



Alpine Surveys

Independent Property Survey Specialists



Damp Investigation Survey Final Report

Valued Customer

An Address, Buckingham, Bucks

06 March 2017

Alpine Surveys Ltd

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1 Introduction

Alpine Damp were requested to undertake a damp survey, in order to ascertain the extent and cause of any damp

Internally we undertook a Relative Damp (RD) and Moisture Content (MC) survey, in order to ascertain where damp was present and to what level. The RD levels stated indicate the following; 1 - 169 is Dry, 170 -200 is At Risk of Damp and 201 - 999 are varying levels of damp.

In order to assess the property with an alternative survey method, to confirm the RD and MC levels, to ascertain the spread of the damp and to locate potential source points. Thermal imaging was undertaken throughout the survey area and photos obtained of the areas of concern.

2 Property Details

Client	Valued Customer	Survey Date	06 March 2017
Address	An Address, Buckingham, Bucks		
Consulting Engineer	Mark Dobson		
Instruction	Assess the three bedroom property		

Property Details

Use of Property	Domestic	Property Style	End of Terrace
Occupants	1	Number of Floors	2
Listed Building	No	Conservation Area	Yes
Approximate Year of Construction	1850		
Wall Construction and Covering	Solid Brick		
Roof Construction inc Visual Condition	Slate (Good Condition)		
Historical Information			
The client has recognised various damp issues since purchasing the property in January.			
Plans Provided	No	Full Access Provided	Yes
Comments			

External Details

External Condition Summary			
Chimney stacks deteriorated. Render, cracked blown, painted and deteriorated. Windows and facias deteriorated. High ground levels.			
DPC in Place	Yes	DPC Type and Cond.	DPC Assumed but unable to see
Vent Brick Details	Various Air Bricks	Guttering Condition	Acceptable Condition
External Fixtures Fittings			
N/A			
Windows & Doors	UPVC & Wood	Pathways & Gardens	Tarmac
Chimney Stacks	Yes	Condition	Attention Required
Water Supply Checked	N/A	Drainage	N/A

Internal Details

Ground Floor Construction and Coverings Solid Floor (Various)

Room Details

3 Bedrooms, bathroom, kitchen, 2 lounges, dining room,

Heating Type Combi (No Pressure Loss) Air Con No Blocked Fireplaces Yes

Internal room changes construction mods

Originally two cottages, opened into one prior to 1940. A conservatory has been added to the rear.

Kitchen/Utility Room

Oven Extractor Details

Extractor fitted and working

Equipment Details

Oven, washing machine and tumble drier.

Bathroom(s)

Air Extraction Details

No extractor fitted

Other Details

Other Specific Room Details

None

Property Insulation Details

Solid brick construction therefore no cavities

Specific Mould and Fungi Details

Mould was not found to be a general issue within the property, however we understand that mould was an issue on the first floor.

Specific Condensation Details

Condensation was not found to be a general issue within the property, although it was an issue previously.

Exterior Details

Initially we assessed the exterior of the property, and found that the pointing, brickwork and flaunching were deteriorated on the chimney stacks, which includes the stack on the party line. We noted that there was movement in the stacks, and that there was vegetation growing out of the flaunching on the crown. This level of deterioration will increase the risk of moisture penetration into the stacks, and thereafter down into the property beneath. The structure is solid brick construction, and it has been rendered and painted, with numerous coats of paint. The paint was found to be blown in numerous places, indicating that it is non-breathable. Being of solid construction, there is a requirement for the wall to breathe, in order to remain at an acceptable moisture content level. On the gable end, we found that the render was cracked across the elevation, which is the result of trapped moisture, and possibly the movement of the stack. To the rear we found that the fascia boards were deteriorated, which is normally an indication of unmaintained guttering, which has filled with silt and debris, and caused over spillage. We found that some of the windows have been replaced with UPVC, however some were still wooden and were rotten. We also found that the front door was deteriorated towards the base. This level of deterioration will increase the risk of moisture penetration through the timber, and into the adjacent structure.



