ideal RESPONSE

DISASTER RECOVERY & HYGIENE EXPERTS

Water Damage Remediation in London

CASE STUDY

TABLE OF CONTENTS

THE BRIEF 2

THE OBJECTIVE 2

THE TECHNICAL PART 3

London, United Kingdom

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THE BRIEF

We were contacted by the client regarding an emergency extraction of water and associated water damage at the risk address. The property had suffered from a blocked hopper head, causing water to collect on top of the roof.

The water eventually found its way under the lead flashing and travelled vertically through the ceilings, affecting offices on the first and ground floors. As a result of the damage, sections of the mineral ceiling tiles had come down in a number of locations. Floor coverings and wall finishes were also affected.

THE OBJECTIVE

Our first visit was an emergency visit to extract excess water and sanitise the affected areas using an antimicrobial solution to help prevent mould growth. Mould not only poses a health risk to occupants of the building, but it can also damage organic materials, compromising their integrity.

During this initial visit, we recorded atmospheric readings of 42.5% Relative Humidity, 28.3°C temperature, 14.2°C Dew Point, 10.2g/kg Specific Humidity and 1.60kPA Vapour Pressure.

These readings help us to evaluate several things, including whether there is a risk of secondary damage to hygroscopic materials (eg. wood and plasterboard) due to high levels of moisture in the air. Hygroscopic materials can absorb water vapour from the air, increasing the amount of water they're holding at a given time. As such, this can lead to further issues, including microbial (most commonly mould) growth.

The drying regime we recommended to adequately dry the property included a variety of radial fans, adsorption dehumidifiers and condensing dehumidifiers, alongside our remote monitoring system. We estimated the drying cycle to remove excess moisture from the affected areas to take two weeks, with periodic inspections to ensure the most efficient drying model was maintained.

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CASE STUDY

THE TECHNICAL PART

The affected property is a purpose-built commercial building, built circa 1980's with precast concrete floors and ceilings, and solid walls. The partition walls are most likely built of timber stud frames, plasterboard, thermal insulation within the cavities, and finished with paint.

The floors are built of raised access flooring which consists of metal panels and a stringer frame supported by metal pedestals. Carpet tiles have been used as a floor covering in all of the offices.

While we were able to determine the severity of surface moisture to the floor, it would take further investigation to determine if there was any water trapped within the actual void of the floor itself.

During our subsequent visit, very high moisture readings were being recorded in places despite evidence that moisture levels on the surface had significantly reduced since our initial visit. With uncertainty of the moisture levels within the sub floor voids or within the cavities of partition walls, it was decided that we would return to site in due course to take more intrusive readings.

Due to the floating construction of the floor, we expected to find high levels of moisture or even possibly standing water within the floor voids in the affected areas of the ground and first floors. High levels of moisture within the void poses a risk of corrosion to the electrical and IT installation, as well as possible microbial growth.

Additionally, we had concerns with the plasterboard walls. Although the surface readings recorded from the partition walls appeared to be within the norm, it was still possible that the insulation within the cavities might be damp. As such, it was paramount to further investigate the moisture levels within the cavities to prevent microbial growth within them.

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CASE STUDY

To prevent secondary damage and mould growth as described above, we first removed contents from the rooms where the floor panels were to be uplifted. The panels needed uplifting in strategic locations for two reasons: one, so that we could duct dry air into the subfloor void; and two, to allow damp air to escape.

To address the moisture within the walls, 16mm holes were drilled strategically in various locations within the partition walls. This enabled us to record the relative humidity within the walls, ensuring that they were adequately dry.

To finish, affected skirting boards, carpet tiles, plasterboard and insulation were removed and the drying regime was left to run its course over a two week period. All contaminated waste was safely removed from site and disposed of.

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