Appendix C: Work to thermal elements

C1 This appendix provides guidance on the cost-effectiveness of insulation measures during various types of work on a thermal element. Table C1 sets out target U-values that would be considered to represent reasonable improvements in ordinary cases and examples of construction that may be used to achieve the proposed performance.

C2 If it is not reasonable to meet the target U-values in Table C1, considering technical risk and practicality of the work in relation to the dwelling and impacts on adjoining buildings, then the U-value should be as close to the target value as practically possible.

C3 The final column in Table C1 provides guidance on specific issues that may need to be considered to determine an appropriate course of action. In general, the proposed works should take account of all of the following.

a. The requirements of any other relevant parts of Schedule 1 to the Building Regulations.

b. The general guidance on technical risk relating to insulation improvements contained in the Building Research Establishment's BR 262.

c. For buildings falling within the categories set out in paragraphs 0.8 to 0.13, Historic England's *Energy Efficiency and Historic Buildings: Application of Part L of the Building Regulations to Historic and Traditionally Constructed Buildings*.

C4 General guidance is available from relevant British Standards.

Table C1 Cost-effective U-value targets when undertaking renovation works to thermal elements

Proposed works	Target U-value W/(m²·K)	Typical construction	Comments (reasonableness, practicability and cost-effectiveness)
Pitched roof constructions			
Renewal of roof covering: No living accommodation in the roof void. Existing insulation (if any) at ceiling level, less than 50mm, in poor condition, and/or likely to be significantly disturbed or removed as part of the planned work	0.16	Provide loft insulation – 250mm mineral fibre or cellulose fibre as a quilt laid between and across ceiling joists or loose fill or equivalent	Assess condensation risk in roof space and make appropriate provision in accordance with the requirements of Part C relating to the control of condensation (**BS 5250** and **BS EN ISO 13788**). Additional provision may be required to provide access to and insulation of services in the roof void
Renewal of roof covering: Existing insulation in good condition and will not be significantly disturbed by proposed works. Existing insulation thickness between 50mm and 100mm	0.16	Top up loft insulation to at least 250mm mineral fibre or cellulose fibre as quilt laid between and across ceiling joists or loose fill or equivalent. This may be boarded out	Assess condensation risk in roof space and make appropriate provision in line with the requirements of Part C relating to the control of condensation (**BS 5250** and **BS EN ISO 13788**). Additional provision may be required to provide insulation and access to services in the roof void Where the loft is already boarded and the boarding will not be removed as part of the work, the practicality of insulation works needs to be considered