3 Property Survey Details

Exterior Details Continued

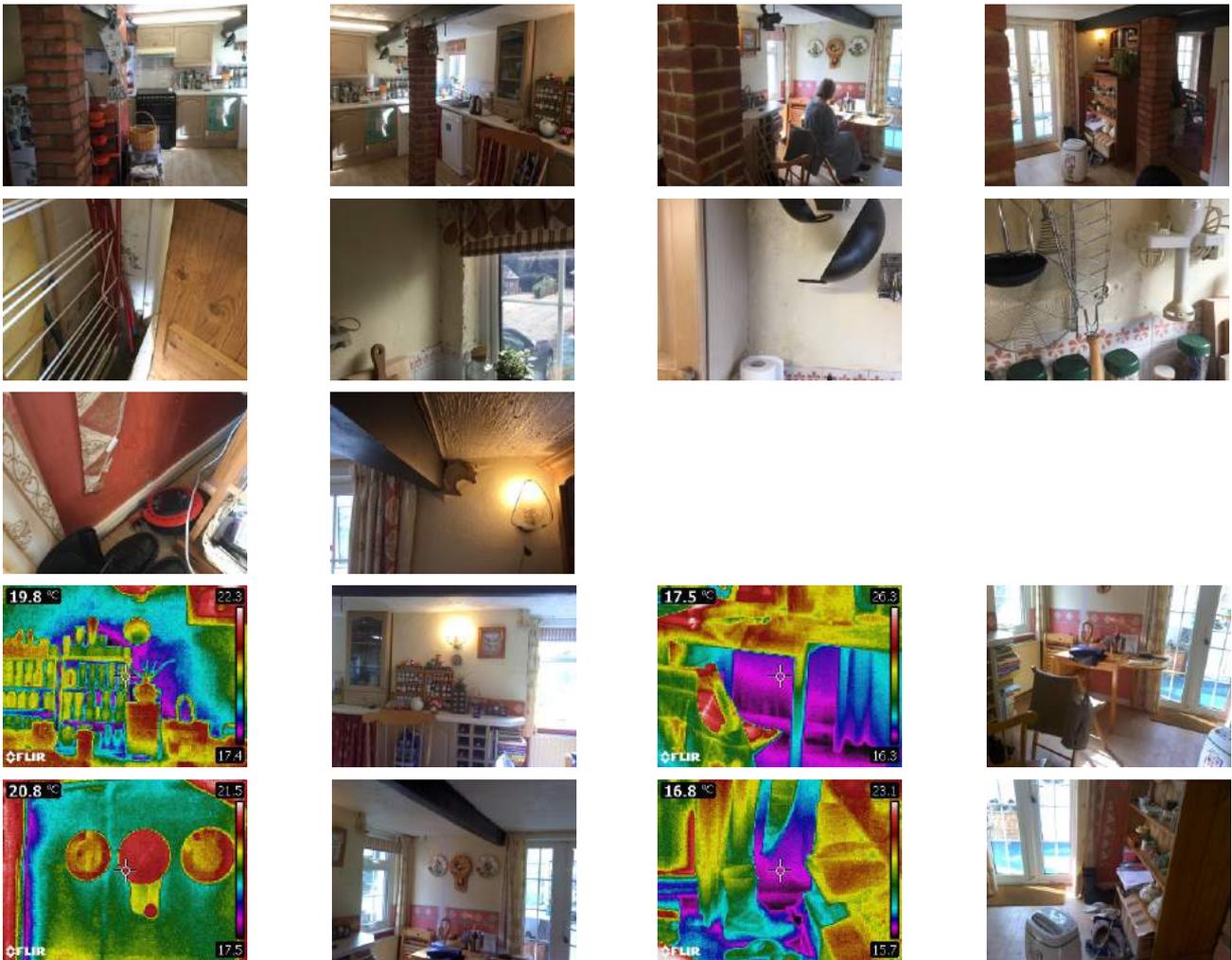
We found that the ground level was increased towards the rear elevation, and was above the recommended level of 150mm below internal floor level. This will increase the risk of moisture penetration into the base of the solid walls, and thereafter the floor structure.

