

SITE ADDRESS

(Surveyroof Sample)
Unit 5
Morris Green Business Park
Fearnhead Street
Bolton
BL3 3PE

Sample Roof Survey Report

Test Date: 3rd December 2025



Reference: SR-001/SR



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Membrane Information

Membrane Type: Armourplan P Single Ply Waterproofing

Membrane Manufacturer: IKO

Total Area of Membrane Surveyed: 750 Sq mtrs

Site Attendees

Survey Technician: Darren Valentine

Report Compiled by: Darren Valentine



Testing Methods Statement

The method of testing will be determined by the attending Survey Technician on arrival on site, which will be dictated by either the weather at the time of the test or membrane type on site.

Wet Method (Earth Leakage Leak Detection) - "Dynamic Area Mapping"



1. The absorbent wire screening ring is placed on the roof to form a ring circuit, and the pulse generator is connected to the ring.
2. The pulse generator is turned on and adjusted to give out 40v-, 2 amps every 3 seconds.
3. The roof is then sprayed with water to form a carrier for the electric charge. (not necessary if it is raining at the time of the test or if the roof is already wet)
4. The operator then enters the field with the receiver probes and meters and tracks the leakage points.

General Test Information

The pulse generator emits pulses with a voltage of 40v which are conducted onto the roof structure. Since most roofs are connected to earth and the pulse generator is also earthed via the mains cable (earth plug) only the +terminal on the detector is connected to the earth jack, while the -terminal is connected to a ring circuit laid out on the roofs surface. The roof substrate becomes the +terminal and the ring circuit becomes the -terminal. Since all roof coverings under test are non-conductive, the electrical pulse chooses a path across the moisture to where the breach or membrane imperfection point is located and then flows over the damp roof in all directions to reach the ring circuit. Using the receiver probes and meters we can determine the current's direction of flow and trace it back to its source. This source is exactly the spot where moisture is possibly penetrating the roof covering. For this procedure, the roof must always be damp, but it makes no difference whatsoever if the moisture is unevenly distributed.

Site Requirements: A water supply is required at roof level within 30m of the test areas.



Dry Method (Holiday Detection or “Spark Test” Method)



The equipment used is a development of the pinhole detectors used for identifying tiny holes and porosity in protective coatings. The Roof Test Kit has been specifically developed for its purpose, and it works with great accuracy on mineral and sand finished bitumen felt, polymeric single ply membranes, liquid applied waterproofing and mastic asphalt.

The PHD equipment comprises of a battery, which provides a stabilised direct current of between 2-40Kv D.C. a test probe handle (with HV lead and pressure safety switch), extension rods, 600mm phosphor bronze electrode and an earth lead.

The Test Principals are as Follows.

1. The earth lead from the PHD battery unit is connected to the structure at a convenient place. A high voltage (the level of which is determined by the membrane thickness) is applied (using a phosphor bronze brush electrode of suitable width) to the dry outside of the membrane. On a roof area free of breaches the membrane acts as an insulator, stopping the flow of current out of the PHD unit. When a breach is passed over with the brush electrode, the high voltage jumps the gap between the electrode and the water under the membrane. This causes a current to flow from the PHD unit, which is detected and an alarm sounded to alert the operator.
2. Several devices are built into the unit for operator safety and to prevent current flow into the building. As soon as the voltage jumps the gap between the electrode and the breach in the membrane a bleep alarm sounds and the current flow is automatically collapsed. The HV test probe handle is operated via a pressure sensitive switch, which immediately collapses the current flow as soon as the pressure is released.
3. To carry out this test method the roof must be dry. As water conducts electricity, it would be impossible to find the breaches if the roof was wet.
4. In some cases, a damp roof can be tested if the membrane can be energised and a voltage can be sustained.



Moisture Mapping



The Moisture Mapping Scanner is a multi-mode non-invasive impedance moisture scanner designed for the instant, precise and non-destructive evaluation of moisture conditions and leak tracing in the roofing and walls systems of the building envelope.

The specialist equipment can be utilised for non-destructive moisture evaluation of roofs, EIFS, foam insulation systems & other building envelope applications.

To evaluate the extent of the moisture problem and help trace and pin-point its source and/or breach in the waterproofing membrane by systematically mapping the roof area under survey and test.

