

# **SPECIFIC DEFECTS REPORT**

**(this is a non-invasive inspection)**

**Relating to the roof and associated problems**

**In Kent**



**Mr X**

Prepared by:

**INDEPENDENT CHARTERED SURVEYORS**

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**0800 298 5424**

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**INTRODUCTION AND INSTRUCTION**

Independent Chartered Surveyors

—— Marketing by: ——

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0800 298 5424

We have been instructed by Mr X to prepare a report on the roof and associated cracking.

We have carried out a visual inspection of the property on XXXX.

The weather was cold, dry and overcast at the time of the inspection.

We are Independent Chartered Building Surveyors. We are registered with the Royal Institution of Chartered Surveyors and are members of the Independent Surveyors Association,

The Report has been carried out by;  
XXXX  
BSc MSc FBEng  
Chartered Building Surveyor for and on behalf of XXXX

The work has been carried out as per our standard Terms and Conditions of Contract which have been emailed to you as part of the confirmation of our instructions. If you would like further clarification please do not hesitate to contact us.

## **SYNOPSIS**

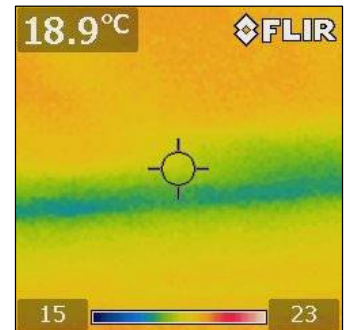
A new roof has been added to the rear extension and cracking is now visible internally where the walls meet the ceiling. We have been asked to investigate.



Cracking to the ceiling



Ponding on the roof



Thermal Image Photo  
Blue represents crack  
indicating it is more than  
just a surface crack.

# **CONSTRUCTION SUMMARY**

XXXX, note we have had an external inspection and a limited internal inspection as set out within the survey investigation.

## **External**

Chimneys:	Brick chimneys
Main Roof:	Pitched and clad in concrete tiles
Rear Roof:	Flat, proprietary roof system
Gutters and Downpipes:	Plastic
Walls:	Stretcher bond brickwork (assumed)
External Detailing:	Plastic windows and timber fascias and soffits
Foundations:	Not inspected.

## **Internal**

Ceilings:	Plasterboard (assumed)
Walls	Solid and studwork (assumed)
Floors: Ground Floor:	Solid floor, concrete (assumed)
First Floor:	Floorboards (assumed)

We have used the term 'assumed' as we have not opened up the structure.

# **EXECUTIVE SUMMARY**

Executive summaries are always “dangerous” as they try and encapsulate relatively complex problems in a few precise and succinct words, although we do expect you to read the report in full, having said that here is our executive summary and recommendations:

## **1.0 Factors that could affect and cause this cracking**

- 1.1 Movement in the structure as a whole
- 1.2 Movement in the extension
- 1.3 Isolated movement, for example over the French doors or the adjoining windows
- 1.4 Defective construction of the roof

## **2.0 Findings**

- 2.1 Hairline cracking to the window above the flat roof
- 2.2 Ponding on the flat roof
- 2.3 Deflection in the flat roof
- 2.4 All the joists are visible through the flat roof
- 2.5 Cracking at the ceiling and wall level internally at XXXX

## **3.0 Current good practice/Building Regulations**

(Although there is no retrospective requirement to meet Building Regulations it is generally considered best practice)

- 3.1 We noted no expansion joints to the brickwork (equally we noted no vertical cracking at the corners which is a usual sign of expansion in the structure.
- 3.2 No ventilation in the fascia and soffit boards of the roof

## **4.0 Further investigation required**

- 4.1 There is a lintel that has been installed at the opening of the extension with cracking to the brickwork above, although this can be also seen to have been an old cause of movement due to the mortar that has been used on it.
- 4.2 The lintel that has been used over the French doors
- 4.3 Is there isolation within the roof?
- 4.4 Are the rainwater pipes discharging into a soakaway?

