Are the Building Regulations fit for the purpose of upgrading traditional, historic and listed buildings using modern applications in England and Wales?

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Abstract

This is an extract of an MSc dissertation carried out at Cardiff Universities' Welsh School of Architecture in Sustainable Building conservation and was submitted in 2019. It investigated the key aspects of concerns that the Building Regulations and supporting Approved Documents produced by the Welsh Government (and equally the English Government) are fit for purpose when carrying out building works to traditional, historic and listed buildings. This research was carried out by the report author who has nearly 30 years' experience in building control as a team leader and chartered building surveyor working for a Local Authority in England on the Welsh Boarder.

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Keywords: Building Regulations; England and Wales; Fit for purpose; Traditional; historic; listed buildings

1.0 Introduction

This dissertation began by investigating the key aspects of concerns that the Building Regulations and supporting Approved Documents produced by the Welsh Government (and equally the English Government) are fit for purpose when carrying out building works to traditional, historic and listed buildings. This research was carried out by the report author who has nearly 30 years' experience in building control as a team leader and chartered building surveyor working for a Local Authority in England on the Welsh Boarder. With special partnership arrangements, Local Authorities based in England can carry out building control functions in Wales and vis-versa. This requires dealing with two separate systems of building control which are almost identical.

This report begins by describing the background to vapour permeable (breathable) construction and problems associated with upgrading traditional buildings using the Approved Document to the Building Regulations and recognises significant gaps in this legislation. It considers the drivers of change for making improvements to the Welsh building stock. It also considers case studies (**Figure 1**) which draw out the consequences of applying modern methods of construction to traditional buildings that can trap moisture. A literature review then follows to gain a better understanding of how scholars view the Building Regulations and Approved Documents. A questionnaire survey then assesses how the construction industry view the Approved Documents to the Building Regulations, followed by suggested solutions to the problems.

The report concludes with key findings and finds that the Building Regulations and supporting Approved Documents produced by the Welsh Government are not fit for purpose when carrying out building works to traditional, historic building and listed buildings. Finally, there are recommendations on how the problems could be resolved without placing these buildings or their occupants at risk.

1.1 Key findings

1. This study has found discourse within the construction industry that government policy on sustainability of traditional, historic and listed buildings is dominated by a positivist, neo-liberal agenda underpinned by a utopian belief in technological progress and power of the market.
2. Non-vapour permeable applications are being inappropriately applied to traditional forms of vapour permeable construction with disastrous results.
3. Approved Documents to the Building Regulations do not provide enough practical guidance for

traditional buildings.

4. The Welsh Government (and equally to England Government) is unlikely to make any changes to the Approved Documents unless there is good reason.
5. Current U-value calculations underestimate the actual thermal performance of traditional solid walls.
6. The Building Regulations Elemental U-value requirement of 0.3 for upgrading traditional buildings are unrealistic and problematic as it traps water and increases the risk of condensation and mould growth. The U-value should be increased to 0.7.
7. Drivers of change for improvements and energy efficiency measures have been brought about by:
 - a. Owner's aspirations of improved thermal comfort
 - b. Changes in climatic conditions
 - c. Changes in legislation and the Building Regulations
 - d. UK Government driving ever improving insulation standards
8. Case studies confirm Approved Documents are being inappropriately applied to traditional and historic buildings with often disastrous results.
9. Standards reviewed for retrofit are insufficiently detailed in respect of solid wall insulation and are not fit for purpose.
10. Industry produced standards providing guidance are too expensive to buy and the public are reluctant to use them.
11. Criticism that patented vapour preambles solutions provided by the private sector are exclusive and too expensive.
12. Three solutions to the problems were recommended:
 - a. Make changes to the Approved Documents to the Buildings Regulations
 - b. Produce a National Compliance Guide
 - c. Invest in technical solutions, training and information hub.

Figure 1: New Ground floor in a Grade II listed church- Polythene damp proof membrane laid over the floor area and dressed up walls and hidden behind timber paneling – trapping moisture (Source: Gwynne, 2019).

1.2 References: The full dissertation and of references is available on request at: tony.gwynne@publicagroup.uk