination and on-site training/monitoring.
 - Emphasis on the necessity to comply with the NSAI CWI Approved Installers scheme and Agrément certificate requirements for all installations.
- b) Prepare and implement a training programme for CWI Operatives and Surveyors, including all relevant documentation/records etc. This shall include attendance at a formal training course run by the Certificate holder which covers:
 - System principles, System type, Performance, Materials, Thermal properties.
 - Survey procedure, Assessment of suitability of external cavity walls for filling with thermal insulation, Identification of exposure zones.
 - Best Practice, Avoiding Risks, Installation, Particular Certificate requirements, Certificate holder requirements, Contractor responsibilities, Health and Safety.
 - Material testing procedures;
 - Specific training for CWI Installers on Gas, Oil and Solid fuel combustion/heating appliances and on associated ventilation requirements to ensure installers are competent to perform the pre- and post-installation Technicians' Safety Checks on combustion appliances correctly.
 - Contractual obligations.
 - Quality control/monitoring requirements.
 - Approved installer requirements.

The NSAI Agrément assessment of the CWI system for certification will include an assessment of the training course content, which shall be adequate and appropriate and shall include a final examination.

- c) Training Certificates are to be issued by the Certificate holder to CWI Installer Surveyors and Operatives who have succeeded in their training course. Training certificates should contain at least the following information:

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 5 of 37 4
-------------------	---------------------------------	--	---

- Name of Certificate holder issuing the training certificate.
 - NSAI Agrément certificate number of the system.
 - Name of trainee.
 - Date.
 - Grade of trainee – Operative/Surveyor.
- d) Confirm in writing that the installer has been approved by the Certificate holder in accordance with 4.1 a) and b), and that the Certificate holder supports this installer's application to become an NSAI Agrément CWI approved installer.
- e) Assess, approve, monitor and keep under review the Approved Installer to confirm ability to install in accordance with:
- The valid NSAI Agrément Certificate(s).
 - The Certificate holder's installation manual.
 - Any other relevant information provided by the Certificate holder.
 - Any additional requirements specified in the NSAI Agrément CWI Scheme document.

The Certificate holder should identify any aspects of the Approved Installer procedures and performance which could affect quality of workmanship on a CWI project, including performance of CWI Surveyors/Operatives where necessary. The condition and operation of the installation and test equipment should also be assessed. The minimum recommended number of inspections shall be 4 per year. Assessment reports shall be provided to the installer on completion of these visits. These reports should be retained as part of the CWI scheme records. Copies of these reports will be requested by the NSAI assessor during annual surveillance audits.

- f) Maintain current technical documentation, including installation/instruction manuals, product literature etc.
- g) Make available to the Approved Installer the required equipment, materials etc. Regarding materials,
- a. The Certificate holder's bead / adhesives / fibre shall comply with the product properties specified in the Agrément Certificate.
 - b. The Certificate holder's bead / fibre shall only be supplied to Installers registered by NSAI to install that company's system.
 - c. The Certificate holder's specified adhesive shall only be supplied to Installers registered by NSAI to install that company's system.
 - d. The Certificate holders invoice should clearly describe the product supplied: For bead the invoice should include the specific bead type and the density as supplied. For adhesive the invoice should specify the specific adhesive type supplied. Batch numbers should be included.
- h) Implement satisfactory product traceability procedures in conjunction with Approved Installers
- i) Maintain technical support to the Approved Installer, including the provision of all current technical documentation, installation manuals, flow charts and any additional training to deal with product/system development.
- j) Notify NSAI Agrément in writing when an Approved Installer is no longer approved by the Certificate holder.
- k) Make available to NSAI Agrément, on request, documentation that demonstrates compliance with the above requirements.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 6 of 37
		Revision	4

4.2 Approved Installer

The Approved Installer shall:

- a) Comply with all statutory regulations.
- b) Register with NSAI Agrément for each CWI system, declaring each installer team, installation vehicle and the names of all trained surveyors and operatives.
- c) Advise NSAI Agrément in writing in the event of any changes to details provided with the initial application.
- d) For all installations, install the CWI in compliance with:
 - The valid certificate(s) including the use of approved materials and certified delivery system.
 - The Certificate holder's installation manual, the site survey sheet, and safety considerations.
 - The Certificate holder's Code of Practice/Charter for approved installers.
 - Any other relevant information provided by the Certificate holder.
 - Any additional requirements specified in the NSAI Agrément CWI Scheme document.
- e) Ensure each installation project is subject to a pre-installation survey carried out by the installer company's surveyor, the full record of which must be retained; that the CWI Team is adequately supervised by the company's CWI Surveyor; and that installation and post-installation checks are carried out and recorded.
- f) Operate out of a defined office.
- g) Maintain current documentation on the following in respect of this scheme:
 1. Certificate Holder's current Installation Manual
 2. NSAI CWI Approved Installer's Scheme Document
 3. NSAI Agrément Certificate
 4. All other documentation listed in CWI Registration/Surveillance Audit Report as defined in this document.
- h) Maintain and make available for inspection all relevant records. Records shall be maintained (10 years minimum and in accordance with any legal/contractual requirements) and shall include as a minimum:
 - a. Training certificates for CWI Surveyor(s) and CWI Operative(s);
 - b. A register of all completed/current installations;
 - c. Project specific site survey sheets, supplemented by sketches and/or photographs (soft copies);
 - d. Installation check sheets;
 - e. Technician's safety check sheets;
 - f. Material density test records;
 - g. Product traceability records;
 - h. Customer complaint records.
- i) Ensure that all people working on the job have adequate experience and training to enable them to carry out installation in accordance with the above requirements.

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 7 of 37 4
-------------------	---------------------------------	--------------------------------	---

- j) Provide themselves with such equipment as required to carry out the installation. All such equipment shall be properly maintained and regularly calibrated to National Standards, where applicable.
- k) Ensure that the Certificate holder's instructions regarding the use of bead and adhesive are complied with. Only the approved bead and adhesive specified by the Certificate holder, as detailed in the relevant NSAI Agrément Certificate, shall be used.
- l) Ensure that all materials are stored in accordance with the manufacturer's and Certificate holder's instructions.
- m) Ensure that ancillary materials such as cavity brushes, ducting, sleeves etc. are fit for purpose and comply with manufacturer's and Certificate holder's specifications.
- n) Ensure proper functioning of all ventilation openings and flues if an installation is incomplete at the end of a working day.
- o) Carry out and record post-completion checks for all installations to verify compliance with the surveyor's report, the Agrément Certificate and this scheme.
- p) Provide the home owner with a copy of the relevant Agrément certificate and any other relevant documentation.
- q) Provide the home owner with an Installer's Declaration on completion of the work. The installer shall declare to the customer that the work has been carried out in accordance with the requirements of this scheme using an NSAI certified insulation product. The declaration shall include at least the following information:
 - the Agrément Certificate system name and number;
 - the area of wall (m²);
 - the installed declared insulation thickness;
 - the quantity (volume) of insulation used for the installation (m³);
 - installed declared thermal resistance values;
 - the place and date of installation.

(See example of a typical Installer's Declaration template in Appendix I.)
- r) Ensure all site activities are in compliance with HSA (Health & Safety Authority) requirements.

