



Issued To: Sample Property Enterprise, LLC
c/o I. B. Client, PE
123 Corporate Street
ThisCity, State 12345

Field Report No: 777888
Date: February 18,2025
Project: <#ProjectID#>

Project: Luxury Resort Towers
Orlando, FL 32533

Field Test Report

Table with 4 columns: Site Visit Date, Test type performed, Notes, On Site Personnel. Row 1: Jan 10-11, 2025, Electronic Leak Detection Test, ELD testing at Roof, NELDIT

In accordance with the agreement for services, New England Leak Detection Investigation & Testing performed Electronic Leak Detection field testing on a newly installed TPO roofing Membrane.

Observers:

N/A

Conditions:

Table with 2 columns: Field label, Value. Rows: Date: February 18,2025; Weather; Temperature (°F): 50°F; Square Footage: +- 23,695 SQFT

New Test Standard(s) and Compliance: ASTM D7877 sections 4.4 & 5.5 and ASTM D8231-19. New ASTM Standard Practice D8231 for Electronic Leak Detection (ELD) Quality Control Testing of Roofing and Waterproofing Membranes.

The new ASTM Standard Practice D8231-19 provides clear direction in the use of the scanning method (as first described in D7877) to detect and locate breaches in roofing and waterproofing membranes. This new standard helps clarify some of the misconceptions around Electronic Leak Detection regarding proper testing conditions. Importantly, it also describes how moderately conductive membranes such as black EPDM can now be electronically tested," said David Vokey, P.Eng, President at Detec Systems.

I. TEST PROCEDURES

A. LOW VOLTAGE ELECTRONIC LEAK DETECTION TEST:

IntertiScan Testing to be performed in accordance with ASTM D8231-19 (Standard Practice for the Use of a Low Voltage Electronic Scanning System for Detecting and Locating Breaches in Roofing and Waterproofing Membranes). Test horizontal and vertical surfaces as specified including inside and outside corners of parapets and equipment curbs. Use Roof Membrane IntegriScanner (RMIS) and/or Vertical Scanning Unit (VSU) test units as appropriate to surfaces being tested and as selected by technician.

1. **Mark breach locations on membrane with approved marker.**
2. **Retest repairs once fully cured.**

This quality control method is ideal for membranes adhered directly to concrete, metal, or any conductive deck (i.e. green roofs, plaza decks, below grade walls, etc.). An IntegriScan™ replaces the uncertainty of the legacy flood test method, which is inconclusive, often difficult to implement, time consuming, hazardous, and expensive. The IntegriScan™ is cost effective, reliable and an efficient alternative to flood testing. The IntegriScan™ tests 100% of the membrane, pinpointing breaches and provides absolute confirmation that a membrane is watertight. The IntegriScan™ is the ONLY method available for successfully testing black EPDM single ply membranes and other semi-conductive assemblies. The IntegriScan™ complies with ASTM Practice D8231-19.

B. HIGH VOLTAGE ELECTRONIC LEAK DETECTION TEST:

The DRPro' leak detector enables the field engineer to quickly and effectively test non-conductive roof finishes (such as bitumen, liquid-applied, single-ply and asphalt) for pinholes, porosity and other defects. The Dry Roof Pro' provides a rapid method of testing a wide range of roofing membrane types and thicknesses of between 64μ and 25.6mm. The DRPro' utilizes the non-conductive properties of roof membranes as an electrical insulator. As the detector passes a defect in the membrane, the current required to complete an electrical circuit reduces due to the lower dielectric strength of the membrane. As an electrical circuit is created, current 'jumps' the gap to earth, triggering the detector unit's alarm. Our Buckleys' DRPro' can test up to 20,000 ft² per day and can pinpoint the exact location of leaks and faults, even if they are invisible to the naked eye.