## **5.0 Conclusions**

We would comment:-

5.1 Based on what we can see the deflection in the roof, in our opinion, is too great and the thickness of plywood is possibly not thick enough for the span of joists.

5.2 There is insufficient fall on the roof leading to ponding

5.3 The roof requires venting at the fascias and soffits and insulation

5.4 We would recommend the roof is opened up and the dampness content of the decking checked.

## **6.0 Recommendation**

6.1 Our recommendation is whilst we think that there is an element of settlement we feel that the installation of the flat roof is not satisfactory and will not have a long term life. The weight of the water caused by the ponding on the roof will cause further deflection.

6.2 We propose that the installing company is given the opportunity to respond to this document and also the opportunity to open up the structure. Photographs required and duly comment.

### Time Line – A brief history of the structure

This has been based upon a discussion with Mr X

<b>DATE</b>	<b>DESCRIPTION</b>
1930	Property was built
2000	Present owners moved in
1980	Rear extension that the roof is under was built
1987	Kitchen extension was built
2006	Block paving to the front and rear added
2008	French doors were added to the dining room
17 <sup>th</sup> May 2010	Quotation date – this has a section that advises that a survey will be carried out to establish the work that is required, prior to the roof being added.

# **INSPECTION**

XXXX, note we have had an external inspection and a limited internal inspection as set out within the survey investigation.

Our inspection has been specifically related to the roof and cracking issues detailed below.:

## **Visual Inspection**

Our inspection has taken the format of a visual inspection:

1. External of the properties of the
  - i. front
  - ii. rear
  - iii. side

We have had the benefit of a x 16 zoom lens on a digital camera

2. Internal of the properties

We have viewed:

- i. Rear extension area and adjacent WC
- ii. Neighbouring properties kitchen/dining area

3. Roof space, viewed

4. We have had a detailed discussion with the owner/occupier of 2 and the owner/occupier of XXXX

5. We have utilised a resistance meter for measuring dampness Gann Meter.

6. A thermal imaging camera, to obtain the best readings we can given the fact there was no pre-preparation of the structure. Ideally you need at least a ten degree differential between the inside and the outside of a property.

# **SURVEY FINDINGS**

1. From our visual external inspection we noted:

i. roofs

## **Ponding on the Roof and deflection**

We could see ponding on the main roof and also upon standing on the roof we could feel a deflection in it over and above what we would normally expect and we could see higher areas where the joists are which run from the front to the rear of the property.

We would also comment that the deflection within the roof decking is over and above what we would normally expect. We would like to see receipts to confirm the type of boarding used and the thickness (the specification advises plywood WBP (Water and Boil Proofed) of 19mm)



Ponding on roof



1)  
2)  
3)  
4)

Nail fixings where decking board is nailed down



Roof rests onto timber joists that run from the front to the rear of the property

ii. walls:-

**Cracking**

Internally we noted cracking within XXXX (as detailed within the Survey Findings part of this report).

We believe, in this instance, that interstitial condensation is taking place within the roof at XXXX, there is presently a family with three children (one just aged 6, one aged 3).

**ACTION REQUIRED:** We would recommend venting of the roof space.



Crack to WC wall

We have noted historic hairline cracking above the opening to the original property which has been repointed in a lighter cement mortar. We also have noted some newer hairline cracks.

The only way to be hundred per cent certain as to whether or not progressive movement is occurring as recommended by The Building Research Establishment is to monitor the property for one year.



Taking damp meter reading on cracked WC wall - 21



Cracking on neighbours side



Cracking in rear wall (old main wall of property)

Monitoring may be an option. See different monitoring devices within the Appendices.

Dining Room wall – there are cracks running the length of the middle to the far part of the left and right hand wall (all directions given as you face the property) ranging from hairline to 5-6mm.