4.3 NSAI Agrément

NSAI Agrément shall:

- a) Ensure that the registration assessment and surveillance audits are undertaken by authorized personnel who are adequately trained and experienced in the technology to enable them to assess compliance with the requirements of the CWI Scheme.
- b) Address the requirements of Sections 4.1 and 4.2 of the CWI Scheme during the assessment/surveillance of an Approved Installer.
- c) Maintain an up-to-date web register of Approved Installers. If an Approved Installer is found not to comply with the criteria specified in the CWI Scheme, the Installer will be removed from the register.
- d) Annually issue a certificate to the Installer identifying their approved CWI system/systems and their annual registration expiry date.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 8 of 37
		Revision	4

5.0 Application and Assessment Procedure

5.1 Summary

The following is a summary of the procedure:

- a) An application form is completed to become an Approved Installer – one application form per NSAI Agrément Certificate, and per CWI Team, is required.
- b) The Certificate holder confirms in writing on the application form support for the application and that the applicant has been trained and approved by the Certificate holder in accordance with 4.1 a) and b) above.
- c) The applicant is subject to an assessment (registration audit) by NSAI Agrément prior to approval, and regular surveillance subsequently.

5.2 Assessment and Surveillance Process

- a) Initial Assessment – Registration Audit
The applicant shall be audited against the scheme requirements and shall satisfy NSAI Agrément regarding the ability to comply consistently. All non-compliances shall be resolved prior to issue of an approval.
- b) If unsuccessful, the applicant will either be re-visited or be given 10 working days to submit evidence of corrective actions. If the applicant is unsuccessful on this re-visit, they will have to submit a new application to NSAI Agrément and demonstrate evidence that they have been re-trained by the Certificate holder.
- c) If successful, NSAI Agrément will provide written confirmation of approval, issue an Approved Installer number and the appropriate NSAI Agrément logo, and include the Approved Installer on the list of registered installers on the NSAI Agrément website.
- d) After approval, NSAI Agrément will carry out regular surveillance audits (typically one per year) to confirm ongoing compliance. The number of audits will take into consideration the number of CWI Installation Teams and the volume of work being completed. Visits to works in progress and/or previous completed works may be undertaken.
- e) NSAI Agrément reserves the right to carry out and charge for additional audits where serious discrepancies or non-compliances are identified.
- f) Where NSAI Agrément identifies significant non-compliance due to failure to adhere to these certification criteria, NSAI Agrément will inform the installer and the Certificate holder, and will require reasonable and appropriate corrective action.

The installer and/or Certificate holder will be expected to commit to completion of the corrective action within an agreed period. Failure to do so may result in the Approved Installer being withdrawn from the list of registered installers, or the Certificate being withdrawn/suspended.
- g) The Approved Installer will be permitted to use the Approved Installer number, in conjunction with the NSAI Agrément logo, on product literature etc. The NSAI Agrément conditions for use of the logo shall be complied with.

5.3 Arranging Annual Surveillance Audit

Installers will be contacted by NSAI or their agents two months prior to the date on which the annual surveillance audit is due, to arrange an appointment. The audit must take place within one year of the date of the previous year's audit or within two weeks following that appointed date. Failure by the Installer to facilitate the audit within this timeframe may result in de-registration. It should be noted that although it is preferential for the auditor to witness a 'live

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 9 of 37
		Revision	4

installation' on the day of the audit, this is not a mandatory requirement. In such cases, an existing completed installation may be incorporated into the audit.

If by prior agreement annual audits are performed in advance of or after their due date, subsequent surveillance assessments will revert to the original due date, as identified on Installer Certificates.

5.4 Composition of Audit

The audit includes an assessment of

- a) Office Documentation
- b) Job Records, including
 - a. Register of installations
 - b. Complaints register
 - c. Product traceability, including quantity of bead used per installation
 - d. Survey sheets
 - e. Installation check sheets
 - f. Technician's combustion appliance safety check sheets
 - g. Installer's Declaration
- c) Storage and Equipment
- d) Site Work/Procedures
- e) Bead/Adhesive Flow Test/Fibre Box Tests as relevant
- f) Bead Density and Coverage Tests
- g) Bead and adhesive used through randomised sampling

See the Guidance Notes in Appendix A for details of the office records and other documentation required to be retained by Approved Installers.

5.5 Non-Compliances

The audit procedures include reference to three different levels of non-compliance (Minor, Major and Critical). These will be identified in the completed audit report. Non-compliances will result from a failure to comply with one or more of the requirements of the NSAI Agrément scheme, Agrément certificate or with the Certificate holders' instructions for the insulation system.

Minor non-compliance

Where a scheme requirement is not fully complied with, but the quality of the completed cavity wall installation work and the integrity of the CWI scheme is not compromised. Continued non-compliance is however not acceptable and corrective action is required.

Major non-compliance

Where there is a clear failure to comply with a requirement which may compromise the integrity of the CWI scheme and which could prejudice the quality of completed cavity wall installation work. Immediate corrective action is required.

Critical non-compliance

This relates to a complete system failure which results in serious non-compliance with scheme requirements. Such failures include:

- Incomplete filling of the wall cavities.
- Attempting to fill wall cavities which are unsuitable for installation.
- Use of other than the certificate holder's insulation and bonding materials.
- Leaving the house in an un-safe condition or not in compliance with the Building Regulations.
- Or for any other such reason which in the opinion of NSAI Agrément represents serious non-compliance with the requirements of the scheme.

5.6 Audit Result

Depending on the level of non-compliances identified, the audit result will be as shown as below.

Satisfactory: Registration Recommended	Not Satisfactory: Corrective Actions Required (Option A)	Not Satisfactory: Further Audit Required (Option B)	Not Satisfactory: Suspension from Scheme (Option C)

a) **Audit Result - Satisfactory**

Recommend registration / continued registration in NSAI CWI scheme.

For a satisfactory audit result, a maximum of two minor non-compliances are allowed during an audit inspection.

b) **Audit Result - Not Satisfactory / Fail**

Option A. Corrective actions required re above noted non-compliances

Option B. Further audit required

Option C. Suspension from scheme

Option A:

One major or three minor non-compliances will result in audit failure. The installer must then provide the NSAI Agrément auditor with evidence of corrective action *within ten working days*. If the evidence submitted is satisfactory registration /continued registration will be granted. If the evidence of corrective action submitted is not satisfactory or is not received within ten working days registration will not be granted to a new applicant and de-registration will apply to existing installers.

Option B:

Where multiple non-compliances are observed, a re-assessment audit may be deemed necessary. If this is the case, an additional charge will apply.

Option C:

A critical non-compliance will result in suspension of the installer from the scheme. Where an installer has been suspended from the scheme re-instatement of the installer will be entirely at the discretion of NSAI Agrément. If re-application is allowed a full re-assessment audit will be required followed by a probationary period of six months after which a further audit will be carried out. Additional charges will apply for each audit. Any further suspension of an installer will result in permanent exclusion from the scheme.

Note: Where non-compliances relate to the Certificate holder, the details and level of all such non-compliances will be reported by NSAI on completion of the audit. Non-compliances shall be addressed by the Certificate holder as appropriate with evidence of corrective action for any

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 11 of 37
		Revision	4

major non-compliances forwarded to the NSAI Agrément appointed assessor within ten working days. Repeated non-compliance or critical non-compliance on the part of the Certificate holder will result in appropriate action being taken by NSAI Agrément up to and including suspension of their certificate and/or reporting to SEAI.