II. ELECTRONIC LEAK DETECTION TEST RESULTS:

A. THE FOLLOWING TEST RESULTS WERE OBTAINED:

- New England Leak Detection Investigations & Testing was assigned to perform an ELD test of the TPO roofing membrane installed at main roof on Saturday October 26th, 2024. The ELD test was requested to identify any breaches or deficiencies within the installed roofing membrane and to retest the completed roofing repairs to previously detected breaches.
- Prior to testing, NELDIT will confirm the conductivity of the substrate under the membrane. The roofing membrane must be mechanically fastened, structural concrete / metal decking must directly be under the membrane, or TruGround Conductive primer directly under the membrane for valid ELD testing (ASTM D7877 sections 4.4 & 5.5). On this date, we connected our equipment ground wire by mechanically attaching it to a steel penetration and verified that we have proper circuit function (ASTM standard, D8231-19). (See photographs attached below)
- On this date, our low-voltage ELD equipment detected four (4) breaches in the TPO roofing membrane installed. All detected breaches were marked with a red crayon for roof repairs. These results were communicated with Phase 3 Real Estate Partners, Inc personnel, necessary roofing repairs are required.

B. PLAN VIEW OF TESTED AREA:

- See photographs attached.

C. OBSERVATIONS / COMMENT

- N/A.

III. SUMMARY

- On this date, our Low-Voltage Electronic Leak Detection (ELD) test concluded that there were four (4) breaches detected in the TPO roofing membrane installed at 250 Arsenal St, Watertown, MA. These results were communicated to Phase 3 Real Estate Partners, Inc personnel to make the necessary repairs.
- On this date, we tested the completed roof repairs from our previous test, and they prove to be satisfactory.

IV. PHOTO DOCUMENTATION

- On following pages.

Photo Documentation

Example of TPO roofing Membrane roof areas to be tested on this date.



Photo 1



Photo 2

Photo Documentation

Example of TPO roofing Membrane roof areas to be tested on this date.



Photo 3

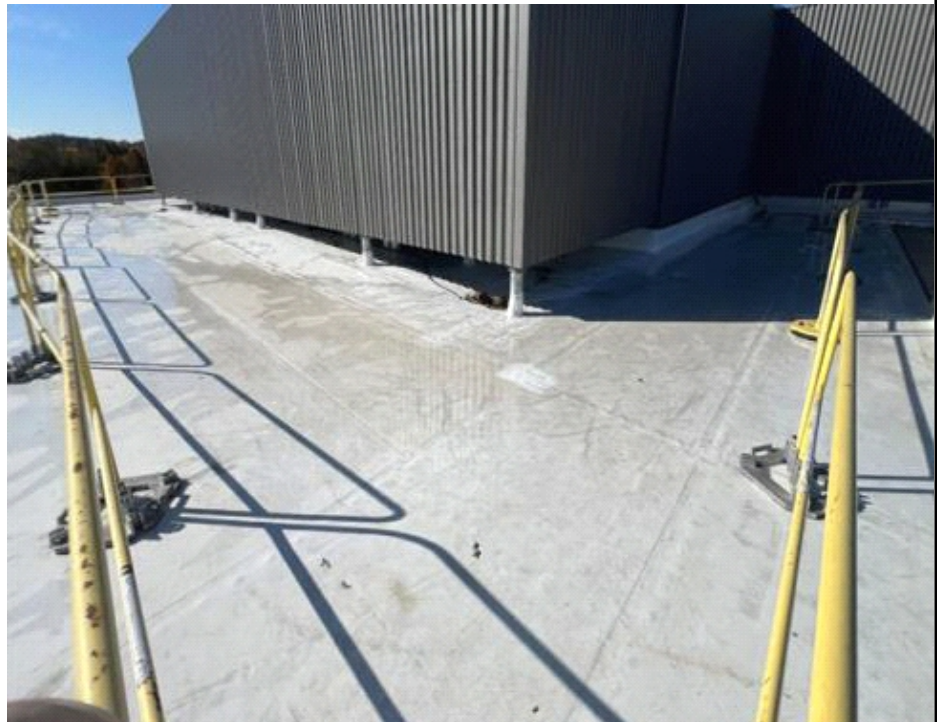


Photo 4

Photo Documentation

Example of TPO roofing Membrane roof areas to be tested on this date.