Multi-mode functions allowing for depth penetration and sensitivity selection giving instant clear readings to fully trained operatives. Lightweight, handheld and battery operated or Dec Scanner unit depending on roof type.

By visual inspection, locating excess moisture and decay in or behind EIFS or Roofing Systems can be extremely difficult as normal evidence of this moisture and decay may not be visible on the roof. Excess moisture can be hidden and trapped in the substrate and within the roof construction. If this situation continued, the moisture will increase, eventually leading to rot and decay and possible failure of the system and the structure. Also, wet insulation loses its thermal value, resulting in unnecessary heat loss or gain and thermal movement in the structure. Early detection of wet areas and corrective remedial action makes good economic sense. The Roof Scanner detects and evaluates the moisture conditions within roofing systems and other building materials by non-destructively measuring the electrical impedance. A low frequency electronic signal is transmitted into the material under test via the electrodes in the base of the instrument. The strength of this signal varies in proportion to the amount of moisture in the material under test. The Roof Scanner determines the strength of the current and converts this to a comparative moisture content value, displaying it on a large clear analogue dial

Moisture detection testing can be done at the time of installation, as part of an ongoing maintenance program, or prior to reparation of damaged roofing systems. Having calibrated the RWS on a known acceptably dry area, the RWS gives instant readings for the moisture survey.



Physical & Visual Survey

As part of the Roof Condition Survey and Electronic Leak Detection Survey, all laps, welds, seams and roof detail are physically tested and checked using a blunt end, handheld roofing probe to ensure all welds are bonded and watertight as the wet/dry testing methods can have limitations in these areas of the membrane.

A full visual inspection of the roof areas under test is also undertaken to ensure that there are no issues with areas that do not come under the remit of the ELD surveys such as capping's, brick and/or metalwork.

Other trades, who are also on the roof area at the time and after completion of the test, are documented to ensure that any physical or mechanical damage to the membrane can be attributed and identified.

Disclaimer

Please note, that all reports relate to the condition of the membrane **at the time and date of the test only** and no liability can be accepted for damage or further deterioration of the membrane.

Please note that it may be possible, in some cases, to experience increased water ingress during or immediately after our survey if heavy rainfall occurs.

This is due to the removal of silt/dirt and debris that may be blocking water entry pathways/breaches in the membrane which is cleaned and cleared as part of the survey to identify them.

We recommend that any breaches needing repair are actioned as soon as possible after the survey and upon receipt of the report or have a roofing contractor in attendance to repair as they are identified.

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Survey Introduction

This report has been prepared for **Client of Surveyroof**.

Its purpose is to identify by non-destructive electronic testing and visual/physical survey, the locations where water can enter the waterproofing membrane to the specified roof areas of :-

(SAMPLE)

Unit 5

Morris Green Business Park

Fearnhead Street

Bolton

BL3 3PE

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Other trades, who are also on the roof area at the time and after completion of the test, are documented to ensure that any physical or mechanical damage to the membrane can be attributed and identified.

Surveyroof attended site on the 3rd November 2025 to undertake Membrane Condition Survey.

Survey Type: ELD Dry Test Method

Visual & Physical Survey: Use of Hand Probe to Laps/Welds & Detail Where Appropriate



Survey Results (ELD/Visual/Physical Survey)

The ELD method/visual/physical survey identified a **total of 8 breaches** or membrane imperfection points to the cleared specified roof areas available for testing.

Other Observations

Other observations identified, **1** other possible water entry pathways.

Item	Description
	ROOF D1 AREA SURVEYED
	BREACHES OR MEMBRANE IMPERFECTION POINTS IDENTIFIED
1-2	Hole/cut/impact damage
3	Full dilapidated lap/weld
	ROOF D2 AREA SURVEYED
	BREACHES OR MEMBRANE IMPERFECTION POINTS IDENTIFIED
1	Hole/cut/impact damage
2	Full dilapidated lap/weld
	GENERAL OBSERVATION TO ROOF D2 AREA SURVEYED
G.O.- A	Damage to the lagging & protective membrane of the ducting directly above where the ducting penetrates the roof X 2
	ROOF F AREA SURVEYED
	BREACHES OR MEMBRANE IMPERFECTION POINTS IDENTIFIED
1	Full dilapidated lap/weld
2	Part dilapidated lap/weld
3	Full dilapidated lap/weld
	OTHER OBSERVATION TO ROOF F AREA SURVEYED
WB	Water blister (water trapped under the membrane, water ingress point is possibly breaches numbered 1, 2 & 3)

