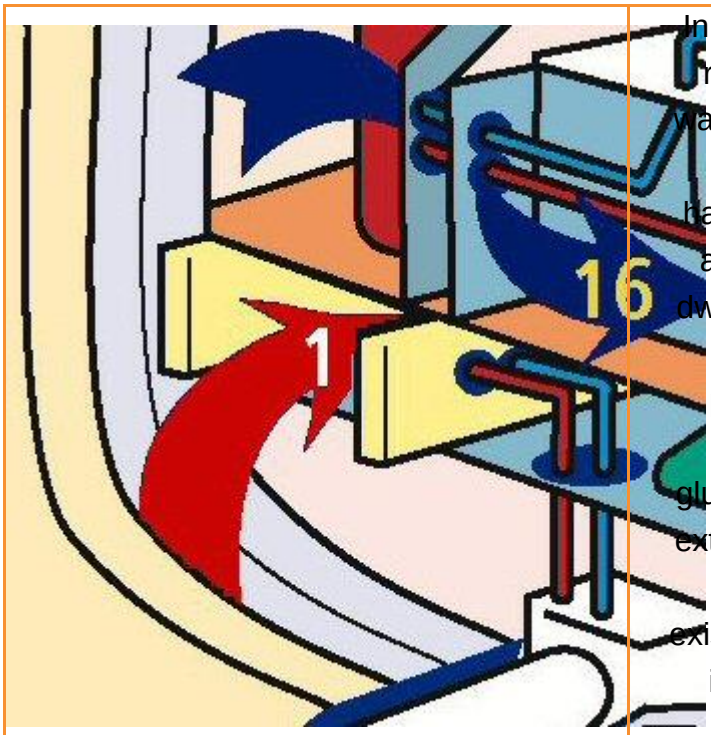
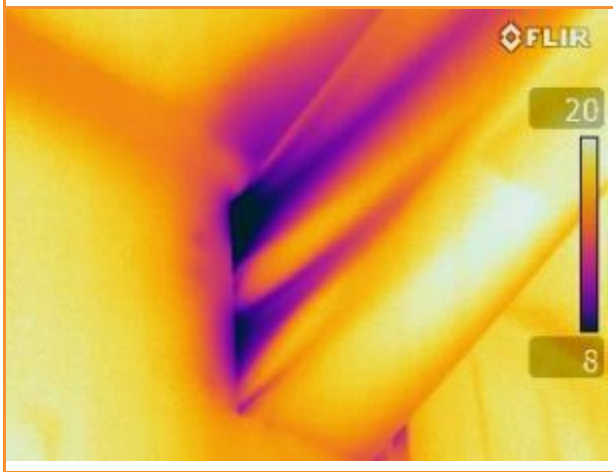
Common Leakage Sites no.1

Around the ends of floor joists built into the external wall, and to a lesser extent around joist hangers.



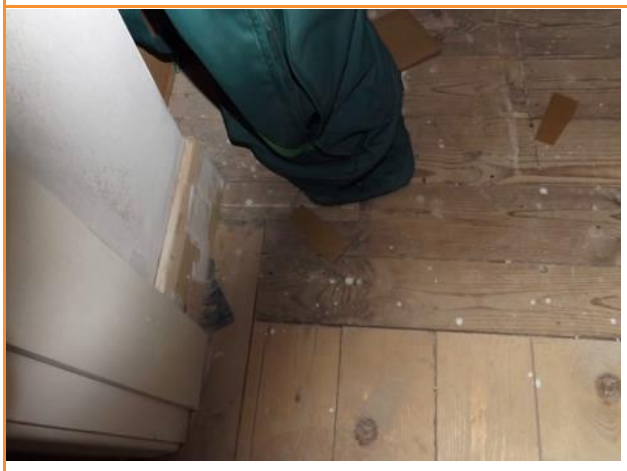
In this instance air is leaking into the room from a cavity in the external wall. This will occur through gaps and cracks around joist ends or joist hangers built into the inner leaf. Can also occur in a party wall between dwellings, causing leakage to or from the property next door. Similar problems are found around steel beams and large timber beams, glulams and similar, that are built into external walls, in larger dwellings and many non-domestic buildings. In existing, usually older, buildings, splits in large timber beams can give a similar leakage path.