Photo 5

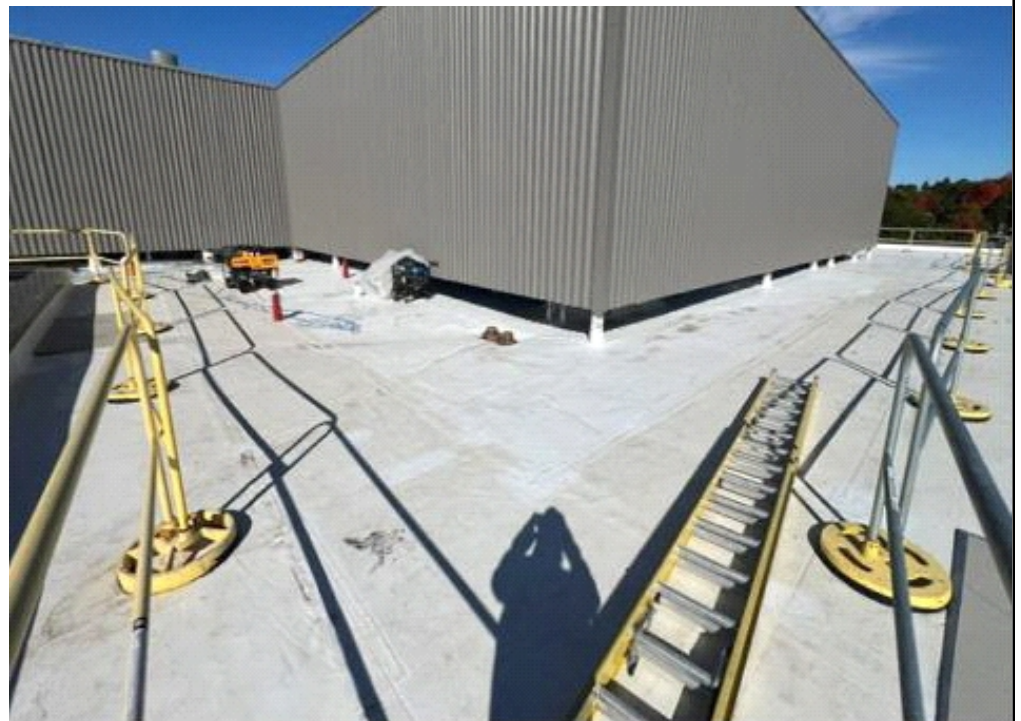


Photo 6

Photo Documentation

Example of inaccessible TPO roofing Membrane areas on this date.



Photo 7



Photo 8

Photo Documentation

Example of inaccessible TPO roofing Membrane areas on this date.



