



solving the source of damp



REPORT

For and on behalf of XXXX

Property surveyed XXXX

This report is for the sole use of XXXX for whom the survey was undertaken and can only be relied upon for 90 days from the survey date. Unless expressly stated otherwise in this report, nothing in this report confers or is intended to confer any rights on any third party pursuant to the Contracts (Rights of Third Parties) Act 1999.



Dear XXXX,

Thank you for instructing us to carry out a damp survey of XXXX. We understand that you have concerns about potential damp on the ground floor and so you wish to have an opinion from an independent expert damp surveyor. Please inform us if we have misunderstood your instructions.

OVERALL OPINION

Overall the house is beautiful, with a few risks of damp and condensation. Every property suffers from dampness to some degree. You will mitigate the risk of damp if you follow all our recommendations. This report is intended to be read in full. Observations and opinions must not be taken in isolation.

Like any building, especially a period property, you need to be aware of the risks of damp arising in the future and plan a programme of prevention and maintenance accordingly.

We recommend you spend time understanding our advice in this report, which we would be happy to discuss in person. We would also be delighted to revisit at any time for a modest survey update fee and likewise before you eventually decide to sell the property.

INDEPENDENCE AND METHODOLOGY

Our only income is through damp survey fees. Our motivation is integrity and practical, durable solutions. There is no conflict of interest as we are independent of contractors and never profit from remedial work. We use chemical analysis to identify damp within walls.

SURVEYOR'S DECLARATION

I confirm that I inspected XXXX on 29 March 2018. I conclude that at the time of the survey there was no significant risk of rising damp from below the original external ground level.

Simon Hichens

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Property Care Association qualified (PCAQT), Member of Property Mark (ARLA)
Specialist Surveyor*

Report completed on 3 April 2018



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ABOUT DAMP SURVEYS LTD

Damp Surveys Ltd is an independent specialist damp surveying company incorporated following the development of analytical technology employed to rapidly and accurately differentiate types of damp. Our confidence in our analytical equipment allows us to categorically state whether or not there is a risk of rising damp. If we are satisfied that there is minimal risk of rising damp, we can offer a warrantee subject to application and conditions.

Independence is key to understanding how we operate and why we provide a unique service quite different to any other company. Many contractors, looking for chemical damp work, offer low cost, or sometimes “free” surveys. We do not and never will benefit financially from any recommended remediation. We are motivated to recommend optimal treatment to protect the property now and into the future.

Your peace of mind is our goal, for you to be satisfied that the property will be properly protected against damp and for you to recommend us in person, or by social media.

THE PROPERTY

The property is a three bedroom Victorian end of terrace two story house built about 1900. The front door to faces North. All references to location are taken as if standing on the road looking at the front door.

The walls are constructed of solid 9" brickwork. The ground floor to the main building, is made of suspended wooden flooring over a sub-floor void. The elevation on the ground floor level is 33M above sea level, in a low flood risk area of London.

Changes to the property's original design

The property has been modified by a raised garden, and French drain and double glazing. A meter long chemical damp proofing course using a Thixotropic (Silane) cream.

UNDERSTANDING DAMP

Excess damp found in properties is largely as a result of changes from the original design, location or use. Properties are built to absorb rain and evaporate moisture without excessive damp inside. Lifestyles have changed over the years, such as taking showers more often. The resultant raised humidity means most properties are at increased risks of condensation. Damp is not inherently dangerous. However, it can spoil decoration and encourage rot, mould and insect infestation. Rot is omnipresent and starts when wood cells rupture above 28% moisture content with a constant source of water. Brown rots, such as dry rot proliferates in unvented damp voids. Wood boring beetles are attracted to humid wood. Mould requires humidity on the surface of over 85% relative humidity (RH) to grow. Rising damp can spoil decorative surfaces. However, there is insufficient moisture to cause rot. Ground water contains nitrates, that inhibit mould growth. Rising damp needs a constant source of water, such as a high water-table within a meter of the ground. Stop the source of water and rising damp will dissipate. According to Thames Water, London's water-table is low, below the lowest tube-line. Rising damp results from the high relative force of attraction of silicone (found in sand, bricks, glass etc.), a phenomenon unhelpfully described as capillarity. The attractive force of silicone spreads water through connected pores in all directions. Plaster can be particularly absorbent. Water spreads downwards first through the additional force of gravity, until lower pores become saturated.

Condensation is caused by moist air condensing on cold surfaces, condensation starts when a wall's temperature falls below the "dew point". The dew point increases as humidity rises. There is often a line within a wall where the temperature is below the dew point, this is called the dew point line. Walls are designed to absorb and evaporate moisture daily. Damp is often cumulative. For example, condensation is more likely to form near a wall that is damp from penetrating rainwater. Likewise, rain will not evaporate as quickly if the wall

surface is already humid through condensation. Furthermore, wet external walls are poor thermal insulators. North, North-Eastern and North-Western walls receive minimal warmth from the winter sun. Some damp only occurs infrequently, once every few years, resulting from persistent rain and wind. Damp detection depends on conditions during the survey.

