RISE | Retrofit information, support & expertise

Managing CWI extraction

Supply chain advice pack

April, 2026

Funded by:

Department for Energy Security & Net Zero

www.riseretrofit.org.uk

Introduction

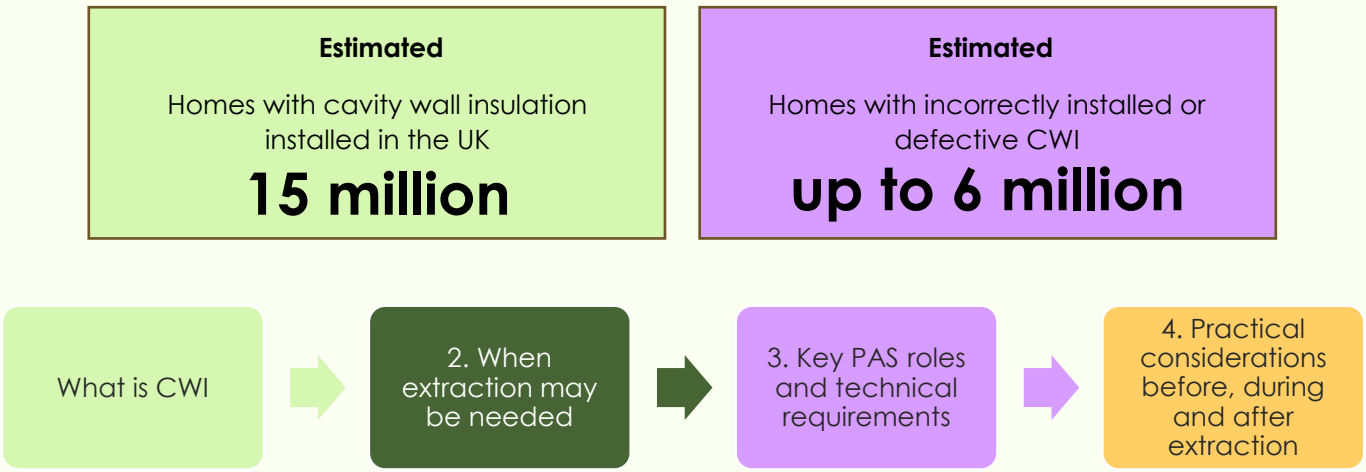
Cavity wall insulation (CWI) has been installed in around **15 million homes across the UK**[1], largely through government-funded energy efficiency programmes. While CWI can significantly improve thermal performance when correctly specified and installed, sector estimates suggest that **up to 6 million homes** may now contain **defective, deteriorating, or inappropriate insulation**[2].

Failed or unsuitable CWI can contribute to **damp, mould growth, cold bridging, excess heat loss, and long-term fabric damage**. These risks are particularly pronounced in exposed locations, coastal areas, or properties that were unsuitable for CWI at the time of installation. As a result, **CWI extraction** is becoming increasingly prevalent in whole-house retrofit programmes.

This advice pack focuses on:

- **Roles, responsibilities and risk factors** relevant to Warm Homes funding (PAS2035)
- **When and why** CWI extraction may be required
- **How decisions are made** under the PAS 2035 framework

This pack is aimed at those responsible for assessment, specification and oversight, rather than those delivering the physical extraction works. To understand why CWI extraction is needed in retrofit projects, and how to mitigate contributing factors.



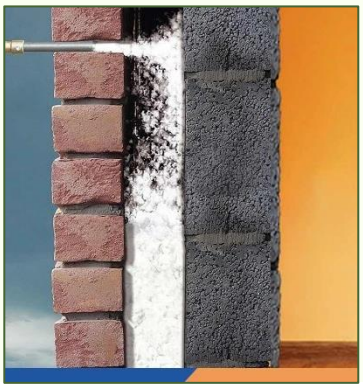
[1] Household Energy Efficiency Detailed Statistical Release, March 2024, Department for Energy Security and Net Zero, (2024)
[2] UK Homeowners Facing Cavity Wall Insulation Failures, HomeOwners Alliance, 2025

What is CWI and what happens when it fails?

What is CWI?

Cavity wall insulation fills the cavity, typically 50–100 mm, between the inner and outer masonry leaves of a cavity wall, in order to reduce heat loss. Common materials include:

Mineral wool

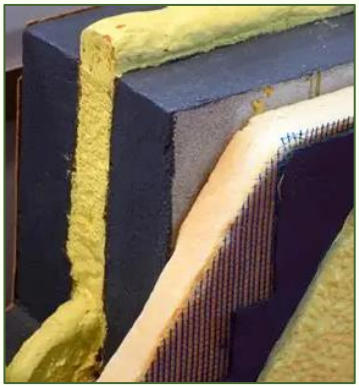


Source: Jadan Construction Group

Polystyrene bead

Source: Energy Efficient Homes

Polyurethane foams



Source: Linden Industries

These materials are either inserted into the cavity or injected through small drill holes in the external wall leaf.

What does failure look like?