5.7 Validity of Approval

- a) The Installer approval remains valid for one calendar year * provided that:
 - a. The relevant Certificate remains valid;
 - b. The Approved Installer continues to meet the Certificate holder's approval requirements;
 - c. No major or critical non-compliances are brought to the attention of NSAI Agrément, e.g. via surveillance audits, customer complaints etc;
 - d. No information to undermine the validity of the Certificate is brought to the attention of NSAI Agrément;
 - e. The NSAI Agrément logo, Certificate number and Approved Installer's number are used correctly;
 - f. The appropriate fees are paid to NSAI Agrément.
- * Surveillance audits are performed annually to maintain installer registration.
- b) NSAI Agrément may decide to withhold/withdraw the approval in accordance with NSAI Agrément procedures.
- c) The Installer may appeal the decision to withhold/withdraw approval in accordance with the NSAI Agrément appeals procedure.

5.8 Selection and Testing of Materials

NSAI Agrément may select and remove from store or site, samples of material/product for assessment or testing, or may request that testing or analysis be carried out on selected samples. NSAI Agrément shall not be charged for such samples, testing or analysis; such charges will be passed onto the installer/Certificate holder.

5.9 Communication

NSAI Agrément or NSAI Agrément authorised personnel will contact the installers and Certificate holders directly to discuss any discrepancies, variations or complaints.

NSAI Agrément will keep the Certificate holder advised of any significant matters which may affect the status of the Approved Installer.

Information regarding the current status of an Approved Installer/Certificate may be obtained from the NSAI Agrément website.

5.10 Appeals

All appeals over decisions taken by NSAI Agrément or its auditors shall be made in writing to:

Director of Sustainability & Built Environment,
NSAI,
1 Swift Square,
Northwood,
Santry,
Dublin 9.

It is essential that this communication states the grounds and detailed reasons for the appeal. Any documents referred to in the appeal should, where possible, be attached to the

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 12 of 37
		Revision	4

appeal. The appeal should be signed by the appellant or a properly authorised representative of the appellant.

On receipt of the appeal, the Director shall acknowledge receipt of the appeal within 20 working days, together with an indication of the likely timescale for the provision of their decision.

The investigation of the appeal shall include a reassessment of the course of events leading up to the appeal and the verification of the facts involved in the case. The investigation may include communicating with all the parties involved including the appellant.

5.11 Complaint Procedure

If an installer, certificate holder, or homeowner wishes to complain to NSAI about the workmanship of an NSAI registered installer or NSAI certified system supplier, this complaint must be submitted in writing to NSAI Agrément or one of their auditors, preferably via email. The complaint must include the following information:

- Name of the installer/system supplier the complaint is against.
- Full details of the reason for complaint. Photographs clearly showing the issue(s) must be included with the complaint.
- Site address(es) where the poor workmanship had taken place.

On receipt of a third party complaint NSAI Agrément will request that appropriate details are provided in writing (email or standard mail). These details will be forwarded on to the registered installer and/or Certificate holder as appropriate with an instruction that the complaint is processed and addressed through their complaints procedure. Any redress sought must be through the complainant/installer/certificate holder contract.

In the event that the complaint is confirmed to be a critical non-compliance, removal from the register may follow.

6.0 Price Guide and Terms

NSAI Agrément will invoice the installer at the address specified in the application form for:

- Annual registration;
- Surveillance audits;
- Additional audits (if required);
- Sampling/testing (if required).

The schedule of fees is shown below. Non-payment of fees will result in withdrawal of the approval and in the removal of the installer from the list of registered installers.

6.1 New or Existing Installers (Annual Charge)

Fee Classification	
Application/Assessment/Surveillance of one installer team against one Agrément Certificate.	€1100
Annual Registration fee	€100
Assessment/Surveillance of an installer against additional CWI Agrément Certificates:	
- When performed on the same day.	€550
- When performed on different days.	€1100
Installers operating more than one team:	
- When performed on the same day.	€550
- When performed on different days.	€1100
<ul style="list-style-type: none"> • All charges are subject to VAT at 23%. • Where relevant the Installers Registration Number will be revised to reflect the new insulation system being installed. • The above fees are based on the assumption that the assessment will require at least one site visit to be completed, and are subject to change based on the number of audits to be conducted, number of crews to be assessed etc. NSAI Agrément reserves the right where an assessment is protracted or where additional audits are required for reasons beyond its control to charge additional fees. • An additional charge will apply if an installer has to be revisited in the same 'Surveillance Year' due to a 'Non-conformance' finding. 	

In the event of an application being withdrawn by the applicant before the audit has been conducted, the applicant will receive a refund of the monies paid to NSAI minus an administration fee of €250 plus VAT.

6.2 Terms – Existing Registered Installers

Surveillance audits will be invoiced once the audit has taken place.

6.3 Terms - New Installers

New applicants will receive an invoice once NSAI receives completed application form and application fee. Surveillance audits will be invoiced once the audit has taken place.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 14 of 37
		Revision	4

Appendix A: Guidance Notes

These notes have been prepared by NSAI Agrément as a supplementary guidance checklist to the specific requirements of the CWI scheme and Registration/Surveillance Audit Report. A copy of the audit report template is available for downloading on the NSAI website at www.nsai.ie.

Installation / Design Manual

Installers are required to have a copy of the current technical literature and instruction manuals issued by the Certificate holder(s) of the system(s) they are installing, which should contain sufficient information to cover all the typical details of system selection, materials, best practice design and application, repairs and maintenance.

NSAI Agrément Certificates

Installers are required to have a copy of the current NSAI Agrément Certificate(s) for the system(s) which they install.

NSAI Agrément Approval Scheme (CWI)

Installers are required to have a copy of the latest NSAI Agrément Approval Scheme – Installers of (CWI). Installers should be familiar with the contents of the document and particularly Section 4.2.

Training Records

Training Certificates are to be issued by the Certificate holder to CWI Installer Surveyors and Operatives who have succeeded in their training course.

Training certificates should contain at least the following information:

- Name of Certificate holder issuing the training certificate.
- NSAI Agrément certificate number of the system.
- Name of trainee.
- Date of training.
- Grade of trainee - Operative or Surveyor.

ID Cards

ID cards are to be issued by the Certificate holder to CWI Surveyors and Operatives who have succeeded in their training course. ID Cards should contain at least the following information:

- Name of Certificate holder issuing the card.
- NSAI Agrément certificate number of the system.
- Photo of card holder.
- Name of card holder.
- Surveyor or Operative grade.
- Expiry date of card (to be up to a maximum of 3 years from date of issue).

Number of crews

The Installer has a responsibility to identify to the auditor the number of crews and installation vehicles being operated by the installer. Each crew requires an independent assessment. See Cl. 6.0 of this document for associated fees for multiple crews.

Register of Installations

Installers are required to maintain a register of all current and completed installations to include at least the following information:

- Client Name.
- Client contact details – address and phone number.
- Address of installation (if different).
- Quantity of bead used for each installation (volume (m³)).
- CWI Surveyor.
- System Name & Certificate Number.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 15 of 37
		Revision	4

- Date of commencement and completion.