Test Results

The Membrane Condition Survey identified EIGHT breaches or membrane imperfection points plus ONE other observation to the roof areas surveyed that may compromise the integrity of the structural waterproofing. The identified breaches or membrane imperfection points plus the other observation have been marked on the roof areas with survey paint-stick and are included in the photograph section and their location identified on the attached Sketch plan.

Glossary

A hole/cut damage point is a possible cause of water ingress.

A full dilapidated lap/weld point is a possible cause of water ingress.

A part dilapidated lap/weld point could possibly be a cause of water ingress (which could not be confirmed by this test) and if not addressed/actioned/repared will lead to further deterioration in the future.

A capillary - small opening on the lap/weld or junction of laps - could possibly be a cause of water ingress and if not addressed/actioned/repared will lead to further deterioration in the future.

Other Observations are items outside the remit of the Membrane Condition Survey which have been visually or physically identified and may be detrimental to the integrity of the structural waterproofing.

No indication can be given to the amount of entrapped water within the substrate of the roof or level of saturation within the insulation with the wet and dry test methods.



Comments

No Other Trades were in the vicinity of the test areas at the time of the Membrane Condition Survey and after completion on this visit.



Appendix A

– Photographs



Roof D1 – Area Surveyed



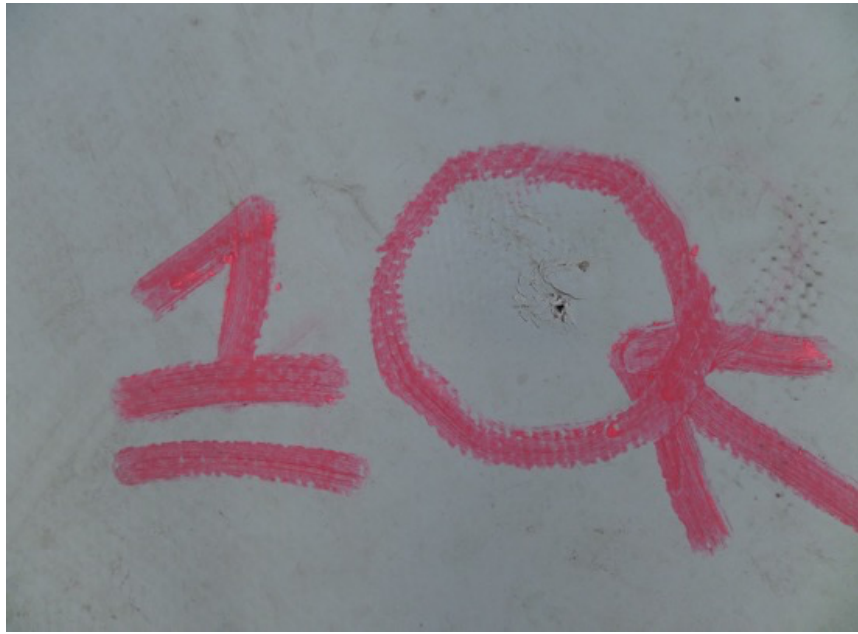
Breaches or membrane Imperfection Points Identified (**Roof D1**)



Roof D2 – Area Surveyed



Breaches or membrane Imperfection Points Identified (**Roof D2**)