OBSERVATIONS

Conditions during the survey

Occupancy	Occupied, furnished
Weather	Dry
The previous 24 hours	Dry
Internal temperature	10.8°C
Internal Relative Humidity	69.0%RH

External

- The chimneys, flashing and roofs appeared to be functioning correctly.
- Rainwater goods looked to be in good order, however it was not raining.
- The ventilation grills to the front were appeared to be open and allowing sufficient sub-floor ventilation, as were the rear vents.
- The brickwork, appeared to be in reasonable order, with no obvious signs of ingress.
- The damp proof course (DPC) was mainly covered with a render.

ILLUSTRATIONS

1 Left-hand flank wall



A section of the left-hand flank wall has been injected with a Thixotropic (Silane) chemical damp proofing cream. We understand the wall showed no external signs of dampness before being inject. It now appears to have a dark damp stain. The manufacturers recommend drilling the wall along the mortar bed, at the perpendiculars between bricks (“perps”) for the full length of the damp wall, with the holes sealed. However, “walls can

remain damp after a DPC installation where they are severely contaminated with hydroscopic salts”.

It may be that the chemicals will eventually dry leaving no trace of dampness. The dark colour is either caused by, chemicals blocking spread and evaporation of moisture. Or the chemicals acting in a similar way to the water, in the way light is reflect off the substrate. Giving an appearance of dampness rather than being damp.

Either way, while damp is no longer an issue, the appearance of damp is an issue, which may need to be dealt with by re-rendering the flank wall. Furthermore, the dark colour suggest that the render is not impermeable, and therefore may have been causing a bridge for water to rise over the damp proof course.

2 Rear wall



The un-render wall by the back door was damp. The profile of the damp matched the position of the garden furniture. Rainwater has been splashing onto the wall. The garden furniture was previously placed in line with the wall, creating a longer surface to splash onto the wall.

CONCLUSIONS

There is no evidence of rising damp, indeed the elevation, position on the hill and low flood risk suggests the property is far from a source of ground water, a necessary component of rising damp. The dark stain on the flank wall is not causing internal dampness and therefore it is only the appearance of damp that is a cause for concern.

Dampness has been caused by rainwater bouncing off garden furniture onto the un-rendered surface. Furthermore, the render to the flank wall appears to be permeable, allowing water to bridge the damp proof course.

There were signs of historic condensation, especially in the kitchen. The kitchen does not have an external extractor fan. The room is often used for drying clothes.

RECOMMENDATIONS

Our recommendations address items identified in our survey as areas of sufficient concern that they must be undertaken to mitigate the risk of damp. In line with every property, we recommend ongoing observation, repair and a periodic programme of maintenance, including annual clearing of gutters, repainting, repointing and noting of perimeter ground level and water-table fluctuations. We are happy to return and update the survey.

Action plan

1. Move the garden furniture at least 1.5M from the house.
2. Either wait to see if the chemicals in the Ultracure® cream dry out, or consider re-rendering the plinth, using an impermeable render.
3. To elevate condensation in the kitchen;
 - a. Consider opening up an external vent to the current kitchen extractor fan.
 - b. Consider buying an externally vented dryer (or washer dryer),
 - c. Consider installing a modern thermostat e.g. Net or Hive, that allows minimum night time temperature above 10°C.
 - d. Buy a humidity meter so as to become more humidity aware. See mouldpoint.co.uk

LIMITATIONS

Damp Surveys Ltd reports are designed to provide you with an informed independent expert opinion as to the condition of the property together with any recommendations for further investigation or remedial work. We do not warrantee any findings in this report unless we enter into a separate warrantee agreement with you.

The survey was conducted during daylight hours. Damp will be more noticeable at night and when the weather is colder and more humid. Gutters are more likely to fail when full of leaves and during periods of prolonged rain and adverse wind. We make best endeavours but cannot guarantee being able to identify all forms of damp, rot and insect infestation affecting the property. The survey represents a snapshot in time. Damp is often progressive only becoming visible after the survey. We are happy to return and update our observations and advice at any time.

We carried out a careful and thorough inspection of as much of the property as was accessible. However, when it is not possible to make a full inspection, we make a professional judgement about the likelihood of a defect being present. In certain circumstances, this may lead to a recommendation for further action to open up an area for further investigation. We are unable to see the whole roof, all the guttering and some of the drains. We were unable to inspect woodwork or other parts of the structure which are

covered, unexposed or inaccessible, and are therefore unable to report that such parts of the property are free from defect. There were no obvious signs of damp resulting from these limitations.