Job Records

Installers should maintain a file for each job which will include at least the following information:

- Site Survey Sheets
- Material Test Results
- Installation check sheets
- Technician's Combustion Appliances Safety Check Sheet
- Quotations/Invoices
- Product Traceability Records (Batch numbers and quantities of bead used)

Quotation

Clear information in a quotation will benefit both the client and installer. Quotations should contain sufficient detail to summarise a proposal to a client, including at least the following information:

- Installers name and contact details
- Date
- Client name
- Site address
- System description and NSAI Agrément Number
- Total area of CWI
- Estimate of quantity of bead to be used
- General and local U-values achieved
- Exclusions/Inclusions of works to be performed
- Terms of Warranty
- Price: Net, VAT and gross total.

Customer Complaints

Installers should have a complaints procedure for dealing with complaints. The complaints procedure and record form must be maintained irrespective of whether complaints have been made.

This statement should note at least the following information:

- Complaints and outcomes to be recorded on a complaints record form.
- Where the complaint relates to a technical or performance issue, the Certificate holder is to be informed of the complaint by the installer. In that case the Certificate holder will be involved in resolution of the complaint.
- The Installer will visit the site and discuss the issue with the complainant.
- The Installer and Certificate holder will use their best efforts to resolve the complaint.

The complaints record form should include at least the following information:

- Date complaint received.
- Name of complaints manager responsible for dealing with complaint.
- Name of complainant.
- Contact details of complainant – address and phone number.
- Address of site of complaint if different to above.
- Details of complaint.
- Photos as appropriate.
- Details of certified system being installed.
- Materials records/batches as appropriate.
- The action required to resolve complaint and the person or company who is responsible for that action.
- Determination of root cause of complaint and actions required to preventing recurrence of the problem.
- Authorised signature of closure and date.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 16 of 37
		Revision	4

Health & Safety Statement

Installers are required to comply with the requirements of HSA and Health, Safety & Welfare at Work legislation. Installers are required to have a current Health & Safety Statement.

This should include a brief H&S risk assessment method statement addressing the typical issues in domestic CWI installations, modified as appropriate for particular hazards/risks in individual sites, for the protection of staff, occupants, neighbours and public. Site specific risk assessments should also be carried out.

The Safety Statement must be signed by a company manager and individually signed as having been read and understood by all those involved in the installation process.

Safe Pass

Operatives shall have completed Safe Pass Training and shall carry a current Safe Pass Card.

Visits by Cert Holder

As specified in Cl. 4.1, c) of this document, the Certificate holder is required to perform a minimum of four assessment/visits of the installer per year. Assessment reports shall be provided to the installer on completion of these visits. Copies of these reports will be requested by the NSAI assessor during annual surveillance audits.

Use of NSAI Logo

On completion of a successful audit, NSAI will provide the Installer with a copy of the NSAI Agrément logo (in .ai and .jpg format) complete with the Installers Company name, Insulation Product Type and NSAI Installer Registration Number. Approved installers are entitled to display this logo on their company vehicle and stationary.

Refer to this Appendix K of this document and the NSAI website for guidance on the use of the NSAI Logo.

An NSAI Agrément certificate applies specifically and only to the insulation system as registered against.

In promotional literature and packaging, the symbol must not be associated with other products, systems or services that are not NSAI Agrément approved. That means, for example, that in a catalogue displaying more than one product, there should be no ambiguity about which product the logo relates to. Misuse of the NSAI Logo will attract a non-compliance penalty.

Site Survey Sheets

The objective of the survey is to ascertain whether the building/wall is suitable for the proposed system and to identify problems that may adversely affect the proper functioning of the building and to ensure that the building meets the requirements of the Agrément certificate. A sample survey sheet is provided in Appendix B of this document. Installers may, but are not required to, use this sample survey template. Alternative suitable templates may be used. A full survey record must be retained for all installations.

The following principles apply:

- (a) Height of Wall:
The cavity shall not exceed 12m in height measured from the lowest ground level.
- (b) Existing Buildings:
All buildings that show, or have shown evidence of water penetration, to the internal leaf (that has not been corrected) shall be classified as unsuitable for the system of insulation.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 17 of 37
		Revision	4

(c) Condition of Cavity Walls.

The cavity walls to be filled shall be structurally sound. The outer leaf shall be free from:

- Cracking.
- Defective mortar.
- Damaged rendering.
- Spalled bricks.
- Discharge of water from building features.
- Gutters, downpipes, overflows etc, shall be in good order.
- The inner leaf shall be free of dampness, other than that due to condensation.
- There shall be a cavity at least 50mm in width measured between the masonry faces for that whole of the wall to be filled. Individual certificates should be checked regarding the acceptability (or otherwise) of filling residual cavities where the wall is partially filled with rigid insulation board (partial fill).

(d) Protection of Cavities:

Where the fill will come up to underside of a feature, e.g. sill, floor slab or roof, it is essential that this feature should not permit water to penetrate the cavity at that level, since otherwise the top surface of the insulation could act as a bridge for water to cross the cavity.

(e) Recent Construction:

Where less than one year has elapsed since first occupancy, not only should the building meet the recommendations of (a) and (b) above, but also it should have been designed and built following the recommendations of the appropriate Irish Standards Codes of Practice or Irish Standard.

Note: This is intended to apply to buildings that have not be in use for long enough, for defects in design and construction to become apparent.

(f) Building Under Construction:

The Installer shall, where practical, before commencement of construction, assess the drawings and advise the designer in relation to the suitability as described by the Agrément Certificate and this Scheme and after construction has commenced, and the cavity walls are substantially complete, visit the site to assess the building(s) with the drawings according to the above. Any visible defects that could result in water penetration or rising damp shall be identified on the survey report. If defects are found, the installer shall notify the client in writing, that the appropriate remedial action must be undertaken before installation of the insulation. The building shall be deemed unsuitable until the defects are rectified.

Site survey sheets should record conditions found on site prior to commencement and identify and record an appropriate solution. The site survey sheet should be referred to throughout the job, with confirmation that measures have been implemented recorded on the site installation check sheets. The site survey notes should identify and record at least the following information:

- Installer name
- Installer address and contact details
- Date of survey.
- Surveyor's name.
- Clients name and contact details.
- Site address.
- Agrément Certificate No.
- Health & Safety issues including access to complete works.
- Details of building form including sketches of external walls where required.