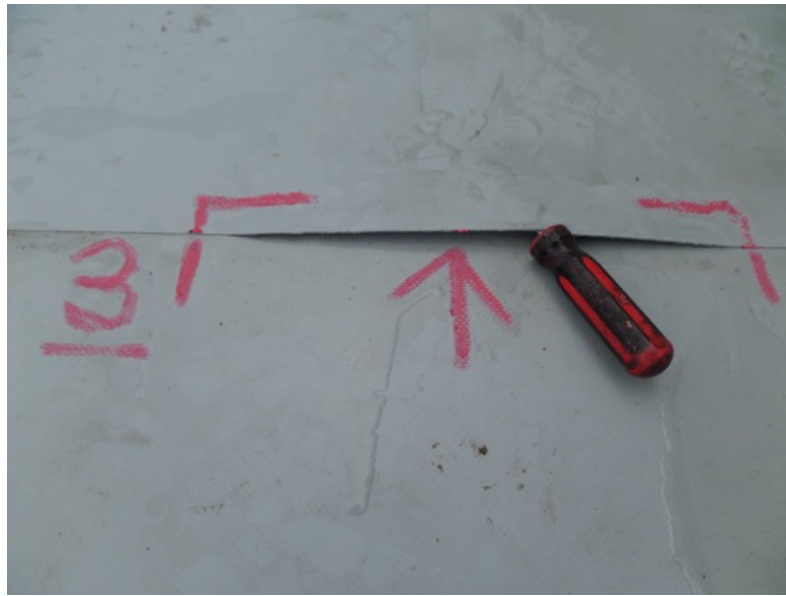
General Observation to **Roof D2** Area Surveyed



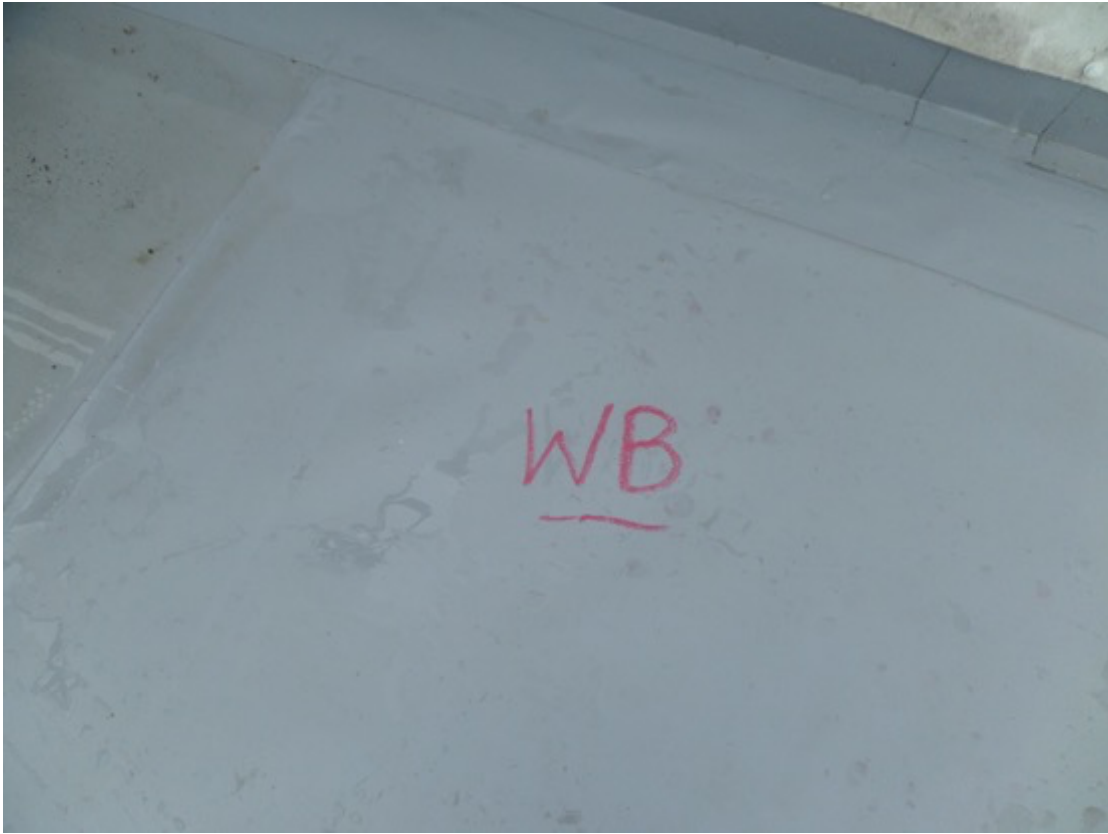
Roof F – Area Surveyed



Breaches or membrane Imperfection Points Identified (**Roof F**)



