

Applications of thermography for historic buildings in the UK

Soki Rhee-Duverne, Caroline Cattini

Planning Group Conservation Department, Historic England

United Kingdom

Soki.Rhee-Duverne@HistoricEngland.org.uk

There are multiple applications where thermography may be appropriate for understanding and improving the performance of historic buildings. It is now a vital tool to determine performance characteristics of walls, windows, services for energy, and structural and environmental integrity. Applications can cover assessing energy efficiency improvements, deterioration of fabric from damp or moisture ingress, identifying condensation risk, identifying physical characteristics and defects, and investigating electrical faults and anomalies in building services.

The diagnosis will both extend the life of the building and improve the living conditions for the occupants. It can be argued that it is now part of a package of tools available to the historic building professional for the general maintenance and health of historic structures.

This talk will present case studies of applications of infrared thermographic imagery in historic buildings in the UK (Bolsover Castle, Dover Castle, Kenwood House, Carlisle Castle, New Bolsover Estate, and Richmond Castle) and applications in research into moisture measurements and thermal performance building elements. It will highlight where thermography has proved to be a useful tool for assessing a wide of range of potential and current problems and providing supporting evidence for building interventions. However, successful diagnosis and interpretation of the images must always be accompanied by a comprehensive survey of the fabric and of its history of interventions to avoid misinterpretations.

Keywords

Conservation, electrical and physical defects, energy efficiency, environmental integrity, healthy buildings, historic buildings and services, moisture, performance characteristics