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 18 of 37 4
-------------------	---------------------------------	--	--

- Special Instructions to Assessor and/or Technician.
- Dwelling type (detached/semi-detached/terrace/other).
- The exposure of the building –Moderate or Severe as per Fig 2 (Ireland map) in the relevant Agrément Certificate.
- Internal/external filling.
- Areas of external cavity wall to remain un-insulated.
- Confirmation that an appropriate boroscope investigation has been carried out in accordance with the requirements of the relevant Agrément Certificate, and detailed results of the investigation as follows:
 - For cavities with no existing insulation (partial fill insulation)
 - Details of borehole number and locations
 - For partially filled cavities
 - Details of number and locations of boreholes (generally two boreholes per elevation are required as part of the survey of buildings with partially filled cavities)
 - Findings of investigation in relation to cavity conditions
 - Note that CWI system Agrément Certificates generally also require boroscope inspection surveys to be carried out during installation when every drill hole must be inspected. This should be recorded on the Installation Check Sheet.
- External wall construction (brick/block/other).
- External wall condition
 - Cracking
 - Defective mortar
 - Damaged Render
 - Spalling
 - Discharge of water from building features
 - Condition of downpipes, overflows, gutters etc.
- Number and position of flues on outside walls and measures that must be taken to safeguard their proper functioning.
- Number and position of chimneys on outside walls and measures that must be taken to safeguard their proper functioning.
- Mortar joints filled to external face, with weathered, bucket handle or birdsmouth jointing.
- Measured average width of cavity in mm (see Appendix F).
- Width and type of existing partial fill insulation (if any).
- Measured width of residual cavity.
- Height of building.
- Height of cavity wall (not to exceed 12m).
- Measured area of CWI.
- Calculated total volume of bead to be used (m³).
- Cavity barriers/brushes required.
- Cavity sealed at windows.
- Background ventilation provisions for habitable rooms.
- Ventilation provisions for rooms with fuel-burning appliances.
- Ventilation openings that require sleeving or other safeguarding.
- Weepholes to lintels.
- Confirmation that the DPC is free of significant mortar build-up

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 19 of 37 4
-------------------	---------------------------------	--------------------------------	--

- Confirmation that the cavity is free of significant mortar extrusions
- Confirmation that the cavity ties are free of significant mortar build-up
- Electrical cables in cavities to be sleeved.
- Remedial works required before installation
- Responsibility for remedial works (Client or Installer)
 - **Note:** *The installation cannot be undertaken unless the remedial works have been completed. The Technician shall document any remedial works he / she undertakes before, or during installation.*
- Assessor's declaration:
 - *I confirm that I have inspected the building according to Agrément Certificate No/..... and the requirements of NSAI Agrément. As far as can be practically determined from the visible construction, the building is suitable for installation.*
- Special remarks:
- Any other relevant details:
- Where the building is deemed to be unsuitable for insulation, the installer shall provide written notice to the client. The notice shall identify the reasons for unsuitability.

Work Instructions

The Installer shall ensure that the following is documented and is made available to the Operative.

- The survey report (The Operative shall confirm pre-installation that the building accords with the survey report.)
- An exposure assessment (where the insulation is subject to exposure restrictions).
- Special instructions to the Operative relating to time, access and services needed by the Operative and access equipment to ensure quality of the product including Health and Safety provisions.
- The position of flues and how they are to be dealt with.
- Treatment of meter boxes and electrical cables.
- Ventilation provisions.

Pre-installation tests on Bead Flow Rate, Bead Coverage, Fibre Box Test

Density tests as required by the Agrément Certificate and Certificate Holder's installation manual must be completed prior to each installation. The test methods shall be approved by NSAI Agrément. (See Appendix D and Appendix E.) The results of the tests shall be recorded on an Installation Check Sheet along with the time that the test was conducted, and these results must be retained with the job records.

Results of pre-installation test(s) (as applicable):

- Bead flow rate and coverage
- Adhesive flow rate
- Jet size
- Fibre density test

Installation checks

A record should be kept of the following installation checks for all projects completed:

- Flow test results
- Batch numbers
- Average cavity width (see Appendix F)
- Installation borescope survey
- All holes completely filled
- All holes appropriately finished

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 20 of 37
		Revision	4

- Cavity brushes fitted as necessary
- Chimneys/flues isolated from bead (as required to meet TGD Part J requirements)
- Adequate background ventilation provided for habitable rooms
- Adequate permanent ventilation provided for rooms with combustion appliances
- Wall vents sleeved and clear from obstructions
- The volume of bead required for the installation calculated from average cavity width (see Appendix F) and total wall area pumped.
 - Note that this volume may be different to the volume calculated at survey stage. This can occur where the more accurate average cavity width measurement recorded at installation stage is not equal to the cavity width measured at survey stage.
- Actual volume (m³) of bead pumped
- Where the actual quantity (volume m³) of bead pumped is less than the quantity (volume m³) of bead calculated as being required, reasons for the shortfall must be recorded and the effect on the thermal performance must be noted.
- Combustion appliance safety check completed

A sample installation record is provided in Appendix C of this document. Installers may, but are not required to, use this sample installation record. Alternative suitable templates may be used. A full installation record must be retained for all installations.

Technician's Safety Check Sheet – Flues, chimneys and combustion air ventilators

A Technician's Safety Check Sheet (See Appendix H - Sample) must be completed and filed for every project. As per 4.1)b), specific training (e.g. ACoPs training or equivalent) shall be provided to CWI installers on Gas, Oil and Solid fuel combustion/heating appliances and on associated ventilation requirements to ensure installers are competent to perform the pre- and post-installation Technicians Safety Checks on combustion appliances correctly.

This is particularly significant with regard to the recently reported deaths that have been attributed to carbon monoxide poisoning. Installers should refer to the Site Survey Sheet during this process. Items recorded should include at a minimum:

- Installer name, address and contact details.
- Client name
- Site address
- Fuel type(s) and Appliance types(s)
- Flue / chimney location(s)
- Flue / chimney routes, internal & external
- Location of combustion air ventilator(s)
- Operation of appliances
- Flame colour
- External check of combustion gases
- Smoke test/spillage test results
- Confirmation of completion of Pre-Installation check
- Flue, chimney routes not drilled into
- Flue, chimney routes to avoid ingress of material
- Combustion air ventilator(s) unobstructed
- Appliance(s) run at maximum for a minimum of five minutes after CWI installation
- Visual check that flame compares with pre-installation
- Smoke test / spillage test results
- Results of re-test after a further 10 minutes (where required)

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 21 of 37 4
-------------------	---------------------------------	--------------------------------	--

- Confirmation of completion of Post-Installation check
- Technician's name and signature

Product Traceability Product Traceability Records

Installers are required to retain sufficient delivery dockets/labels/batch numbers to be able to allow identification of the correct source of all materials and the batches of materials used for each dwelling (for reference in the event of a defect). In practice, unless delivery dockets record batch numbers and date of manufacture, installers will have to record the information as material is delivered. Installers must also calculate and record the volume of insulation material used for each installation.

Invoices

Clear information in an invoice will benefit both the client and installer.

It is recommended that invoices must be on installer's letterhead and should contain at least the following information:

- Client name
- Site address
- Reference to the quotation
- Reference to any variation or amount to be retained/withheld
- Invoice amount: Net, VAT and gross total.

Installer's Declaration

Installers are required to provide all customers with a declaration on completion of installation that the work has been carried out in accordance with the requirements of the scheme and in compliance with the relevant Agrément Certificate.

The declaration must contain at least the following information:

- the Agrément Certificate system name and number;
- the area of wall (m²);
- the installed declared insulation thickness;
- the quantity (volume) of insulation used for the installation (m³);
- installed declared thermal resistance values;
- the place and date of installation.

NOTE: For further guidance see the example declaration given in Appendix I.

