

DAMP INSPECTION  
OLD SAMPLE APARTMENTS  
HASTINGS  
EAST SUSSEX  
FOR  
MR S SMITH  
1/3/2015



D WITCOMBE MRICS MSc BSc (Hons)



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## BACKGROUND

Old Sample Apartments is a large building which has been divided into individual apartments. For the purposes of this report, the front elevation facing the drive will be taken as facing north, with the other elevations corresponding to the cardinal points. The entrance to Flat 6 is on a west wall where the building steps back along the north elevation. On the corner of the north west building there is a communal entrance hall for Apartments 7 and 8. This has an entrance door with an open porch on the west elevation. Externally ground levels of the drive in front of the property, which is covered in tarmacadam, has a general fall down towards the external wall of the communal entrance hall. A drainage channel has been inserted along the edge of the building to collect rainwater and this is believed to drain to the lake behind the property.

Earlier inspections have taken place on Flats 7 and 8. The recommendations from these earlier inspections included providing an internal lining of plasterboard to separate the damp solid wall from the internal surface.

## INSPECTION

### Flat 7

Flat 7 is located on the south-west corner of the original two storey building and comprises solid walls. The room to be inspected today is on the rear south-west corner where there is a west brick flank wall and a south rear wall with a short return up to patio doors. The affected room within the building on this corner is a bedroom and has woodchip wallpaper which has been painted recently.

### Externally

Approximately 1m to 1.5m from the south wall on the west elevation there is a large area at mid-height of the ground floor which has been repointed in a sharper sand than is present elsewhere and this may be more porous than the other areas. There is also a window which has been bricked up in yet another type of mortar. At low level there is a modern Hyload damp proof course in the wall approximately four bricks above ground level. Generally mortar is in reasonable condition without any signs of excessive damage to the brick.

On the rear south elevation, there is some brickwork which has been damaged and repointed and holes covered with mortar and there has been localised repointing in the short section of wall between the west elevation and the patio doors.

Around the replacement uPVC patio doors a clear mastic has been applied and this is in good condition around the corner of the windowhead and the reveal. However, at low level there is a gap in the mortar and this should be repaired and additional mastic applied to help the weatherproofing.

### Internally

The occupier informed me that they have had a dehumidifier running and have had to empty it up to three times per day.

The bedroom in the south-west corner has recently been redecorated with woodchip paper painted white.

On the west wall at low level approximately 1.5m from the internal south wall there is an area of damp and peeling paper with mould which suggests condensation. This was localised at low level only. On the rear south wall, there is some minor damp or mould staining at approximately 2' to 3' off the floor.

Moisture meter readings taken on the west wall 1.5m from the south wall at low level where mould staining is present gave sub-surface probe readings of 27.4% and low level amber subsurface readings. The skirting here gave 14.6% surface probe readings. 2' above the floor here readings were 12% WME on the wall and amber sub-surface. At around 5' to 6' readings were higher at 16% sub-surface probe but red sub-surface.

900mm from the south wall the west wall gave 7.3% in the skirting and 16% with amber sub-surface readings above and these readings 16% and amber were also found up the height of the wall. On the west wall tight against the corner readings were 86% and red sub-surface at low level.

The area where mould is present is likely to be condensation. This is because sub-surface readings were satisfactory suggesting that the wall is not becoming excessively damp in this area, but the surface dampness is from condensation. The mould growth is restricted to low level and this is because water vapour condenses where the surface temperature is lower than the room temperature. As the walls with mould are in contact with the external surface and the floor a cold bridge occurs resulting in the lower wall being at a lower temperature than the room and water vapour condenses on the wall leading to mould growth. The high level of the high surface probe readings here are likely to be exaggerated from recent conditions because they have had a prolonged period of the temperature being below freezing and snow laying on the ground externally. This will make the wall very cold and with the water vapour generated within the house this will condense on the wall and lead to condensation.

The internal area where the wall has been repointed externally has damp sub-surface readings and therefore the mortar for the repointing here is likely to be more porous than that surrounding it, but also if there is a high cement content in the mortar, water will penetrate the brick but not be allowed to evaporate through the cement-rich mortar and be trapped in the wall.

At low level I found the wall to have reasonable moisture meter readings except in the south-west corner where readings were red sub-surface and 86% internally and there is some penetration through the external wall here.

### Action

As commented at other inspections at Old Sample Apartments in the past, the solid wall construction has been plastered internally and there are several areas where water is penetrating through the external wall to the internal surface. A solid wall should, in theory, become damp on the outer section before water evaporates leaving the inner surface dry. However, in practice water can penetrate the internal surface causing dampness and damage to the internal surface.