Photo 9



Photo 10

Photo Documentation

Example of Low-Voltage ELD test in progress on this date

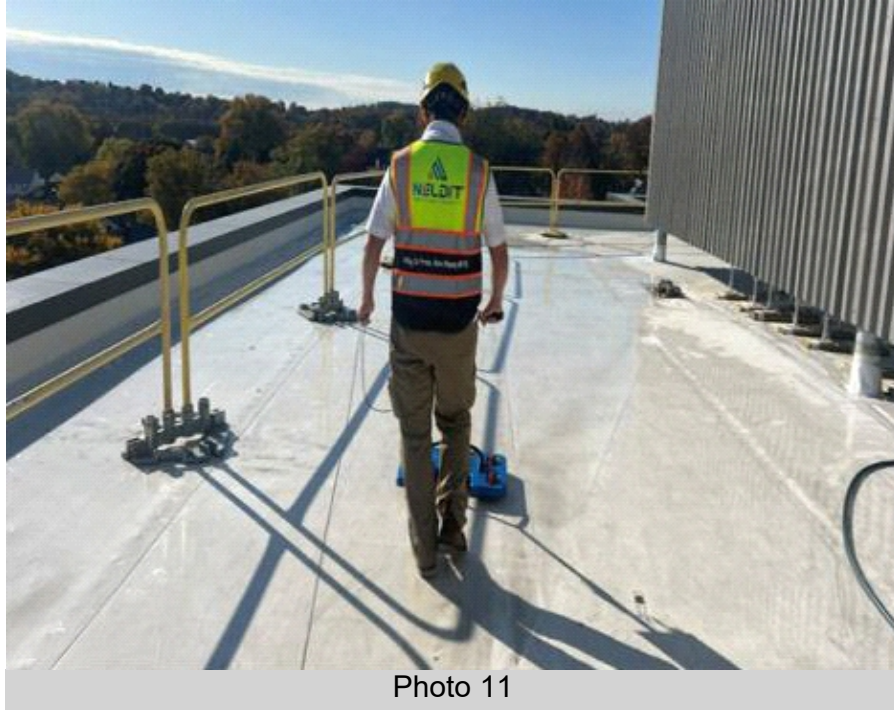


Photo Documentation

Example of Low-Voltage ELD test in progress on this date



Photo 13

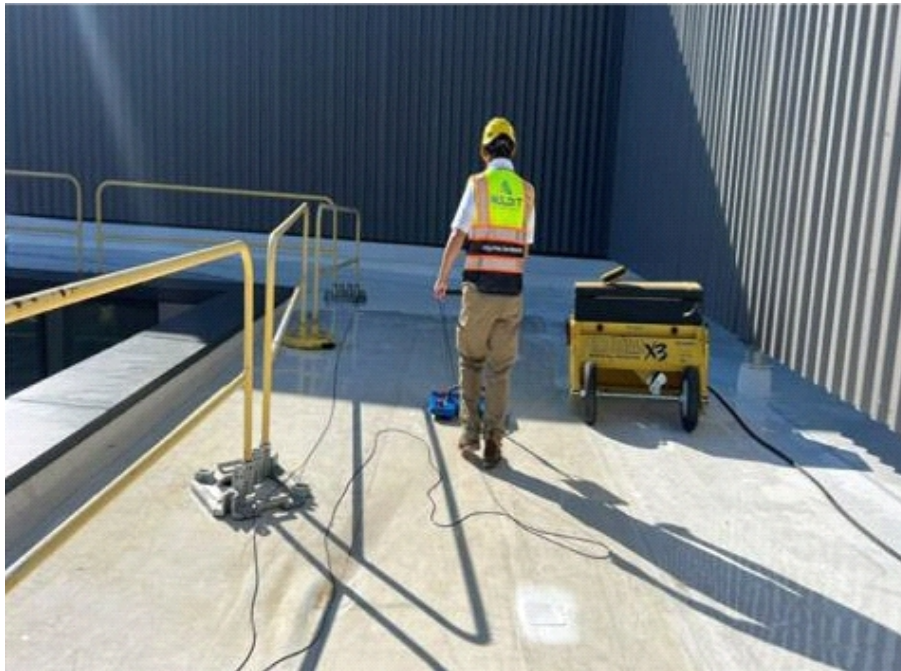


Photo 14

Photo Documentation

Example of Low-Voltage ELD test in progress on this date

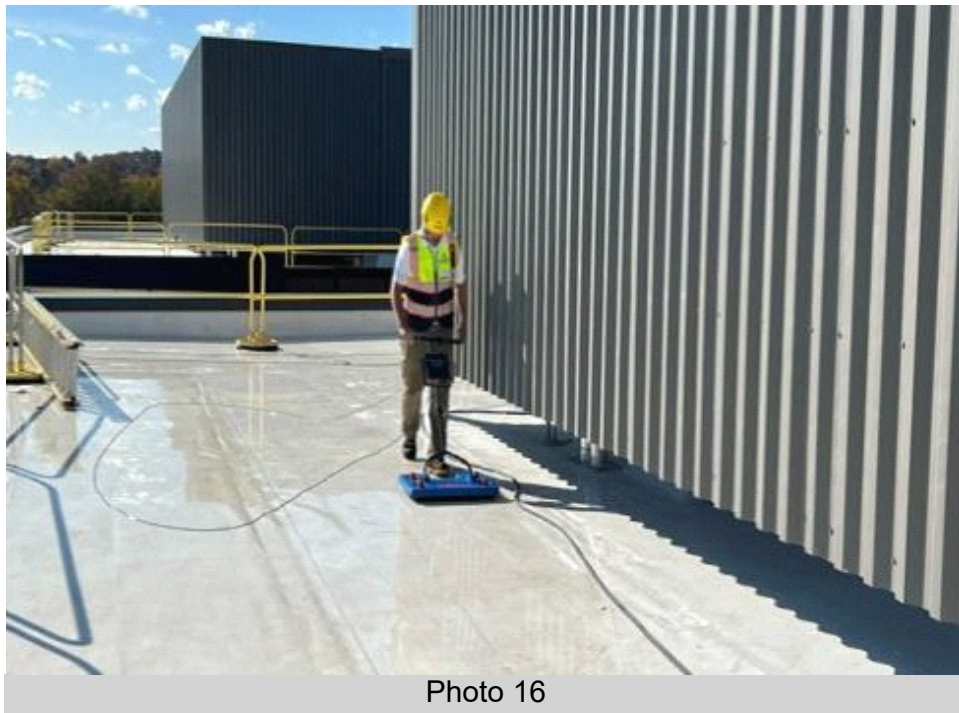


Photo Documentation

Example of Low-Voltage ELD test in progress on this date