We understand that the two conservatories are to be removed, and a new construction is to be added to the rear of the property. Therefore the conservatories were not included in the survey.



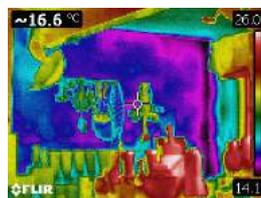
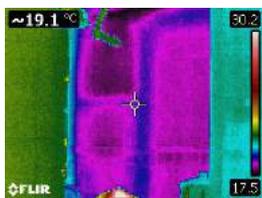
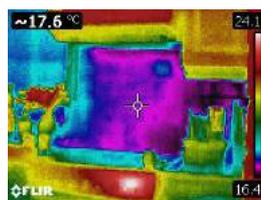
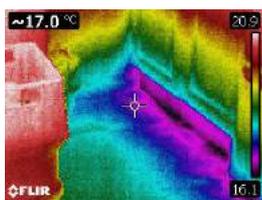
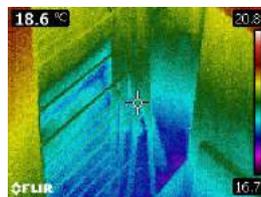
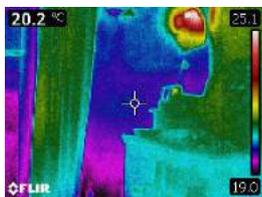
Kitchen Diner

Within the kitchen diner we found that there were visible signs of deterioration, which is due to moisture penetration and the high ground levels. The RD levels across the rear facing wall were between 167 and 213 at high level, and between 183 and 999 at low level. This is the result of moisture penetration and trapped moisture. Across the side external wall the RD levels were between 208 at high level, and 281 at low level to the right of the chimney stack. Across the chimney breast the RD levels were between 191 and 999 at high level, and 999 at low level. This is the result of moisture penetration into the stack above, and a result of moisture penetration through the side elevation which has become trapped. The side external wall to the left of the stack has been dry lined. We believe that this has been undertaken in order to cover the damp issue. This will stop the internal breathing process, and again trap moisture in the wall. The MC levels obtained were between 16 and 19%. This confirms that the wall behind is damp. We found that the recess of the left window has been poorly plastered, and the RD levels were all 999. This is the result of moisture penetration and trapped moisture. Across the front facing wall the RD levels were all 999. We noted that the plaster was deteriorated and blown. We also noted that the plaster appeared to be a gypsum type plaster, as opposed to a breathable Lime based plaster.



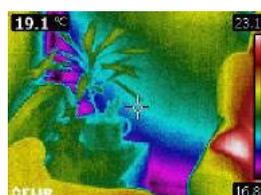
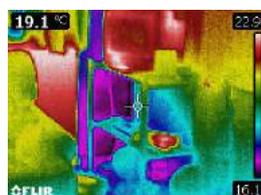
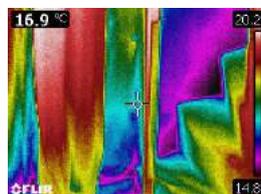
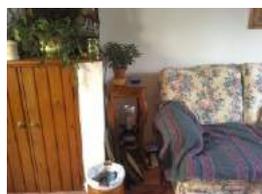
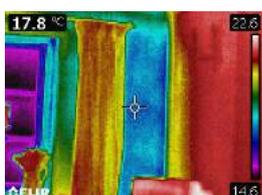
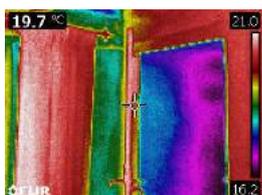
Kitchen Diner Continued