ONGOING MAINTENANCE

- Keep gutters clear, especially when leaves collect in them.
- Check flow of water from the roof and down the gutter during heavy rain.
- Reduce risk of condensation by extracting damp air from humid rooms such as a kitchen or bathroom.
- Given the age of the property, the external walls are unlikely to be insulated. There is evidence of normal levels of mild condensation. The best solution is to improve the heat on these areas during cold periods, this can be achieved by installing a wall mounted electric thermostat heater in rooms with external walls. If the condensation persists, you may want to consider installing thermal plasterboard on the internal side of the affected walls.
- Mould and damp should be washed away daily.
- There is no magic bullet for condensation in a bathroom. It's very common. Improving the ventilation out, heat and use of tiles and bathroom paints help.
- If the bathroom is updated in the future be aware when a bath or shower is taken out, there is likely to be evidence of damp left behind it. This is normal and should dry easily.
- All guttering and down-spouts except where noted, appeared to be in good condition but they should be visually inspected during a rain event.
- We advise clients that they need to be vigilant in ensuring that drains and guttering on the building are cleared and functioning at all times.
- Skirting boards were carefully examined. There was no evidence of dampness found except where noted. This is significant as fixing skirting boards to rendered masonry walls requires pre-drilled pilot holes to fit the plastic plugs and screws or nails. These holes can often be up to 100mm deep. If damp is present in the walls, it will rust iron nails or screws, and visibly "bleed" out into the skirting board.
- We examined the plaster and decorating. There were no signs of penetrating dampness nor rising dampness. Here was evidence of mild condensation.
- We also carefully examined the walls inside the kitchen cabinets, and closets, and took damp readings there – no dampness was detected.
- Electrical points: There was no evidence of dampness or moisture around any electrical points except where noted. Again, bearing in mind that all electrical points are set with screws drilled into the masonry wall, if plaster or render was damp there would be evidence of this where the screws were drilled into the wall.

IDENTIFYING DAMP

Damp or dampness, is unwanted and excessive moisture. There are four distinct forms;

- 💧 Rising damp is below ground water that rises up a wall,
- 💧 Penetrating damp is moisture from defective roofs, gutters, pipes or a “bridge”,
- 💧 Plumbing leaks; from mains or internal pipes, waste, drainage and overflows,
- 💧 Condensation, the most common cause of dampness.

Rising damp

Rising damp is defined as the deleterious vertical flow of water, derived from below the original ground level, through a property’s internal masonry wall, to above the base of the ground floor. Anyone can replicate rising damp by placing the bottom of a clay brick in water. The same effect is more rapid in a clay tile where damp can be seen to rise by as much as 40 cms in a day.

Rising damp can be positively identified as it is the only form of damp containing nitrate salts.

The presence of mould quickly eliminates rising damp, as nitrates, found in ground and waste water, inhibit mould growth. Rising damp cannot by itself cause rot.

Rising damp needs a constant source of water, such as a high water within a meter of the brick wall. It is exceptional rare in London as water is pumped out of the ground, and rarely within a meter of a building. Furthermore, London benefits from a by-law introduced in 1877 requiring a damp-proof courses (“DPC”) “beneath the level of the lowest timbers”.

Penetrating damp

Gutters and Drains: Leaking or overflowing gutters and drains are common causes of dampness. They can be difficult to identify in dry weather, so we ask you to look closely at the gutters and drains when it rains.

There are often tell-tale signs, such as a damp stain, greenery or “efflorescent” white streaks. The resolution is often easy, involving a ladder and time to clear the blockage or fix the leak.

External Coverings; Roofs, chimneys, flashings, render

Our survey is not an assessment of the state of roofs, chimneys, flashing, render etc. We look externally for defects and then search internally for signs of dampness. We recommend regular annual integrity checks of external coverings including roofs, chimneys, flashings, render etc.

External Vents: It is important for timbers to be properly ventilated, either in the subfloor void, for floorboards or in the loft for roof timbers. Vents can become blocked over time providing inadequate circulation of air to ensure vapour movement from timbers. Terraced or semi-detached properties can be built to include ventilation within the party wall. Neighbours blocking these vents, such as with cavity wall insulation, can render air circulation inadequate.

Ground floor extensions often increase the volume of the sub-floor void without ensuring sufficient airflow. Likewise loft extensions.

Exterior Ground Levels: The ground immediately surrounding a property is often raised by successive owners to the point where there is very little clearance between the ground and ventilation grills. In the worst cases water flows under the floorboards. Vents should be clear of the ground, ideally higher than a typical rain drop bounces, deemed to be 150mm.

The resolution is normally easy. A small trench (French drain) about 150mm, can be dug around the exterior walls, or vent and filled with shingle or similar material.

