

# APT Thermography Ltd

Regional Office: 36 Mayfield Road, Luton, Bedfordshire, LU2 8AP  
Tel: 07967 233836 Fax: 01582 896709  
Offices in London, Luton and Cardiff  
[www.airpressuretesting.net](http://www.airpressuretesting.net)

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## Checklist of Items to be completed prior to our arrival

### **Infrared Thermography Inspection**

A Infrared thermography inspection survey by competent person(s) should be carried out to demonstrate that the buildings (envelope) insulation is reasonably continuous over the visible envelope of the building and that excessive thermal bridging is avoided.

Failure to achieve regulatory compliance will result in project handover delays, rectification costs and consequential losses.

### **Infrared Thermography Survey Specification**

#### **1. Infrared Thermography Surveys**

Carry out infrared thermography inspections using a specialist consultant to demonstrate that the insulation of the building is reasonably continuous over the whole visible envelope, that there are no unintentional air leakage paths through the fabric and that insulation aspects of the work have been carried out in accordance with construction drawings.

#### **2. Survey Method**

Survey to be carried out as recommended in BS EN 13187 Thermal Imaging of Building Fabric and CIBSE Technical Memoranda TM23: 2000 Testing Buildings for Air Leakage.

#### **3. Programme**

The contractor should allow sufficient time in the programme to rectify any defects that become apparent in testing and retesting to demonstrate compliance prior to the completion date.

#### **4. Quality control and Supervision**

The contractor shall be responsible for the site quality control to check that the sub-contractors and suppliers complete the work in accordance with the contract drawing and specification –including any approved subcontractor's drawings where applicable.

#### **5. Access**

The contractor should provide appropriate access agreed in advance with the specialist. APT Infrared Thermography inspectors shall have unrestricted access to the Site. Where access is limited or there are obstructions which can not be overcome, then the survey report will reflect this. APT Infrared Thermography inspectors shall not be liable for any deficiencies in the report as a result of lack of access or the presence of an obstruction.

#### **6. Witnessing**

Tests may be witnessed by the contractor, the Contract Administrator (CA) and/or the Building Inspector (if required). The contractor should liaise with all parties in advance to ensure their attendance.

## 7. Conditions and Testing

The contractor should ensure that the test is carried out under the appropriate conditions.

- a) An external survey must be carried out during the hours of darkness or with little direct solar radiation.
- b) It is preferable that an internal survey be undertaken under similar conditions, particularly with lightweight construction.
- c) The contractor should allow for heating the building to establish a temperature difference between inside and outside of at least 10°C during the test and at least 5°C for the preceding 24 hours.
- d) Sufficient time must elapse to allow heat previously built up from solar gain to be emitted from the building. The time for this to occur varies with the construction, but normally at least three hours is required. Problems with solar gain may limit the effectiveness of Infrared Thermography surveys during the summer months.
- e) No direct solar radiation on each face in the preceding hour.
- f) If the building envelope material is highly reflective then the survey will take longer and may over run into an extra visit.
- g) Temperature difference across the building enclosure should ideally be 10 K or greater. Standards 5 state: "a minimum of  $3/U$  degrees"; for example, 6 K for a U value of 0.5 W/m<sup>2</sup>K.
- h) Ambient air to internal air difference at least 5 K for the preceding 24 h.
- i) Ambient temperature within  $\pm 3$  K during test and for the preceding hour.
- j) Ambient temperature within  $\pm 10$  K during the preceding 24 h, or 12 h for lightweight fabric.
- k) All building surfaces being inspected to be dry. No precipitation immediately prior to or during the survey, this includes mist and fog.
- l) Wind speeds during the survey not to exceed 10 m/s.