Gypsum type plaster is not totally non breathable, but does restrict the breathing process. The high moisture levels were a result of moisture penetration, and trapped moisture. This is due to non breathable paint applied externally, along with the internal plaster, which is trapping moisture in the wall. Across the party wall to the lounge, we were shown deterioration in the small cupboard. The section of wall between the cupboard and the front elevation has been dry lined. The MC levels were 16% at high level, and 21% at low level. Within the cupboard the RD levels were acceptable at high level, and at low level were 999. The moisture on this wall is the result of moisture spread from the front elevation and the adjacent chimney stack. The MC levels across the floor were 22% adjacent to the small cupboard, 75% adjacent to the lounge entrance, 24% adjacent to the rear door, and 18% adjacent to the dishwasher. This indicates that moisture is penetrating into the floor slab from the saturated all bases, and due to the external high ground levels to the rear.



Lounge

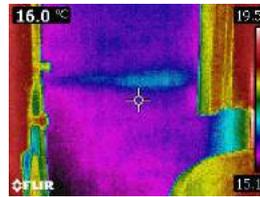
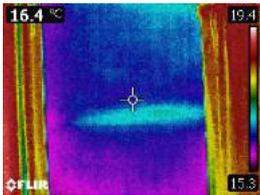
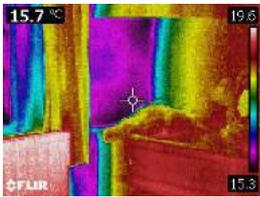
Within the lounge we were shown deterioration at the base of the front facing wall. There was also damp staining at the base of this wall. Within the left alcove the plaster and wall paper were blown as a result of the moisture within the wall. Across the lower section of the rear facing wall the paper was also deteriorated and peeling off. The thick wall paper has stopped the breathing process where the wall is saturated, which has caused the paper to peel. The RD levels across the front facing wall were between 167 and 182 at high level, and 999 at low level. Across the chimney breast the RD levels were between 167 and 999, indicating that moisture is penetrating down from the stack above. Across the alcove the RD levels were acceptable at high level, but increased to 999 at low level. This is the result of moisture spread from the front elevation and the chimney stack. Across the neighbouring party wall the RD levels were acceptable at high level, (apart from adjacent to the front and rear elevations where the levels were 211), but increased to 389 at low level. This is the result of moisture spread from the front and rear elevations. Across the rear facing wall the RD levels were between 271 and 254 at high level, and increased to 999 at low level. This is the result of moisture penetration and trapped moisture. The MC levels on the floor were between 33 and 74%. This is the result of moisture spread from the wall bases, and due to the high ground levels.



3 Property Survey Details

Master Bedroom

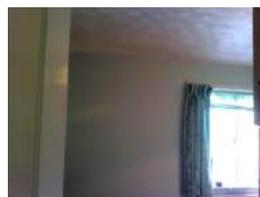
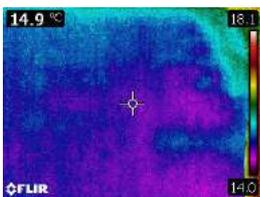
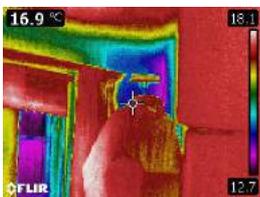
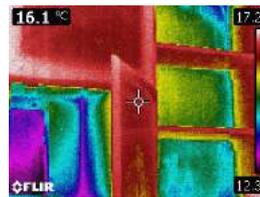
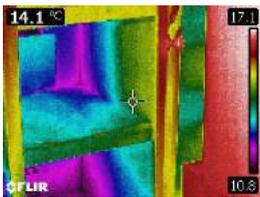
Within the master bedroom we found that the wallpaper was peeling off of the front facing wall and the landing party wall. The RD levels across the front facing wall were between 167 and 183. This is the result of moisture penetration and trapped moisture. Across the second bedroom party wall the RD levels were acceptable. Across the landing party wall the RD levels were also acceptable. Across the neighbouring party wall the RD levels were between 167 and 172. This is the result of moisture penetration from the front elevation, and moisture penetration down from the neighbours chimney stack.