Plumbing leaks

Most plumbing leaks are sudden and obvious. Slow leakage such as from a slightly ruptured pipe is difficult to identify, as are below ground level leaks in the subfloor void, from a mains water pipe, main sewage pipe, rain water pipe or similarly from a neighbour's pipe.

We do not perform a plumbing survey and may not identify waste water, below ground level leaks or other plumbing leaks. If we suspect that damp is caused by faulty plumbing we will recommend a plumbing survey.

Condensation

Vapour condensing into water on cold surfaces is the most common form of dampness in the home. It is most prevalent on the lower surfaces of external ground floor walls. Warm moist air from a kitchen, bathroom, washing machine or drying clothes will condense rapidly when meeting a cold external wall, window or pipe. Add to this humid breath from human and pets.

A wall will be relatively cold at the point where both skins of a cavity wall meet. This is most pronounced at the base of a ground floor wall, which is often more than 5°C cooler than the ambient temperature. The temperature differential can be much greater at night.

The dew point is the temperature that water starts to condense. Humid air from a warm moist kitchen readily condenses on the cooler surfaces of external walls. Typically, a surface only has to be 5°C lower than the ambient temperature for condensation to start to form.

Glass and metal are good conductors of heat and therefore lose thermal energy much more rapidly than timber, brick or plaster. Condensation runs down cold windows and frames onto walls beneath them. Metal objects embedded in walls such as behind an electrical socket, cable or pipe can initiate condensation. Cold metal can cause condensation, even in summer.

Although condensation is inevitable, it can be managed with ventilation out at source, combined with sufficient heat, air circulation and regular wiping of wet surfaces.

Ideally clothes should be dried outside, or with an externally vented clothes drier. Double glazed windows should have trickle vents kept open.

An alternative is to designate wet areas, then manage humidity in those wet areas, by wiping off surface moisture and opening windows often. Victorians used to tile their entrance halls, at the point where cold air meets warm humid air. Bathroom paints and tiles evaporate moisture readily and are easy to wipe down. Top tip; use an electrically heated bathroom mirror.

A common mistake is to increase ventilation into a building. This can be counterproductive as the outside air is likely to be cooler than the warm moist internal air, and will cause, rather than alleviate condensation. Positive flow ventilation systems do not necessarily reduce condensation.

In the worst cases, condensation can form within a wall. This is known as interstitial condensation. We will not be able to identify interstitial condensation unless it visibly affects internal decoration.

HEALTH AND SAFETY CONSIDERATIONS

There are currently no health and safety issues resulting from defects.

APPENDIX - STANDARD TERMS OF ENGAGEMENT

Terms of Engagement

1) You may cancel this contract with Damp Surveys Ltd at any time 24 hours before the time and day of the pre-arranged inspection.

2) We may cancel this contract at any time including the day of the inspection if we determine after arriving on site, that it is unsafe or that we do not have sufficient skills to complete the exercise for you. In such a case, we will refund full payment less our travel expenses.

3) You are engaging Damp Surveys Ltd, to undertake an inspection of the property in question at a pre-arranged time and the production of a report in a timely fashion thereafter. We will carefully and thoroughly inspect both the inside and outside of the property but NOT any outbuildings unless specifically requested to do so in writing.

4) Before the inspection, but after the appointment has been made, we will undertake a desk top analysis of the property by checking various different websites and other information sources for details about the property and its location.

5) Terms of Payment – we only accept instructions after advance payment.

6) Liability – our report is provided for your use only and may only be relied upon for 90 days from the survey date. Unless expressly stated otherwise in this report, nothing in this report confers or is intended to confer any rights on any third party pursuant to the Contracts (Rights of Third Parties) Act 1999.

7) We are unable to inspect parts of the structure which are covered, unexposed or inaccessible, including lofts, without written permission to do so, and are therefore unable to report that such parts are free from defect. We may express a professional opinion as to the likelihood of damp.

8) No disruptions will be made to the building's fabric save for a few pin sized holes, left by a measuring device. Access hatches and inspection chamber lids will only be lifted where it is easily possible to do so. Floor coverings and furniture cannot be moved, unless we have the prior written consent of the property owner. Floor voids will only be inspected if access panels permit. If there is a covered area you particularly wish us to investigate, please ensure that the owner of the property gives us prior written permission to uncover it.



9) We sometimes publish damp related images on websites to inform the public of damp, rot and the causes of damp and rot. We make every effort to ensure individual and corporate privacy is protected.

Insurance

For peace of mind, Damp Surveys Ltd have Public Liability insurance of £1,000,000 and Professional Indemnity insurance of £250,000 (annual aggregate) both through Hiscox.

Quotations

We recommend obtaining three quotes for any significant remedial work. We are happy to review your quotes, but always remain independent of contractors.