



KRS

KENNY RELF SURVEYORS

Sprayed Foam Installation Report

Property Address

A Property

Client

A Client

SAMPLE



Section A - Report Details



This section tells you about the report, its aims and how to interpret its contents.

Address of the Property

Name of the Client

Date of the Inspection

Report Reference

A1 - Purpose of the Report

The purpose of this report is to identify the level of risk that sprayed foam insulation (SFI) poses to the pitched roof structure, with reference to the PCA/RPSA Sprayed Foam Insulation Protocol dated March 2023.

It is not intended to comment any other aspects of the property or grounds, unrelated risks to the roof structure, or the value of the property.

A2 - Condition Ratings

Risk Ratings are intended to give an indication of the level of risk for the individual elements (external elements, internal elements and available documentation). They are not definitive and should only be considered in combination with the full text and conclusion of the report.

The report assigns one of the following risk ratings to each element:

1

Low indicates that the composition, construction, materials and condition of the element combined present a low level of risk.

2

Medium indicates that one or more aspects present a medium level of risk.

3

High indicates that one or more aspects present a high level of risk.

FI

FI indicates that Further Investigations are required because one or more elements could not be sufficiently inspected to allow a reliable assessment of the level of risk.

A3 – The Conclusion

The conclusion of the report will ultimately determine the next course of action.

The report will conclude with one of four determinations:

- The risk of defects to the property is not significantly increased by the presence of sprayed foam and no action is needed at this time.
- The risk of defects to the property is increased by the presence of spray foam and it is reasonable that further advice be sought in order to assign measures that will mitigate these risks.
- Insufficient information is available to draw a conclusion and further investigations and information is needed before a conclusion can be offered.

A4 - Limitations of the Inspection

Important note: I only carry out a visual inspection. This means that I do not take up carpets, floor coverings or floorboards, move furniture or remove the content of cupboards. Also, I do not remove secured panels or undo electrical fittings.

I inspect roofs, chimneys and other surfaces on the outside of the building from ground level only and, if necessary from neighbouring public property and with the help of binoculars.

I inspect the roof structure from inside the roof space if there is access and it is safe to do so. I do not lift insulation material, stored goods or other contents.

I note in my report if I am not able to check any parts of the property that the inspection would normally cover. If I am concerned about these parts, the report will tell you about any further investigations needed.

A5 - Report Author

This report was prepared by

Rob Kenny *DipRS&V MRPSA AssocRICS*

Director Kenny Relf Surveyors Ltd

Dated



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Section B – About Sprayed Foam



Spray foam insulation – also called spray foam or spray polyurethane foam (SPF) – is an alternative to traditional building insulation. It is sprayed into position, then expands and sets to form an insulating layer.



A typical sprayed foam installation in a roof space

There are two types of sprayed foam, “closed-cell” and “open-cell”:

Closed-cell foam sets in to a solid structure containing individual sealed gas pockets. This makes it a good insulator, however it does not allow trapped moisture to escape either.

Open-cell foam forms a structure of interconnected pockets, meaning that gasses can move through the foam. This reduces its performance as an insulator but does allow trapped moisture to escape.

Whilst kept dry, the timbers that form a roof structure can last for hundreds of years, however if they become wet enough they may start to rot or attract wood boring insects. Moisture can enter the roof space either as rain penetrating the external coverings, or as humidity created by normal everyday activities such as washing, cooking etc. As long as there is sufficient air movement around the timbers, any excess moisture will evaporate.

Unfortunately, incorrectly installed sprayed foam insulation can prevent this essential evaporation, ultimately raising the moisture content of the timbers to the point where they become edible to a host of moulds and insects.

The issue is further complicated because the spray foam itself prevents examination of the timbers. It is this uncertainty that affects a lender’s decision to lend on the property.

Section C – External Inspection



Risk Rating **1**

C1 – Method and Limitations

Although I make every effort to inspect as much of the exterior of the property as possible, there are some limitations:

I can only inspect the roof or roofs from within the grounds and from adjacent publicly accessible areas. I cannot enter private grounds.

I cannot lift, move or otherwise damage parts the property or grounds in order to inspect hidden areas.

The roof pitches were examined from ground level with the aid of a digital camera for possible defects including sagging, collapse, broken/missing/damaged tiles, holes, and other evidence of failure.

The entire roof was visible from ground level.

Identification of the materials used in roof coverings is based on a visual inspection from ground level, unless otherwise stated. Where a particular material is stated, this is an assumption based on the age, roof type and appearance, however only a physical examination can positively identify the exact material used.

C2 – Materials and Construction

The main roof is pitched and hipped and surfaced with clay tiles. The ridge and hip tiles are also clay.

The verge tiles are bedded in mortar over an undercloak of cement boards.

The rainwater goods are plastic.





C3 – Appearance and Condition

No significant defects were noted. No evidence was seen of unusual sagging or other movement which might indicate that the supporting structures are failing.