Photo Documentation

Example of Low-Voltage ELD test in progress on this date

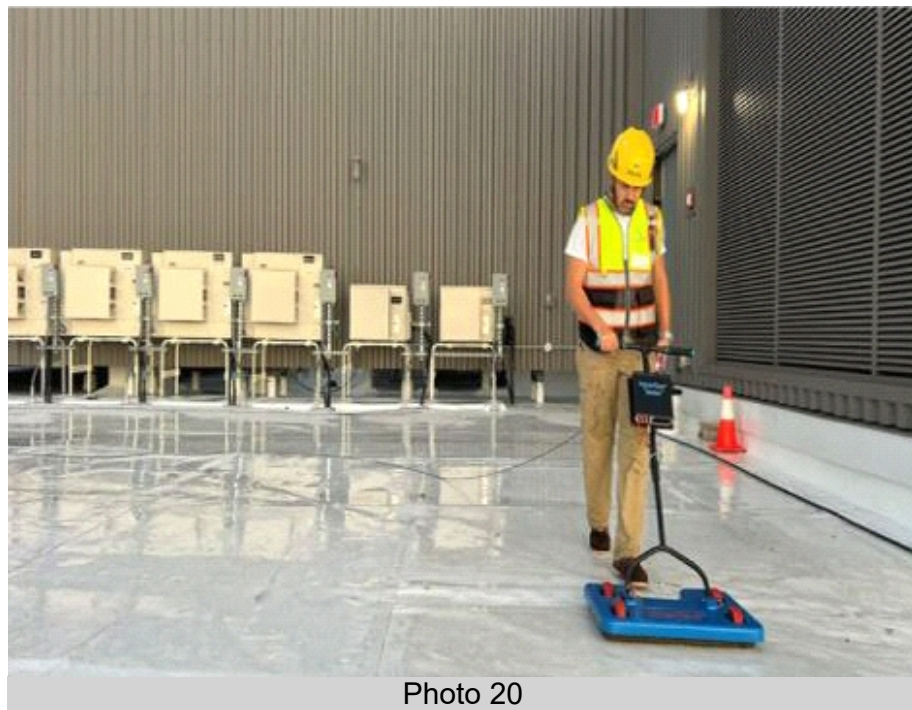


Photo Documentation

Example of Ground connection for proper and accurate testing.



Photo 21



Photo 22

Photo Documentation

Example of breaches detected on this date with location.

General Area Of Breach



Photo 23

Close up



Photo 24

Photo Documentation

Example of breaches detected on this date with location.



Photo 25

End of Report

Sincerely,

Adnane Laaroussi