Other Observations to **Roof F** Area Surveyed

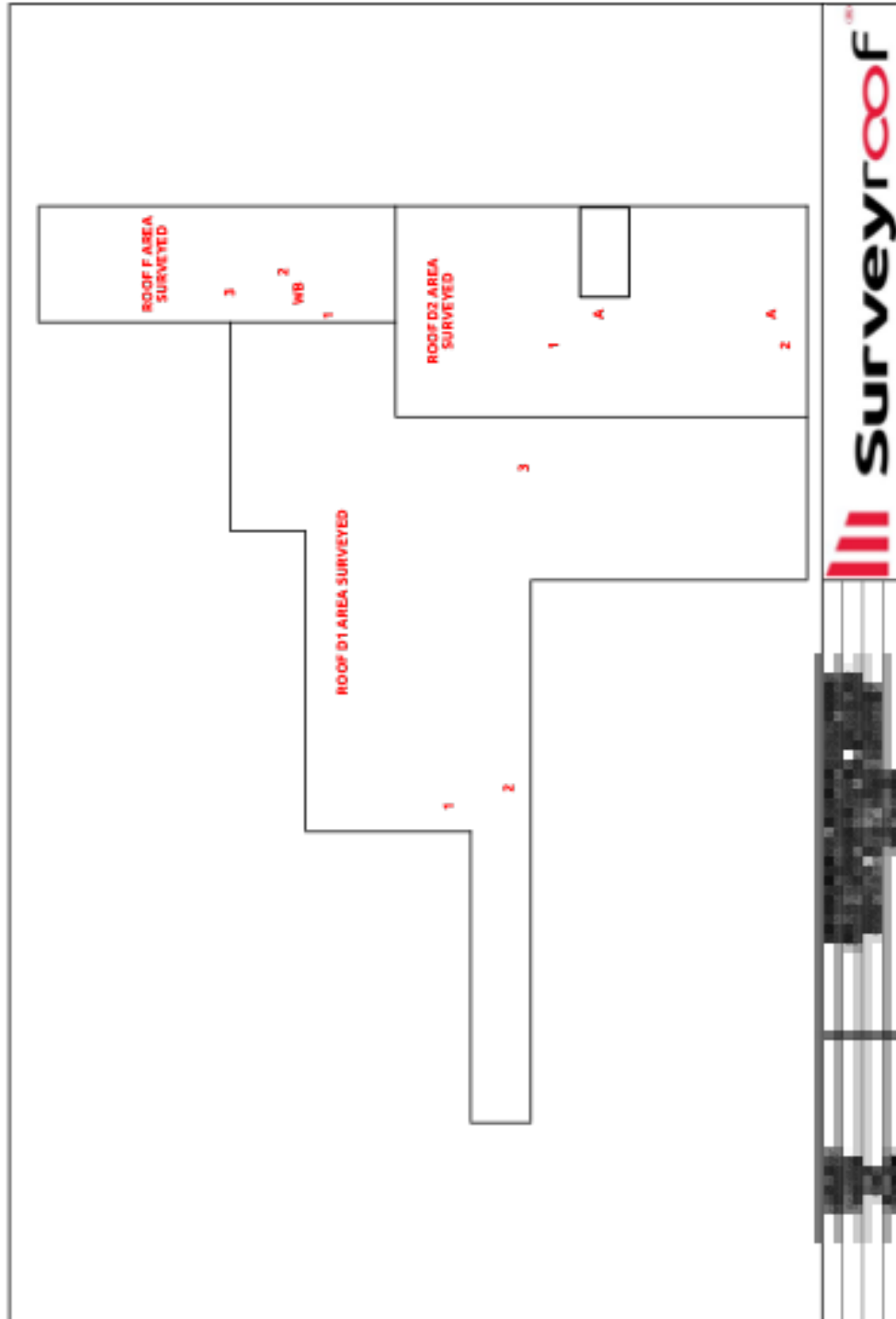


Appendix B

– Sketch Drawing









Surveyrood Limited, Unit 5, Morris Green Business Park, Fearnhead Street, Bolton BL3 3PE
Telephone. 0345 257 7663 Email. sales@surveyroof.co.uk Visit us online: www.surveyroof.co.uk