3 Property Survey Details

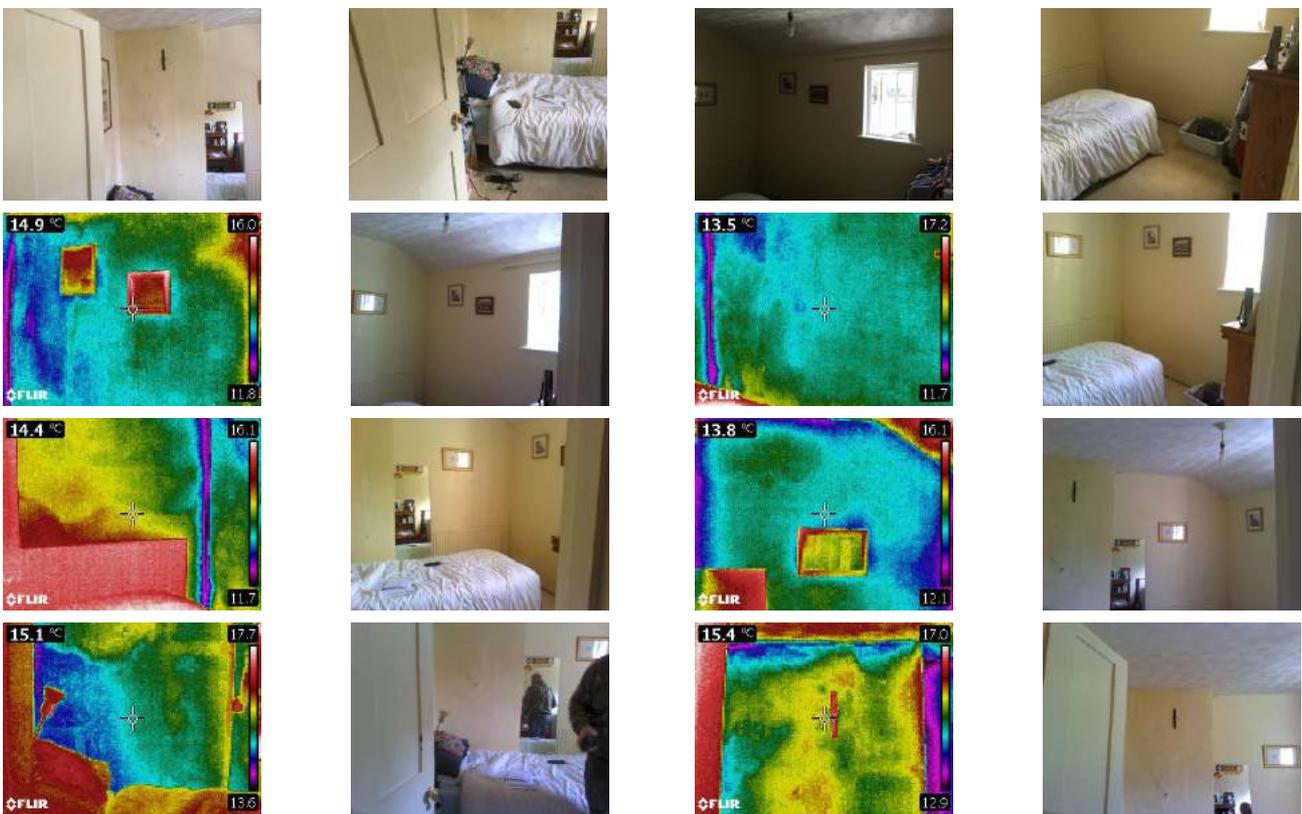
Second Bedroom

Within the second bedroom there was evident damp staining on side external party wall. This is the result of moisture penetration through the side elevation, and moisture spread from the adjacent deteriorated stack. The RD levels across the front facing wall were between 168 and 197. This is the result of moisture penetration and trapped moisture. Across the side external wall, we found that the obtained RD levels were between 203 and 999. Across the third bedroom party wall, the RD levels were acceptable. Across the master bedroom party wall the RD levels were acceptable.