All tiles seen were in a serviceable condition with no evidence of any major failures or defects. The top line of ridge tiles was even with no evidence of any undue levels of flexing or bowing.

The mortar at the verges (side most run of tiles) was intact at the time of inspection with no evidence of any major weathering.

The rear gutters had been invaded by ivy.

Section D – Internal Inspection



Risk Rating

2

D1 – Method and Limitations

Where safe to do so I will enter the roof spaces, however if there are no crawl boards or other stable footings, my inspection may be carried out from the loft hatch. Insulation and/or items in storage can significantly restrict the inspection.

D2 – Materials and Construction

Access to the main roof void area is via a hatch in the hall.
A loft ladder is installed. There is lighting. The space is partially boarded.

The roof structure is of a traditional type known as a “rafter and purlin”:

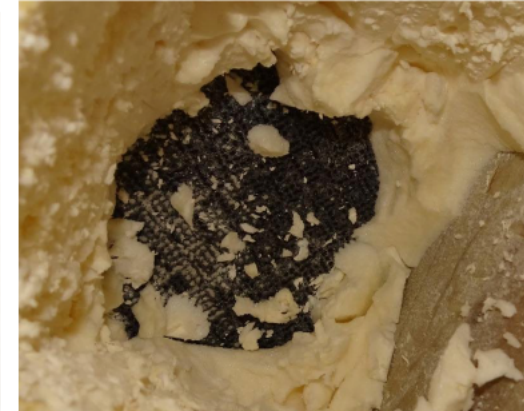
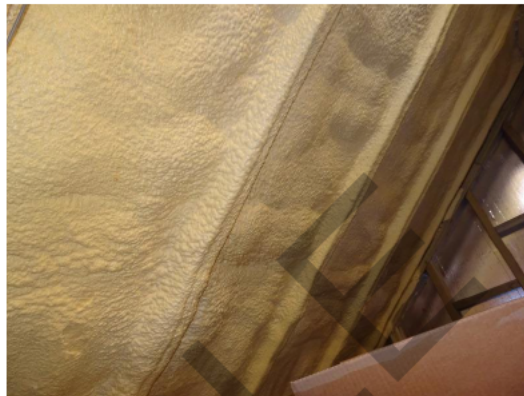
- The “rafters” form the overall triangular shape of the roof, running vertically from the ridge (pointed top) to the wall plates (wide bottom).
- The “purlins” are the larger timbers placed horizontally across the rafters. They prevent the rafters from bowing inwards under the weight of the tiles or slates.
- The purlins are prevented from bowing inwards by “struts”, timbers that transfer the load to the central structural wall.

These timbers were cut and assembled on-site as part of the construction process. They should be of sufficient strength to transmit the weight of the dead load (weight of the tiles) and the imposed load (additional force from wind or snow) which are placed upon them, on to external and internal load-bearing walls without distortion.

A modern breathable material has been installed between the internal structures and external coverings to provide an additional layer of weather protection and to direct rainwater into the gutters. This is often known as a “sarking felt”, “underfelt” or “roofing felt”.

D3 – Appearance and Condition

Closed cell foam was applied to the entire underside of the rafters and underfelt during the initial build. A section was removed to show a breathable underfelt and moder treated timbers. Moisture readings from the exposed timber were low. General humidity readings were low.



Section E - Documentation



Risk Rating

3

No documentation was provided.

In order for the installation to be acceptable for lending, the documentation should include but may not be limited to:

- A pre-installation evaluation of the roof. This should detail the condition of the principal roof coverings, the nature, composition, and condition of the underlay or sarking and the condition and moisture content of the roofing timbers.
- A hygrothermal evaluation or condensation risk assessment that provides a clear indication of the modelled condensation risk that accurately corresponds to the materials observed and detailed in the pre-installation condition report.
- A copy of the third-party product accreditation document (BBA or KIWA) that is both complete, contemporaneous to the date of the product installation and representative of the material used within the roof.
- Information confirming details of the installer and their credentials together with copies of guarantees, warranties or insurance backed guarantees that were issued to the commissioning client and are assigned to the subject property.

The work should be undertaken strictly in accordance with the requirements of the independently awarded product approval certificate (BBA / KIWA)

Section F - Analysis



F1 – Summary of Overall Condition

External roof coverings - no significant defects, low risk of rainwater penetration
Underfelt - breathable membrane - low risk of trapped moisture
Sprayed foam - closed cell - low breathability
No documentation - high risk of no pre-installation surveys or guarantees.

F2 – Summary of Risk Ratings

External Risk Rating	1
Internal Risk Rating	2
Documentation Risk Rating	3

F3 – Overall Risk Rating

Risk Rating 2 - low risk of damage to the timbers, however the property is unlikely to be acceptable to most lenders.

F4 – Conclusion and Recommendations

Although not urgent, the foam should be removed prior to marketing. Closed cell spray foam can only be removed by hand scraping, the cost for which is likely to exceed £5000.



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