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 22 of 37 4
------------	--------------------------	-------------------------------	---------------------------------

Appendix B – Sample Survey Sheet

CWI SITE SURVEY RECORD



Installer Name	Client Name	Job Ref.
Address	Address	
Contact Details	Site Address	

[INSERT AGREEMENT CERTIFICATE NAME AND NUMBER HERE]

Building Details (Tick appropriate boxes)

Existing	New build
Detached	External drilling
Semi-detached	Internal drilling
Terraced	
Other (specify)	

Building Specifications

Building height (m):	
Height of cavity wall ($\geq 12m$)(m):	
Measured overall width of cavity (mm):	
Measured area of CWI (m ²):	
Calculated volume of bead required (m ³):	
In which exposure zone is the building?	Normal Severe
Is the external wall cavity construction?	Yes No
Are both leafs masonry?	Yes No
Specify the finish on the outer leaf:	
Is the roof completed?	Yes No
Any areas to be left uninsulated?	Yes No
Specify which areas:	

External Wall Condition

Are there any cracks in the external wall?	Yes	No
Is the mortar defective?	Yes	No
Is the render damaged?	Yes	No
Is there any spalling?	Yes	No
Is there water discharge from building features?	Yes	No
Is condition of downpipes etc. satisfactory?	Yes	No

Flues and Chimneys

Number of chimneys on external walls			
Specify chimney locations and fuel type:			
Front	Rear	LH Elev	RH Elev
Solid Fuel	Oil	Gas	Gas fire
Number of flues on external walls			
Specify flue locations and type:			
Front	Rear	LH Elev	RH Elev
Balanced flue		Other -	

* The minimum residual cavity (40mm or 50mm) is specified in the relevant Agrément Certificate.

Partial Fill Cavity

Is there existing insulation in the cavity?	Yes	No
If yes, specify type:		
Is yes, specify insulation thickness (mm):		
Is yes, specify residual cavity width (mm):		

Borescope Investigation (survey stage)

(Complete this section for both empty and partial-fill cavities)

	Specify the total number of boreholes:		
Elevations inspected	Front	Rear	
	RH	LH	
Is existing insulation in good condition?	Yes	No	n/a
Is residual cavity width min 40/50mm?*	Yes	No	n/a
Is DPC free of mortar build-up?	Yes	No	n/a
Is cavity free of mortar extrusions?	Yes	No	n/a
Are cavity ties free of mortar?	Yes	No	n/a
Does insulation bridge the cavity?	Yes	No	n/a
Is insulation loose in the cavity?	Yes	No	n/a
Is the cavity sealed at windows?	Yes	No	n/a
Are there weepholes to lintels?	Yes	No	n/a
Are cavity brushes required?	Yes	No	n/a

Ventilation

Are existing background ventilation provisions for habitable rooms adequate?	Yes	No
Are existing ventilation provisions for rooms with fuel-burning appliances adequate?	Yes	No
Specify new vents required (if any):		
Do ventilation openings require sleeving?	Yes	No

Services

Are there electrical cables to be sleeved?	Yes	No
Are there any flues bridging the cavity?	Yes	No

Remedial Works

Are remedial works required as a result of the borescope investigation, inspection of vents/services?	Yes	No
Are other remedial works required before installation?	Yes	No
<i>NB: The installation cannot be undertaken unless the remedial works have been completed. The Technician shall document any remedial works undertaken before or during the installation.</i>		

Drawings and Photographs

Have sketches been completed and attached?	Yes	No
Have photographs been taken?	Yes	No

Assessor's declaration:

I confirm that I have inspected the building according to Agrément Certificate No /..... and the requirements of NSAI Agrément. As far as can be practically determined from the visible construction, the building is suitable for installation

Signature:.....

CWI SITE SURVEY RECORD

Drawings and Notes



Front and rear elevations

A large rectangular area with a light gray grid pattern, intended for drawing front and rear elevations.

Gable elevations

A large rectangular area with a light gray grid pattern, intended for drawing gable elevations.

Plan view

A rectangular area with a light gray grid pattern, intended for drawing the plan view.

Notes:

1. The following items should be marked on sketches
 - a. Existing background vents
 - b. Existing permanent vents
 - c. Rooms with combustion appliances
 - d. Chimneys
 - e. Flues
 - f. Meter box
 - g. Areas of wall not being insulated and why
 - h. Any other issues that may affect the installation
e.g. quality of rendering, cracks in walls, internal wall dampness, ring beams etc.

(Attach extra sheets of sketches, notes, annotated photographs etc. to the survey record if required)

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 25 of 37
		Revision	4

Appendix C – Sample Installation Record

CWI SAMPLE SITE INSTALLATION CHECKSHEET



Installer Name _____ **Client Name** _____ **Job Ref.** _____
Address _____ **Address** _____
Contact Details _____ **Site Address** _____

Names of Operatives			Installation Date		
Was a site survey performed?	Yes	No	Was the building approved for CWI?	Yes	No
Any special instructions originating from site survey?	Insert details here				
Approved Installer NSAI Number:			Agrément Cert Number:		

Pre-Installation Checks

Bead batch number		Bead flow rate	
Glue batch number		Glue flow rate	
Jet size		Nozzle size	
Temperature		Time of day test carried out	
Weighing scales type		Are tops of cavity walls sealed?	Yes No
Are flow rates acceptable?	Yes No	Was daily check on equipment performed?	Yes No
Have pre-installation combustion appliance safety checks been completed? (Refer to Appendix H of NSAI Scheme document)		Yes	No

Installation Checks

Have chimneys been protected by inserting a wire brush 200mm back from the flue where required?	Yes	No	n/a
Have wire brushes been inserted as per the requirements of site survey?	Yes	No	n/a
Do rooms containing combustion appliances have the appropriate area of permanent background ventilation (see Appendix L of the NSAI CWI Scheme document)?	Yes	No	n/a
Do habitable rooms have adequate background ventilation?	Yes	No	n/a
Have air vents on external walls been checked to ensure they are properly sleeved and clear of obstructions?	Yes	No	n/a
Has the meter box been checked to ensure there is no bead leakage that could result in contact between bead and electrical cables, and have electrical cables been sleeved as required?	Yes	No	n/a
Average cavity width measurements (Refer to Appendix F of NSAI Scheme document) Insert Individual cavity measurements here (use another sheet of paper if necessary)	Calculated average		
Calculated volume of bead required (from measured average cavity width and area of cavity filled) Insulation Volume: (Wall area (m ²) * Average cavity width (m))	Calculated volume of bead required		
Actual volume (m ³) of bead pumped	Volume pumped		
If actual volume different to calculated volume, provide explanation			
Partial Fill: Has borescope inspection been carried out at all drill holes?	Yes	No	n/a
Have all holes been filled?	Yes	No	

Confirmation of Completion of both Pre-Installation/Safety and Post Installation/Safety Check

Signed: _____ Block Capitals: _____ Date _____

CWI SAMPLE SITE INSTALLATION CHECKSHEET



Installer Name

Client Name

Job Ref.