CWI failure occurs when insulation becomes wet, slumped, contaminated, voided or unevenly distributed. It results in reduced performance and increased moisture risk. Common causes of CWI failure include:

- Wind-driven rain penetration
- Unsuitable exposure zone, the classification of areas based on their exposure to wind-driven rain.
- Unsuitable cavity width, the gap between the two masonry walls.
- Poor installation practice (voids, missed holes, over-compaction)
- Long-term damp or flooding
- Material degradation over time

CWI failure can cause several issues in a home, many of which will cause discomfort to residents or even pose a health risk. Some of the common effects of CWI failure include;

- Cold internal wall surfaces
- Black mould or mildew
- Damp patches that worsen after rainfall
- Peeling paint or blown plaster
- Musty odours
- Increasing heating demand or bills

Source: Ideal Home

Source: House Beautiful

Common CWI extraction triggers

Not all CWI failures present in the same way. Triggers for extraction generally fall into two categories technical property-based problems, and operational or occupant-driven concerns.

Property & installation problems

This group of issues includes technical defects, incorrect installation, moisture failures and property-specific risks. These are objective, survey-identified issues that often trigger CWI extraction. Some examples are:

Moisture-related issues resulting in;

- Cold spots or thermal bridging
- Persistent damp or mould in internal walls

Installation-related issues resulting in;

- Incomplete fill patterns, voids, slumping, contamination

- Wrong material for property type/exposure zone

Building-specific risks resulting in;

- Severe / very severe exposure zones
- Structural defects discovered after installation

Operational & occupant-driven triggers

This group of problems covers programme requirements, regulatory drivers, and resident-reported symptoms that signal underlying CWI failure. Some examples include:

Programme or compliance requirements resulting in;

- Extraction under PAS 2035 retrofit pathway
- Extraction before EWI or IWI can proceed safely
- Voided warranties or guarantees requiring remedial action

Resident-reported concerns resulting in;

- Cold rooms or rising heating bills
- Odours, draughts, debris appearing indoors
- Recurrent mould returning despite cleaning

Common extraction triggers

Trigger category	Typical indicators	Risk level
Severe exposure & moisture failure	Damp worsening after rainfall, mould on exposed elevations	High
Incorrect material selection	Persistent damp, mould growth on areas with no obvious condensation drivers. Uneven thermal performance	High
Installation defects	Contamination identified by borescope Penetrating damp	Medium-High
Partial moisture issues	Early damp signs, isolated cold spots	Medium

	Penetrating damp	
Building defects	Cracked render, failed pointing, blocked weep holes	Medium
Resident-reported issues	Persistent mould, odours, cold rooms, rising heating bills	Medium

The presence of one or more of these indicators does not automatically mean extraction is required. The Retrofit Coordinator determines what action would be proportional, based on severity, exposure risk, interaction with building defects and planned retrofit measures.

Roles and responsibilities under PAS 2035

When part of a government-funded retrofit scheme, cavity wall insulation extraction must always be considered and managed within the PAS 2035 framework.

- The **Retrofit Assessor** identifies potential issues through the Retrofit Assessment, including indicators of damp, mould, cold surfaces or resident discomfort.
- The **Retrofit Coordinator (RC)** evaluates the Retofit Assessment data, commissions diagnostic investigation where required, and determines whether extraction is proportionate and necessary.
- The **Retrofit Designer** specifies actions following extraction, including drying requirements, fabric repairs, ventilation upgrades and any replacement insulation strategy.
- **Installers and specialists** deliver works in accordance with the approved design and PAS 2030 requirements.

The Retrofit Coordinator is responsible for ensuring decisions are evidence-based, proportionate to risk, and appropriately sequenced within the wider retrofit plan.

PAS-led decision-making

Extraction decisions are rarely made in isolation. They are influenced by:

- Exposure zone and local climate
- Known or newly discovered building defects
- Duration and severity of moisture presence
- Interaction with planned measures such as EWI, IWI or ventilation upgrades
- Resident health and comfort risks

In many projects, extraction is required to establish a safe, dry, PAS-compliant baseline before further measures can proceed.

Where properties are highly exposed, re-insulating the cavity may not be appropriate, and alternatives such as external wall insulation (EWI) may be safer and more durable solutions.

All findings, decisions and justifications must be recorded and retained as part of the PAS 2035 audit trail and TrustMark requirements.

What happens after extraction?

Following extraction:

- Cavities may require a drying and monitoring period (often 1–4 weeks)
- Follow-on measures are designed once walls are confirmed clean, dry and defect-free

Possible next steps include:

- Re-insulation with a suitable material
- External or internal wall insulation
- Ventilation upgrades
- Masonry or fabric repairs

Correct sequencing protects building fabric and ensures future retrofit measures perform as intended.

Summary

- Failed or unsuitable CWI poses significant risks to building fabric and resident health.
- Decisions to extract insulation must sit firmly within the PAS 2035 framework.
- Good diagnostics and evidence are essential.
- Extraction is often a strategic enabling measure that allows safe progression of whole-house retrofit.
- Proper decision-making reduces long-term risk, cost and disruption.

Resources

Podcast: All RISE podcasts are available **here**.

Podcast: "Healthy homes, healthy lives: what the research shows" available **here**.

Masterclass: All RISE masterclasses are available **here**.

Masterclass "PAS 2035 compliance" available **here**.

Advice pack: All RISE advice packs available **here**.

Advice pack: "Internal Wall Insulation – Assessing and Design" available **here**).