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## Overview

This standard is about evaluating the options for the introduction of energy efficiency measures to older and traditional buildings, with reference to the characteristics of the specific building, based on an accurate identification and evaluation of insulation, ventilation and building performance factors, the establishment of relevant investigative measures, and an evaluation of available information on the building and its thermal performance.

You must understand and work to the requirements of each devolved nation.

## Performance criteria

*You must be able to:* **Recognise the range of options, the likely effectiveness and value for money of measures to improve energy performance**

1. identify the range of energy efficiency measures relevant to older and traditional buildings
2. identify the range of materials and techniques appropriate to older and traditional buildings including vapour permeable and hygroscopic materials and air and vapour control layers
3. identify the effects of energy efficiency measures in combination with each other
4. explain the limitations of using default U-values in Reduced Data Standard Assessment Procedure (RDSAP) (or approved software) for older and traditional buildings
5. explain the impact of using default U-values in Reduced Data Standard Assessment Procedure (RDSAP) (or approved software) on the energy rating and recommended energy efficiency measures in the Energy Performance Certificate
6. explain in what circumstances calculated U-values or in-situ measured U-values should be used, the issues to be aware of and appropriate sources or processes to obtain these
7. estimate the financial cost and payback in relation to specific building type
8. identify when the energy efficiency measures need to be adapted to older and traditional buildings
9. assess the implications of existing building defects and how the repairs required affect the choice of energy efficiency measures
10. assess the implications of occupant behaviour on proposed energy efficiency measures
11. assess the implications of the relevant legal and regulatory requirements
12. assess the technical risks associated with the energy efficiency measures
13. assess the impact and consequences of using unsuitable interventions or inappropriate energy performance measures
14. evaluate the options for the introduction of energy efficiency measures to older and traditional buildings

## Knowledge and understanding

*You need to know and understand:* **Recognise the range of options, the likely effectiveness and value for money of measures to improve energy performance**

1. the range of energy efficiency measures relevant to older and traditional buildings
2. the range of materials and techniques applicable to older and traditional buildings including vapour permeable and impermeable materials
3. the effects of energy efficiency measures in combination with each other
4. the limitations of using default U-values in Reduced Data Standard Assessment Procedure (RDSAP) (or approved software) for older and traditional buildings and their impact on the energy rating and recommended energy efficiency measures in the Energy Performance Certificate
5. the circumstances in which calculated U-values or in – situ measured U-values should be used, the issues to be aware of and appropriate sources or processes to obtain these
6. how to estimate the financial cost and payback in relation to specific building type
7. the additional physical adaptations required to existing building detailing and services
8. the adaptations required to energy efficiency measures to accommodate existing building detailing and services
9. the ways in which energy efficiency measures change the appearance and character of older and traditional buildings
10. the implications of existing building defects and the repairs required and how they affect the choice of energy efficiency measures
11. the ways of establishing and assessing the implications of occupant behaviour on proposed energy efficiency measures
12. the implications of the relevant legal and regulatory requirements
13. the technical risks associated with the energy efficiency measures
14. the ways of evaluating the technical risks involved in relation to the introduction of the proposed energy efficiency measures and their delivery and how to mitigate the risks

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15. the ways of assessing the impact and consequences of using unsuitable interventions or inappropriate energy performance measures
  16. the ways of evaluating the options for the introduction of energy efficiency measures to older and traditional buildings

## Scope/range

Energy efficiency measures:

- need to be adapted: due to existing building structure, detailing and services, the heritage values and significance of the building or technical risks
- or cases where energy efficiency measures cannot be recommended due to these factors

The implications of the relevant legal and regulatory requirements with particular reference to:

- planning permission
- listed building consent
- conservation area
- local listing
- scheduled ancient monument
- national building regulations including any exemptions and special considerations for older and traditional buildings

The technical risks associated with the energy efficiency measures in relation to:

- thermal bridges (cold bridges)
- ventilation
- thermal bypass
- condensation and interstitial condensation
- alterations in structure
- moisture movement

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