Rear wall – the cracks ranging from 5-10mm (gauged by eye sight)

iii. windows and doors

We have no way of knowing the size of the lintels in the windows and door however we note there has been cracking above the opening formed to give access to the extension. We also note there is cracking above the French doors to XXXX



French doors at rear of properties

2. From our visual internal inspection we noted

- i. ceilings
- ii. walls

Within the rear extension there is cracking at the ceilings and wall junctions.

Note; we have not moved furniture or fixtures and fittings.

Note; the full areas inspected are identified within the inspection part of the report and this should show anything in this section.

3. We have taken readings with our electronic resistance damp meter

**Resistance Damp Meter Readings**

Room	Readings Obtained	Typical Readings
Dining Room	25 to left hand wall 28 to the rear wall 24 to the right hand wall.	20-30
WC	crack to the wall on the left hand side, readings in this area were 24.	

## **SUMMARY UPON REFLECTION**

The Summary Upon Reflection is a second summary so to speak, which is carried out when we are doing the second or third draft a few days after the initial survey when we have had time to reflect upon our thoughts on the property. We would add the following in this instance:

1. The structure needs to be opened up and examined.
2. The specification needs to be confirmed.
3. The original contractor needs to be given the opportunity to forward a long term solution. We would of course be happy to comment on any proposals they recommend.

If you would like any further advice on any of the issues discussed or indeed any that have not been discussed! Please do not hesitate to contact us on

# **LIMITATIONS**

## **Specific Defects Report**

### **1. Conditions of Engagement**

Please note: references to the masculine include, where appropriate, the feminine.

Subject to express agreement to the contrary (which in this particular case has been none) and any agreed amendments/additions (of which in this particular case there have been none), the terms on which the Surveyor will undertake the Specific Defects Report are set out below.

Based upon a visual inspection as defined below the Surveyor will advise the Client by means of a written report as to his opinion of the visible condition and state of repair of the specific problem or problems only. In this instance we have made an the inspection of the roof area and beneath.

### **2. The Inspection**

#### **a) Accessibility and Voids**

The Surveyor will base this report on a visual inspection and accordingly its scope is limited. It does not include an inspection of those areas, which are covered, unexposed or inaccessible. Our visual inspection will relate to the specific defects shown to us only.

#### **b) Floors**

We have not opened up the floor structure. We have only carried out a visual inspection and any conclusions will be based upon our best assumptions. We can open up the floor if so required at an extra fee.

#### **c) Roofs**

The Surveyor has inspected the flat roof to the rear only in this instance.

#### **d) Boundaries, Grounds and Outbuildings**

The inspection will not include boundaries, grounds and outbuildings unless specifically stated (none stated).

#### **e) Services**

No services inspected.

f) Areas not inspected

The Surveyor will have only inspected those areas identified within the report. His report will be based upon possible or probable defects based upon what he has seen together with his knowledge of that type of structure. If you feel that any further areas need inspection then please advise us immediately.

g) Specific Defects Report

As this is a report upon a Specific Defect we do not offer any comment or guidance upon reactive maintenance and/or planned or routine maintenance items.

h) Whilst we have used reasonable skill and care in preparing this report, it should be appreciated that the Chartered Surveyors cannot offer any guarantee that the property will be free from future defects or that existing defects will not suffer from further deterioration;

**3. Deleterious and Hazardous materials**

a) Unless otherwise expressly stated in the Report, the Surveyor will assume that no deleterious or hazardous materials or techniques have been used in the construction of the property. However the Surveyor will advise in the report if in his view there is a likelihood that high alumina cement (HAC) concrete has been used in the construction and that in such cases specific enquiries should be made or tests carried out by a specialist.

**4. Contamination**

The Surveyor will not comment upon the existence of contamination as this can only be established by appropriate specialists. Where, from his local knowledge or the inspection he considers that contamination might be a problem he should advise as to the importance of obtaining a report from an appropriate specialist.