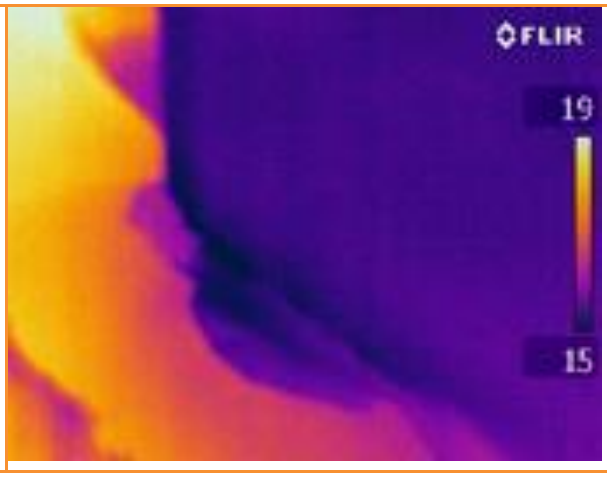
Building Fabric Leakage 1:- Around the ends of floor joists or hangers



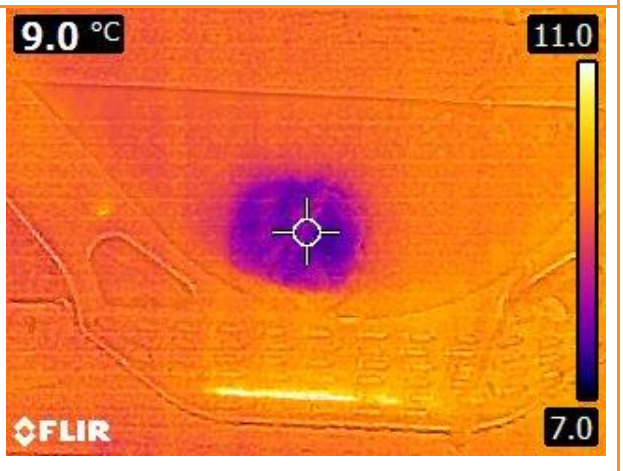
1.01: Internal thermographic image whilst dwelling is depressurised showing leakage where timber frame penetrates plasterboard wall.

1.02: External thermographic image whilst house is pressurised showing leakage along brick detail at intermediate floor level.

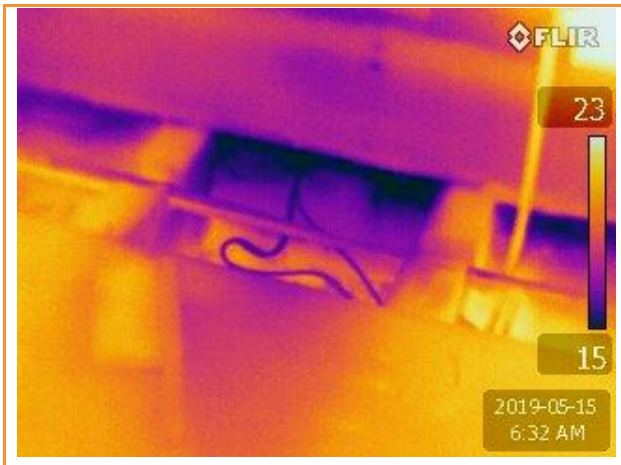




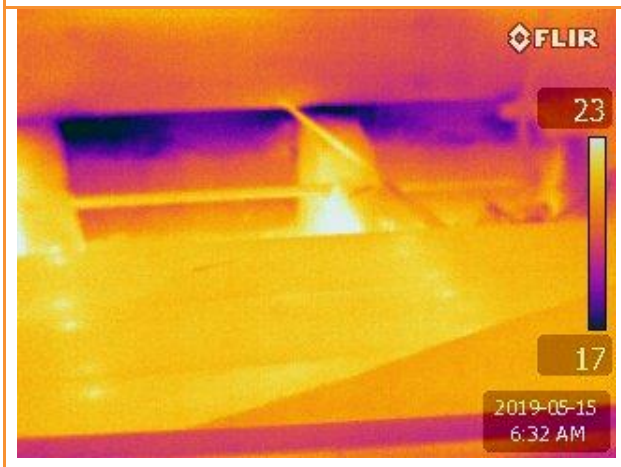
1.03: Internal thermographic image showing extensive leakage at side of opening where floorboards meet cavity wall



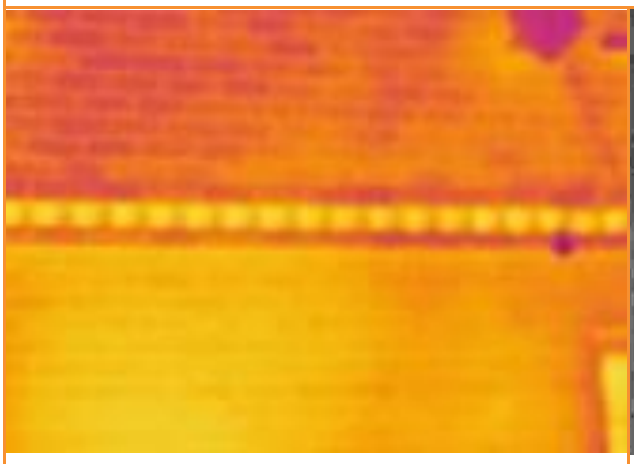
1.04: Internal thermographic image whilst house depressurised, showing substantial leakage where hole-saw cut-out had not been refitted in airtight OSB after installation of blown cellulose insulation