Third Bedroom

Within the third bedroom we found that the chimney breast was very deteriorated, as was the ceiling adjacent to the external side elevation. The plaster was deteriorated and blown across the rear facing wall at low level adjacent to the side external wall. The RD levels across the rear facing wall were between 167 and 212 at high level, and increasing to 999 at low level. Across the chimney breast the RD levels were 999 throughout. This is the result of moisture penetration into the deteriorated stack above. Across the alcove the RD levels were again 999 throughout. This is the result of moisture penetration through the side elevation, and spread from the chimney stack. The RD levels across the stud partition party wall to the second bedroom were acceptable. Across the bathroom partition wall the RD levels were acceptable.

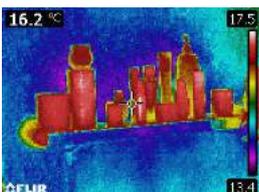
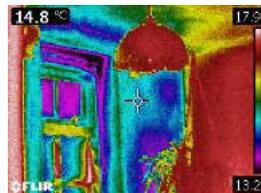
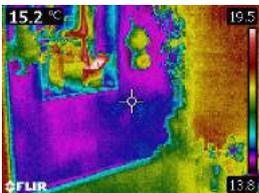


3 Property Survey Details

Bathroom

Within the bathroom we found that the exposed plaster was deteriorated around the bath. The RD levels across the rear facing wall were generally acceptable. Across the internal walls the RD levels were all acceptable.

Thermal Imaging indicated that moisture was present within the rear facing wall, and is the result of moisture penetration.

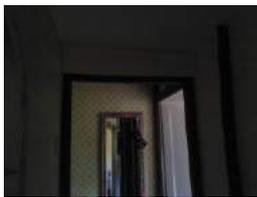
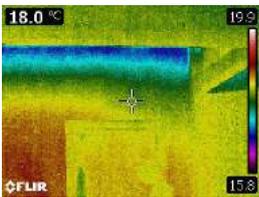


3 Property Survey Details

Landing & Stairway

The RD levels on the landing/neighbouring party wall were between 167 and 189, indicating that moisture is penetrating down from the stack above.

The stairway RD levels were included within the lounge detail.



4 Recommendations

In order to rectify the current issues, we recommend that the following works and rectifications are undertaken.

1. We recommend that the pointing on the chimney stacks is raked out, and repointed using a cement based mortar. At this time the flashing should be replaced using a cement based mortar. Any bricks found to be cracked, damaged, eroded by 10% or more, porous or blown due to moisture absorption, should be replaced.
2. We recommend that the deteriorated, cracked and painted render is removed with care, so not to cause unnecessary damage to the brick work beneath.
3. We recommend that any deteriorated pointing is raked out, and repointed using a breathable lime based mortar. Any bricks found to be cracked, damaged, eroded by 10% or more, porous or blown due to moisture absorption, should be replaced.
4. We recommend that thereafter the elevations are rendered using a breathable lime based render, and for decor a lime wash or breathable silicate based paint should be used.
5. The deteriorated facias to the rear should either be replaced, or repaired, prepared, and painted. The deteriorated wooden windows, sills and front door frame should either be replaced, or repaired, prepared and painted using an external protective paint.
6. The ground levels should be lowered in order to create the recommended drop of 150mm from internal floor level, down to external ground level.
7. Any dry lining internally on external walls should be removed, and the walls plaster with lime plaster.
8. Any defective internal plaster should be replastered using a breathable lime based plaster. Ideally all of the gypsum type plaster on the external walls should be removed, and the walls plaster with a lime plaster.
9. An extractor fan should be installed within the bathroom, and used during and after bathing with the door kept closed.
10. On completion we recommend that dehumidification is undertaken in order to accelerate the drying process of the structure.

The results of the survey were based on the information and data obtained whilst on site and we believe that these are a true and accurate assessment of the property and the damp within it.

The recommendations are based on the damp located, the source points of the damp and the defects as found during the survey. We believe the recommendations will resolve the issues if completed in full.



Signed

Mark Dobson

Date: 06 March 2017