**5. Consents, Approvals and Searches**

a) The Surveyor will assume that the property is not subject to any unusual or especially onerous restrictions or covenants which apply to the structure or affect the reasonable enjoyment of the property.

b) The Surveyor will assume that all bye-laws, Building Regulations and other consents required have been obtained. In the case of new buildings and alterations and extensions, which require statutory consents or approval the Surveyor will not verify whether, such consents have been obtained. Any enquiries should be made by the Client or his legal advisers.

Drawings and specifications will not be inspected by the Surveyor. It is the Clients responsibility to forward any drawings and specifications that he has or knows the whereabouts of to us to include information in our report. If these are not forthcoming we will make our best assumptions based upon the information available.

- c) The Surveyor will assume that the property is unaffected by any matters which would be revealed by a Local Search and replies to the usual enquiries or by a Statutory Notice and that neither the property nor its condition its use or intended use is or will be unlawful.

**6. Fees and Expenses**

The Client will pay the Surveyor the agreed fee for the Report and any expressly agreed disbursements in addition.

**7. Restrictions on Disclosures**

- a) This report is for the sole use of the Client in connection with the property and is limited to the current brief. No responsibility is accepted by the Chartered Surveyors if used outside these terms.
- b) Should any disputes arise they will be dealt with and settled under English law;
- c) This report does not fall under the Third Parties Rights Act.

**8. Safe Working Practices**

The Surveyor will follow the guidance given in Surveying Safely issued by the Royal Institution of Chartered Surveyors (RICS).

# APPENDIX 1

Independent Chartered Surveyors

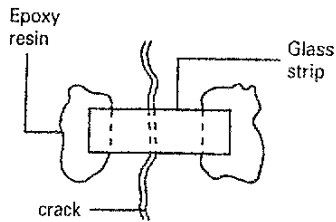
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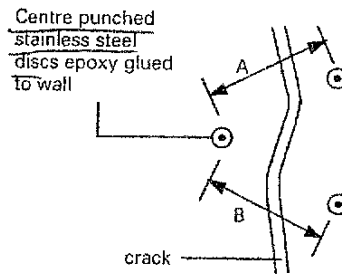
0800 298 5424

## Movement monitoring devices

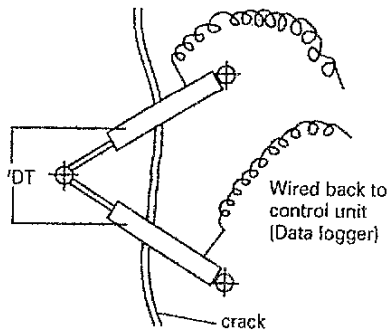
### A selection of movement-measuring devices



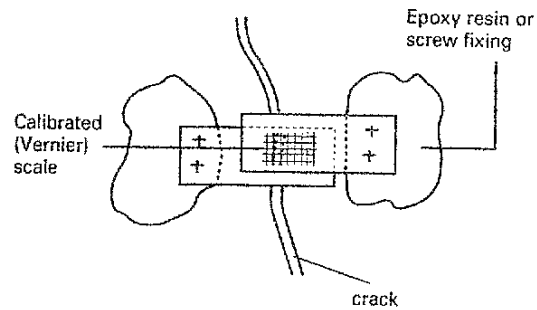
**Glass tell-tale:** the simplest and cheapest crack-monitoring device but of limited use through lack of any calibration and vulnerability to damage.



**Vernier crack markers.** Robust and cheap and sufficiently accurate for the majority of low-rise building applications.



**Linear variable displacement transducers (LVDTs).** Very accurate but expensive devices enabling, by their remote data logging operation, central monitoring of distant movement.



**Sliding perspex tell-tale.** Calibrated measurement but vulnerable to damage and requiring relatively flat surfaces to fix to.

Movement measuring devices	
Measurement device	Accuracy (mm)
Glass tell-tale	0
Sliding perspex tell-tale	0.5
Vernier markers	0.1
Dial gauge	0.05
LVDTs	0.01