1.05: Internal thermographic image with house depressurised, showing substantial leakage around perimeter of intermediate floor where floorboards lifted in bedroom to side of house

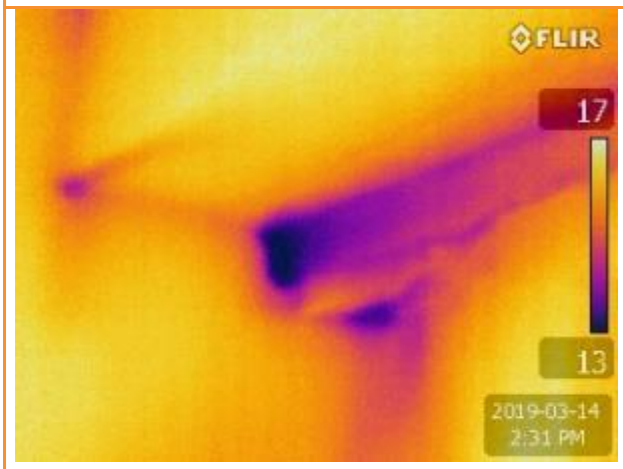


1.06: Internal thermographic image with house depressurised, showing substantial leakage down behind skirting board around perimeter of intermediate floor where floorboards lifted in same bedroom



1.07: External thermographic image whilst house pressurised, showing significant heat loss from the decorative feature along the external edge of the intermediate floor

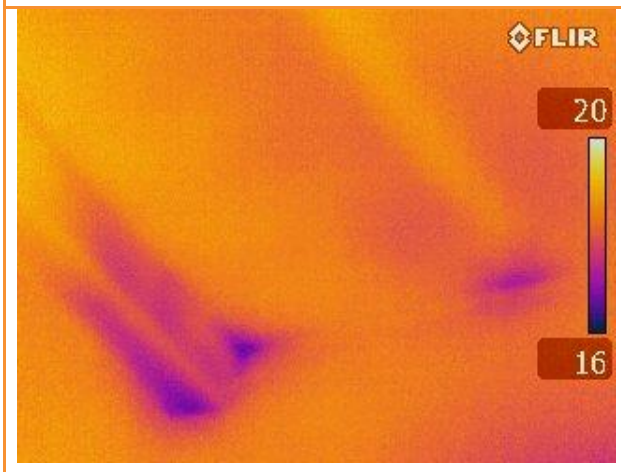
1.08: Internal thermographic image whilst house depressurised, showing major leakage around roof joist in corner of single-storey section off kitchen



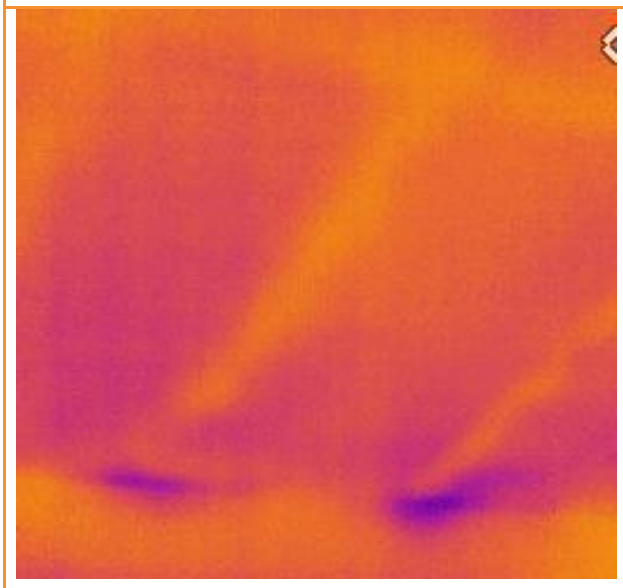
1.09: Internal thermographic image whilst house is depressurised showing leakage beneath roof joist.

1.10: Internal thermographic image whilst house depressurised, showing major leakage around roof joist in corner of single-storey section off kitchen

1.11: Internal thermographic image whilst house depressurised showing leakage above timber joist into wall, first floor bedroom. Also, cold section in roof suggesting missing insulation



1.12: Thermographic image showing cold spots on the underside of the intermediate floor void, illustrating leakage around joists and particularly associated with the party wall.



1.13: Thermographic image showing cold spots on the underside of the intermediate floor void, illustrating leakage around joists. This could be addressed internally, perhaps by sealing around joist ends – but cutting the joists and fitting a perimeter beam would be more reliable to deliver good airtightness