

Report: Legal and performance issues with current loft hatch insulation practices

There are two issues concerning the current method of insulating and draught proofing loft hatches, legality and performance, covered separately in the two sections below.

1. Legality

Presently there are three different sets of legislation that must be complied with:

- 1.1. The Construction Product Regulations 2011 (CPR);
- 1.2. The General Product Safety Regulations 2005 (GPSR);
- 1.3. CITB Loft Insulation Manual (CITB)

1.1 The CPR

Loft hatch insulation products are not covered by any harmonised standards or technical specifications. This means that loft hatch insulation products are not capable of being CE Marked or are subject to the CE Marking regime. Despite this, the CPR still applies to **all** construction products. For the avoidance of any doubt the CPR applies to loft hatch insulation products. Specifically *Article 28* of the CPR requires:

Article 28

Assessment and verification of constancy of performance

1. Assessment and verification of constancy of performance of construction products in relation to their essential characteristics shall be carried out in accordance with one of the systems set out in Annex V.

Annex V sets out the minimum requirements for Construction Products not covered by any harmonised standards with the minimum requirement detailed at 1.5. System 4:

ANNEX V

ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

1.5. System 4 – Declaration of the performance of the essential characteristics of the construction product by the manufacturer on the basis of the following items:

(a) the manufacturer shall carry out:

- (i) determination of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product;
- (ii) factory production control;
- (b) no tasks for the notified body.

[...]

3. CASES OF ESSENTIAL CHARACTERISTICS WHERE REFERENCE TO A RELEVANT HARMONISED TECHNICAL SPECIFICATION IS NOT REQUIRED

1. Reaction to fire.
2. Resistance to fire.
3. External fire performance.
4. Noise absorption.
5. Emissions of dangerous substances.

It is both obvious and clear that a plastic bag loft hatch insulation product that is self-produced by the installer does not and can never comply with the requirements of the CPR.

1.2 The GPSR

These Regulations augment the CPR by imposing a general safety requirement on products that are marketed throughout the EU. In the absence of any harmonised standards relating to loft hatch insulation and any safety considerations contained therein the GPSR steps in to fill the safety requirement lacuna. Specifically Regulation 5 provides:

General safety requirement

5.—(1) No producer shall place a product on the market unless the product is a safe product.

In addition to Regulation 5 there are two other very important Regulation/factors that must be considered:

1. The duty to warn consumers of any non-obvious risks – Regulation 7 (1) (a) and
2. To properly take into account the *precautionary principle*, which basically reverses the burden of proof on manufacturers to prove that their products comply with both the safety requirement as well as other germane legislation. It is for this reason that no sensible person would ever self-fabricate an *ad hoc* loft insulation product as it is impossible to prove compliance. Plastic bag products are typically combustible, as plastic is a petro-chemical derivative. *(A typical plastic bag product has been officially fire tested by a UKAS registered testing house. The formal result was a fail outcome with the product requiring manual extinguishing. Whilst this result cannot be universally applied as no two products are identical, it highlights and reinforces the legislator's reasoning behind the formality together with provable product uniformity requirements as set out in the CPR.)*

1.3 The CITB Requirement

It is very difficult to say anything too sensible about this document currently. Contained at the beginning is the requirement to comply with all other legislation. Although no other legislation has been either identified or signposted. However, it is a formal document that must be complied with as it is normatively referenced in BSI PAS 2030. The safest course of action would be to comply with both the CPR as well as the GSPR. Confusion also exists in respect of the CITB document's validity. It was revised, but an amended version was never published at the original web link URL referenced in PAS 2030, which officially means that the "old" version (FINAL Version 1, of 20th March 2012) is still in force.

Consequences of not Complying with either the CPR or GPSR

Presently the method used by most installers to insulate consumer loft hatches does not comply with either the CPR or GPSR, and by default, does not comply with the "*obey all other rules*" requirement of the CITB document. The consequences for breach can be summarised as follows:

For the Consumer, he or she:

- Is receiving a sub-standard illegal product that does not work very well;
- Is consequently paying higher than necessary heating costs.
- Defective products usually and ordinarily void insurance policies notwithstanding causation;
- If applicable, remain trapped within fuel poverty;
- Is colder than necessary during the winter months.

For installers, managing agents, specifiers:

- Breach of either express contract terms or of duty of care in respect of tort obligations to their clients;
- Ever-increasing financial contingent liability for both loss damages and consequential loss damages;
- Possible criminal sanctions including imprisonment for breach of the GPSR;
- Reputational damage.

Criminal sanctions extend to both supplying defective products as well as failing to warn consumers of any non-obvious risks. Consumers should be warned that their insurance policies are not what they think or seem or believe to be. Virtually all (if not all) insurers exclude any liability for losses involving defective products and/or faulty workmanship. It is axiomatic that products that do not comply with the CPR are defective. Liability for both offences is strict. There does exist the defence of reliance on others e.g. a BBA certificate. However, this is a clean-hands defence which is nullified as involved parties are now aware of the issues. Special attention is drawn to Regulation 29 of the GPSR:

Defence of due diligence

29.—(1) Subject to the following provisions of this regulation, in proceedings against a person for an offence under these Regulations it shall be a defence for that person to show that he took all reasonable steps and exercised all due diligence to avoid committing the offence.