Address

Address

Contact Details

Site Address

Have post-installation combustion appliance safety checks been completed?
(Refer to Appendix H of NSAI Scheme document)

Yes

No

Confirmation of Completion of both Pre-Installation/Safety and Post Installation/Safety Check

Signed: _____ Block Capitals: _____ Date _____

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 27 of 37 4
------------	--------------------------	-------------------------------	---------------------------------

Appendix D - Density tests for Fibre CWI systems

Density tests for Fibre CWI systems

The requirement of NSAI Agrément surveillance scheme shall be deemed to be satisfied, if the Technician undertakes a test as follows:

Option 1 General

Injection of fibre insulation, by the proposed installation equipment, into a box measuring 500mm by 500mm by 70mm internally. The box must be provided with nine ventilation holes of 25mm diameter located as three equally spaced holes to each of three narrow sides. The ventilation holes must be fitted with suitable gauze. Injection of the insulation shall take place through the 500mm by 500mm face at a point centred 150mm below the top of the box.

Option 2 Specific

Rockwool Ltd Approved Installers only:

Injection of Rockwool, by the proposed installation machinery, into a box measuring 500mm by 500mm by 60mm internally. The box must be provided with 14 ventilation holes of 26mm diameter. The ventilation holes shall be located as five holes on each of the two narrow vertical sides and four holes on the top narrow side. The ventilation holes shall be fitted internally with suitable gauze. Injection of Rockwool shall take place through the 500mm by 500mm face via a 26mm diameter hole at a point centred 110mm below the top of the box.

General

The box shall be constructed of substantial materials, capable of resisting forces encountered during injection, without significant deformation. Suitable construction may be 20mm thick blockboard. After achieving the normal shutdown indicator, for the equipment in use, the contents of the box shall be weighed on suitable scales. The weight of material of calculated density shall be compared against the documented specification for the equipment and system in use.

The time taken to fill the box must be compared against documented values. All results must be documented. Results falling outside documented ranges shall be reported and the appropriate remedial action taken, along with re-test values.

Note: *Where adjustment of the machinery is possible, the delivery lines shall be purged, before a re-test is undertaken.*

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 28 of 37
		Revision	4

Appendix E – Bead and adhesive flow and coverage tests

Bead and adhesive flow rate tests for Bead CWI systems

Dry bead is pumped through the gun into a fine mesh bag that had been weighed before commencement of the test. The bag is of a mesh material to allow the air to pass through and prevent the bag from clogging. The time lapse is for one minute or 30 seconds in accordance with the Certificate Holder's practice. The bag is then weighed again and the net weight of the bead recorded.

Each Certificate Holder will provide a Table or Chart indicating the appropriate adhesive flow rate necessary to coat the bead at the density being delivered by the equipment. To check the adhesive flow rate under average temperatures the valve controlling the adhesive flow should be opened and discharged in a fine spray into a graduated container or beaker for the specified test period. Allow the adhesive to settle and read off the amount in m/l. The amount per the specified test period is then recorded. The flow rate of the adhesive can now be checked against the same chart or table, which will give the required flow rate for the density of bead delivered by the gun.

If the flow rate varies from that indicated in the Table or Chart a larger or smaller jet could be fitted as appropriate until the correct flow rate is achieved. The test is repeated until the adhesive flow rate comes within the desired range indicated in the Table or Chart.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 29 of 37
		Revision	4

Appendix F – Determination of average cavity width

The average cavity width must be determined and recorded for all installations. The following procedure should be used.

- The cavity width must be measured through the holes drilled to install the bead.
- For each hole, measure the width of the cavity and outer leaf to the nearest 1 mm. Measurements should be made by inserting a steel tape rule or similar zero ended rule until it touches the inner leaf or the face of the partial fill insulation. In each case determine the width of the cavity by deducting the thickness of the outer leaf.
- Measure the cavity width for each of ten holes for each 100 m² of cavity area. Ensure that the holes measured are evenly distributed over the total area of the wall.
- Calculate the average cavity width as the average of the individual measurements of cavity width. To ensure that the actual cavity width is near to the calculated average, the width must be checked with a boroscope at least 50 % of the holes. Any distortion must be recorded.
 - Results shall be recorded on the installation check sheets – see Appendix C.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 30 of 37
		Revision	4

Appendix G - Use of boroscope to check adequacy of fill

NSAI audits may include, at the discretion of the auditor, a boroscope inspection of pumped cavities to establish the overall adequacy of the fill. The auditor will select the inspection locations.

The locations of the inspection holes will be based on:

- The installed drilling pattern;
- The wall construction;
- The building features.

A minimum of two holes per elevation will be required to carry out an effective inspection of the cavity fill.

Note:

The auditor will initially inspect the drilling pattern. If the pattern is correct, the inspection holes shall be drilled between the drilling points. If the drilling pattern is wrong, the auditor will use his knowledge of building design and his expertise in the installation of cavity fill to decide where the inspection holes shall be placed to test the adequacy of fill.

If the fill is found to be inadequate the area(s) shall be noted and the installing company instructed to return to ensure an adequate fill by using an adjusted drilling pattern to compensate for the problems found.

Adequacy of fill checks will be carried out during random audits as selected by the auditor

Installers must have a boroscope and drill available for use during audits

Appendix H – Typical Technicians Safety Check Sheet

Technician's safety check sheet – Flues, chimneys and combustion air ventilators

This check sheet specifies the minimum checks, and actions that must be carried out during installation of CWI to buildings containing fuel-burning appliances.

It must be read in association with "Technician's guide to best practice – Flues, chimneys and combustion air ventilators" published by the Cavity Insulation Guarantee Agency.

Assessment, identify and record

- Fuel type(s)
- Appliance types(s)
- Flue / chimney location(s)
- Location of combustion air ventilator(s)

Gas – Oil – Coal – Wood
Boiler – Gas Fire – Open Fire – Balance Flue
Internal wall – External wall, front, side, rear
Front elevation – Side elevation – Rear elevation

Pre-Installation

- Appliance identified, flue / chimney routes, internal & external
- *Appliance run
- *View and note flame colour
- *Combustion gases checked externally
- *Appliance checked (smoke test / spillage test)
- *Smoke / spillage test satisfactory
- Combustion air supply adequate

Y	N
Y	N
Y	N
Y	N
Y	N
Y	N
Y	N

Comments

Installation – Visually Check

- Flue, chimney routes to avoid drilling into them
- Flue, chimney routes to avoid ingress of material
- Combustion air ventilator(s) unobstructed

Y	N
Y	N
Y	N

Post Installation

- *Appliance(s) run at maximum for a minimum of five minutes
- *Visual check that flame compares with pre-installation
- *Smoke test / spillage test satisfactory
- *If results were unclear, re-test after a further 10 minutes
- *Re-test satisfactory

Y	N
Y	N
Y	N
Y	N
Y	N

*Only on appliances fitted to flues & chimney on external walls

If there is any doubt or any question answered 'N' then -

1. Switch OFF appliance and
2. ADVISE occupant / owner to call out a competent body or person such as fuel supplier or maintenance contractor.

Installation address:

.....

Name of Technician: Signature: Date:/...../20.....

Important:

- It is the firm's responsibility to ensure that the Technician is trained to be able to discharge these responsibilities.
- Failure to carry out these safety checks could lead to the death of an occupant and prosecution of the Technician.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 32 of 37
		Revision	4

Appendix I – Installer's Declaration

Installer Details

Company name	
Address	
Name of supervising operative	

Insulation Product:

Agrément Certificate Holder	
Agrément Certified System Name	
Agrément Certificate Number	
Type of product	

Installation Site Details:

Address	
Building type	

The Installation:


Insulated area (m ²)	
Average cavity width (mm)	
Quantity (volume) of insulation used (m ³)	
Declared u-value (W m ⁻² K ⁻¹)	
Exclusions	

Date of Installation:
Operative's Signature:

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 33 of 37
		Revision	4

Appendix J – Agrément application form for installers of CWI.