On other parts of Old Sample Apartments, especially on the ground floor, I have suggested the lining of the external walls with a small cavity being created with a batten on Hyload damp proof course and foil backed plasterboard being inserted on the internal surface, possibly with insulation behind if room dimensions allow as this will separate the internal surface from the damp wall and also provide insulation to reduce the risk of the wall reaching Dew Point. This work however can be fairly disruptive and the Residents Association at Old Sample Apartments may wish to consider a larger contract to undertake this work in all of the Flats affected by dampness as one project rather than having to line areas at different times, but this larger contract must be financed.

If the wall is not to be lined, the risk of condensation could be reduced by a central heating pipe tail being taken under the suspended floor and lagged in insulated to run around the skirting of the south and west wall. This will provide some background central

heating to the house, but also heat the external wall reducing the risk of it reaching Dew Point. It may also help to dry the wall where there is dampness, but this will not cure the water penetration problem.

It was also commented that a tumble dryer is being used within the subject Flat and the extract from this is unknown. To further reduce the risk of condensation, the extract from the tumble dryer should have a clear, sealed route to the exterior of the building. I would also recommend that the door is closed and sufficient ventilation is provided around the tumble dryer as this produces a lot of water vapour. Also ventilation should be improved in the subject bedroom with any windows and doors left in the night latch position to assist background ventilation and this can help in removing water vapour from the building or a ventilator installed. Mastic should also be maintained around the patio doors.

### Flat 6

Flat 6 is on the ground floor of the main building and is entered from the north but on a west short return wall. At the south end of the Flat there is a single storey extension used as a living room and this has a parapet and flat roof with decking used as a patio to the Flat above.

Within the living room there is damp staining at high level on the south-east corner of this extension, high level damp staining at the abutment the wall and ceiling and there is offkey plaster on the east wall.

### Externally

The external wall is in stretcher bond brickwork suggesting cavity construction and is a later addition to the building. Above the lower wall however, there is a one brick thick solid parapet which will straddle any cavity. The parapet is castellated without any capping or damp proof course through the parapet. Externally there is a tile perimeter which has been inserted on a mortar listed. On the inside of the parapet the flat roof is covered in decking, but the covering below can be seen where it has been taken up against the parapet and this appears to be a liquid applied flat roofing material. This is taken up the parapet but there is no physical flashing into the parapet and water may be able to penetrate the brick and get behind this water proofing material.

There are some gaps in the mortar of the parapet and some of the tiles on the parapet have mortar missing and any water penetrating the solid parapet could penetrate down onto the inner leaf of the wall where there is dampness shown in the ceiling internally. I did not see any evidence of a lead tray below the parapet to ensure that water does not penetrate below, but this may be concealed behind the tile and mortar listing. A lead tray would provide a barrier to any water penetrating below and stop the wall below from becoming damp.

I was unable to inspect the condition of the flat roof because of the decking but I would recommend that this is fully inspected to ensure that there are no leaks through this into

the room below. However, I have been informed that this was re-roofed with the liquid membrane recently.

### Internally

The east wall is solid plastered and at high level large areas of this are offkey and have detached from the wall behind. There is also some damp staining at high level. The ceiling is boarded and moisture meter readings taken here were 42% and red sub-surface indicating that water is penetrating the ceiling. This could also mean that the joists are becoming damp and this could lead to timber decay.

The rear south wall gave readings of 28% WME surface probe at the abutment with the ceiling and 14% above the rear windowhead and red sub-surface readings. In the corner readings were 12% to 14% WME and red sub-surface.

The side wall at high level gave 12% to 15% WME and green to amber readings, but it is likely this may also be because the internal plaster is detached from the wall and there is a separation between the damp wall and the internal plaster.

### Action

The internal dampness is likely to be caused by water penetration through the parapet into the inner leaf of the wall below. Whilst the flat roof appears to have recently been recovered with an upstand against the parapet, this will not protect against any penetration within the brick down to the structure below.

For a lead tray to be installed to provide a barrier, the entire parapet will have to be taken down and rebuilt on top of a correctly detailed lead tray and the cost of this is unlikely to be proportionate to the problem, but would provide a long term remedy.

Alternatively the wall could be lined with foil backed plasterboard separated from the structure as suggested elsewhere to minimise the damage on the wall, but I have concerns over the dampness found within the ceiling as this is also likely to be affecting the joist structure of the ceiling and balcony floor above. Therefore, I would recommend that a lead flashing be inserted above the tile creasing and inserted into the wall with lead wedges as far as is practicable for the full perimeter of the extension and dressed over the tiles. This should be detailed in accordance with Lead Sheet Association details and jointed at regular intervals to avoid splits caused by expansion and contraction.

I would also recommend the cladding of the top and inner face of the parapet in a lead to be draped over as a cover flashing where the liquid applied flat roof material is taken up the parapet wall. This will reduce the amount of water penetrating the parapet but cannot provide a full barrier without a lead tray and internal lining of the wall may also have to take place.

**APPENDIX 1**  
**PHOTOGRAPHS**

**APPENDIX 2**  
**CONFIRMATION OF INSTRUCTIONS LETTER**