(2) Where in any proceedings against any person for such an offence the defence provided by paragraph (1) involves an allegation that the commission of the offence was due—

- (a) to the act or default of another, or
- (b) to reliance on information given by another,

(4) A person may not rely on the defence provided by paragraph (1) by reason of his reliance on information supplied by another, unless he shows that it was reasonable in all the circumstances to have relied on the information, having regard in particular—

- (a) to the steps which he took, and those which might reasonably have been taken, for the purpose of verifying the information; and

(b) to whether he had any reason to disbelieve the information.

(underlining does not feature in the original text)

2. Performance

Essentially the performance of the plastic bag product is dire. The major reasons for this are:

- It is impossible to self-fabricate, on site, a bag that can insulate the entire surface area of the loft hatch so that it can continue to function as a door/hatch. Gaps, thermal bridges remain which allow heat loss;
- It is equally impossible to fashion a product with round corners to perfectly fit within right-angled junctions, causing more thermal bridges and more heat loss;
- The outer plastic cover is impermeable thus allowing the transfer/movement/convection of heat around its own surface area to vent away. By (poor) design this automatically defeats the purpose of insulation which is to resist any air convection/movement. Thereby even more heat is lost;
- Draught proofing is hopelessly inadequate which results in inferior air tightness;
- Proof of uselessness is provided by the usual requirement to fit hook and eye catches to the loft hatch to prevent it from “rattling”. This is caused by warm air under pressure forcing the loft hatch upwards (pressure being provided by the narrowing of warm air along the entire periphery of the loft hatch) allowing large quantities of heat to escape. Once heat equilibrium is established (heat reduction in the house and heat increase in the cold loft) gravity returns the hatch to its resting place. Whereby warm air under pressure lifts (again) the hatch and the cycle repeats;
- Further proof and another side-effect is condensation that has been observed in the plastic bag. Often they are not airtight (as stapling to the hatch will pierce the bag), and the amount of warm air venting into the loft causes clear signs of condensation and rot to form inside the bag.

These comments are entirely consistent with the findings of formal testing as well as real-life experience from consumers that were subject to controlled trials. Approximately 2,000 of our products have been fitted into customer homes. Of these, 72 were subject to feedback and monitoring. Roughly 90% of triallists reported an improvement in warmth in their homes within 24/48 hours of the plastic bag product being removed and replaced with a proper product. Many turned their thermostats down and most noticed that their heating was switching itself off. There were even two consumers complaining that their homes were now too hot! This demonstrates that if you effectively plug the great air bridge with a proper product, the performance of the entire loft insulation is no longer compromised.

Sample pictures of removed and stored plastic bag products can be viewed on our website’s [“chamber of horrors”](#) blog entry. Copies of monitoring reports are also available.

Other

In conversations with stakeholders, confusion and uncertainty was voiced as to what the formal requirements are in respect of legal compliance for loft hatch insulation, and in how far DECC and other government departments as well as Ofgem are aware of the situation, with two typical questions being raised:

1. If the bin-bag method of insulating loft hatches is not approved by DECC and other authorities, what is? and
2. What action, if any, are DECC taking to prevent ongoing supply of plastic bag products?

Dealing with Q1; it is confirmed that our loft hatch insulation products do comply with all the requirements of the CPR, GPSR and BSI PAS 2030. They have been formally designed, tested and are subject to ongoing testing and sampling as well. Testing includes fire safety as well as performance. Being factory produced each product is uniform and full certification can and shall be sent to you under separate cover. We recommend carefully keeping records of all products/materials used on site. Each product used should be tabulated and have a corresponding copy of the compliance reports referenced.

The following financial analysis has also been prepared for our product:

- (A) Average heating cost per home according to Ofgem: £1420
- (B) Amount of heat lost through the loft area: 25%
- (C) Annual lost loft heating cost (A)x(B) = £255
- (D) Insulation saving if insulated to circa 270-300mm: 15% of (A)
- (E) Optimum Insulation saving (A)x(D) = £213
- (F) Heat loss through poorly insulated (bin-bag method) or non-insulation of loft hatch: 4%
- (G) Heating cost spend in compensation for (F) = (A)x(F) = £56.80 per annum
- (H) Cost of HatchThatch circa £20.00

NB. Apart from our costs all other values are from neutral, unimpeachable sources.

- In conclusion, this means that HatchThatch will typically pay for itself in less than half of a heating season, or alternatively the consumer has to pay an additional £57 per annum to live in a colder house if the loft hatch is not treated.

Regarding Q2, it is fully appreciated that you should not have to merely accept our assertions that DECC do not approve of plastic bag products. It is sadly the case that both DECC and Ofgem have for some time known about the illegality of loft hatch insulation and hitherto failed to either enforce the rule of law or protect consumers. This is stated openly and the various officials at both DECC and Ofgem have been copied into this correspondence.

It is also understood that specifiers and their agents/installers seek comfort from the fact that the BBA have issued compliance certificates for plastic bag products. Unfortunately, in the final analysis, these shall be shown to be worthless pieces of paper. *(Parliament does not possess the power to usurp EU Regulations – let alone any private commercial organisation)* The liability to comply with legislation remains and corrective action shall inevitably be required to replace all illegal products with legal ones. The nullity of insurance policies shall horrify society and will not be accepted. In our opinion it is senseless to continue to fit/arrange to be fitted plastic bag products as this only makes the problem worse, increases the loss/contingent liability and makes corrective action even more expensive. DECC should show leadership and management by gripping this problem and providing sensible guidance and advice.