This application form is also available on the NSAI website


 NSAI			
NSAI Agrément			
Form Title	APPLICATION FORM FOR FULL FILL CAVITY WALL/BLOWN LOFT INSULATION INSTALLER SCHEMES	Reference	F-IAB-009
		Page	Page 1 of 1
		Revision	3

Please complete all sections of the application form in BLOCK capitals.
A valid C2 or Tax Clearance Certificate must accompany this application.

1. Insert here the number and details of the Agrément certificate under which the applicant will operate	Certificate No.: Certificate Title:	
2. Insert here the firm's full name and address with the authorised signature(s) of the applicant and the date		
(One application per office)		
Tel no:	Postcode:	
Fax no:	Contact:	
Email:	Signatures:	
Date:	
VAT No:	
3a. Enter the number of teams to be operated	Number of teams to be operated: <div style="text-align: right;">Date of Training:</div>	
3b. Enter the names of the Operatives trained and approved to install the system covered by the above certificate.		
TO BE COMPLETED BY THE CERTIFICATE HOLDER		
The Certificate holder should indicate their support for this application by countersigning here		
Company Stamp:	Signature of authorised person: Name of person: Date:	
The completed application form should be forwarded to NSAI Agrément	Where the application is submitted for a change of title and/or address the relevant facts should be made clear on the form. Where the form is submitted to add an additional system or to convert to an alternative system, the title of the firm must be consistent with the current Approval	

Appendix K – Use of the Agrément Symbol

Reference should also be made to the NSAI website for additional information regarding the use of the NSAI Logo.



NSAI

Agrément

USE OF AGRÉMENT SYMBOL


Colour & Size of Symbol

It is preferable to print the symbol in the following colour: Pantone 356


Alternatively, when use of colour is not possible, black and white should be used as shown. For clarity a minimum height of 15mm must be adhered to.

Artwork


The logo is available from NSAI Agrément in electronic format.




STICKER




SWING TICKET



VAN STICKER



PACKAGING OF CERTIFIED PRODUCTS



PIPES, EXTRUSIONS ETC.

Form Title	NSAI Agrément CWI Scheme	Reference Page Revision	D-IAB-003 Page 35 of 37 4
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Appendix L – Ventilation

These notes have been prepared by NSAI as a supplementary guidance to the specific requirements of NSAI Agrément certificates and the SEAI Better Energy Homes Scheme, and are not a substitute or alternative to the requirements of these documents.

Section 5 of the Better Energy Homes Scheme Contractors Code of Practice and Standards and Specifications Guidelines (Version 7.1 May 2015) states that in undertaking the works, and on the basis of the findings of an initial assessment of the home, the contractor must:

1. Ensure that the works to be undertaken will not compromise the existing necessary ventilation provisions in the home to the detriment of the air quality and/or living environment therein.
2. Inform the homeowner where it is noted that the existing necessary ventilation provisions have already been adversely affected by actions of the homeowner or other parties.
3. Inform the homeowner of any aspects of ventilation considered to be inadequate or potentially unsafe (particularly with rooms containing fuel burning appliances).
4. Inform the homeowner that levels of the radioactive gas, Radon, can be increased where existing ventilation is not adequate or where work is to be undertaken that may increase the airtightness of the home. Guidance on where the home is in a High Radon Area and how to test a home for Radon is available on the Environmental Protection Agency's website www.epa.ie or free phone 1800 300 600.
5. Make appropriate recommendations to the homeowner in respect of 2 and 3 above. It is then the responsibility of the homeowner to rectify these issues, with or without the involvement of the contractor, **before** works pertaining to the Better Energy Homes scheme can commence. (Additional wall ventilators or other ventilation provisions may be supplied by contractors as part of the refurbishment works. Where this is agreed as part of the refurbishment contract works may proceed).

These points are aimed at ensuring that the contractor takes all reasonable action to ensure that proper ventilation provisions are installed in the home and that the homeowner is made aware of the proper operation and maintenance of such provisions.

Further information and guidance on ventilation can be found in S.R. 54:2014 Section 10 Ventilation.

Room Ventilation

Where a dwelling has adequate room ventilation, as defined by Technical Guidance Document to Part F 2002 or 2009 as appropriate to the Irish Building Regulations, this ventilation must be sleeved to prevent blockage by the bead. This requirement includes sub-floor ventilation where they exist and are affected by the cavity wall insulation.

Where a dwelling has inadequate or no room ventilation, the contractor must notify the homeowner of this in writing, and it is then the homeowner's responsibility to take remedial action to address this **before** the works proceed unless the homeowner specifies that the contractor is to carry out the remedial action, in which case the works may proceed.

Form Title	NSAI Agrément CWI Scheme	Reference	D-IAB-003
		Page	Page 36 of 37
		Revision	4

This remedial action can take the form of installing wall vents, a ventilation system such as a mechanical heat recovery unit, or installing trickle vents in the windows. The remedial action must comply with the following basic requirements:

- A habitable room other than a utility room, a kitchen or bathroom, requires a ventilation opening suitable for background ventilation having a total area not less than 6500mm², and a ventilation opening suitable for rapid ventilation having a total area of at least 1/20th of the floor area of the room.
- Any room or space containing a solid fuel burning open appliance should have a ventilation opening (or openings) with a total free area of at least 50% of the appliance throat area (of which at least 6500mm² is permanent ventilation).
- Any room or space containing any other solid fuel burning appliance should have a permanent air entry or opening with a total free area of at least 550mm² per kW of rated output above 5kW, but in no case less than 6500mm². Where a flue draught stabiliser is used the total free area should be increased by 300mm² for each kW of rated output.
- Any room or space containing a gas burning open-flued appliance should have a permanent ventilation opening of at least 450mm² for each kW of appliance input rating, but in no case less than 6500mm². For decorative fuel effect fires, a minimum ventilation opening of 10000mm² is required. For fixed space heaters, a minimum permanent ventilation opening of 12000mm² is required. Further guidance should be sought from I.S. 813 *Domestic gas installations*.
- Any room or space containing an oil burning appliance (other than a balanced-flued appliance) should have a permanent ventilation opening of free area at least 550mm² for each kW of rated output above 5kW, but in no case less than 6500mm².

Note:

A permanent ventilator is a ventilator permanently fixed in the open position and not provided with a means of closure which eliminates airflow through the device which –

- opens directly to the external air, and
- except in the case of a screen, fascia, baffle, etc., has a smallest dimension of at least 8 mm, but does not include a flue to a chimney.

It is a requirement of the Regulations that wet rooms such as kitchens and bathrooms also require mechanical extract ventilation in addition to the rapid ventilation opening having a total area of at least 1/20th of the floor area of the room. Where this mechanical extract ventilation is not in place, the contractor must notify the homeowner of this in writing, outlining the potential consequences of inadequate ventilation in these rooms. These include the risk of condensation occurring as a result of increased temperature and humidity within the dwelling following implementation of energy conservation measures. The contractor may then proceed with the installation of external wall insulation.