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Inspection Service Catalogue



Overview

At Waterproofing Integrity, we provide industry-leading inspection and diagnostic testing services designed to eliminate uncertainty and protect built assets from water ingress. Our specialists combine advanced technology with independent expertise to verify waterproofing performance, identify defects early, and ensure every system meets Australian Standards and manufacturer requirements.

From new construction to complex remedial investigations, we deliver clear, evidence-based reporting that empowers builders, asset managers, engineers, and owners to make confident decisions. Our testing suite spans the full lifecycle of waterproofing, from substrate readiness and membrane verification to leak detection, façade assessment, and long-term asset monitoring - ensuring your project is protected from risk at every stage. scenarios.



50+
STAFF



4
LOCATIONS
SERVICING
EVERYWHERE

2500+
PROJECTS

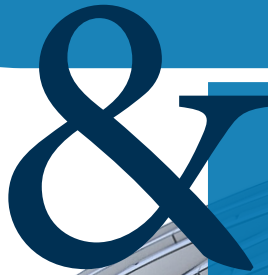
10,000+
ONSITE INSPECTIONS



Mission

CONFIDENCE IN EVERY CONSTRUCTION

We safeguard buildings from water damage with innovative design solutions, rigorous inspections, and thorough adherence to regulations. As your trusted partner, we're pioneering excellence in waterproofing and elevating confidence in the construction sector.



Vision

CONFIDENCE IN EVERY CONSTRUCTION

We envision a future where every building stands with uncompromising integrity of waterproofing. We're committed to creating leak-free, sustainable, and safe environments, instilling unparalleled confidence in waterproofing performance.

Inspection Services



Ultrasonic Thickness Testing

Membranes that are applied too thin or inconsistently often fail early, even when they appear perfect on the surface. But film thickness can't be judged by eye, and guessing leads to costly leaks.

Ultrasonic Thickness Testing uses non-destructive soundwave technology to measure the actual dry film thickness through the cured membrane in accordance with ASTM D6132 and SSPC-PA 9. This confirms the installation meets the manufacturer's minimum specification, ensuring long-term performance, uniform coverage, and warranty compliance before the area is covered.



Surface Moisture Content Testing

Even a slightly damp substrate can block membrane adhesion, cause blistering, extend curing times, or trap moisture beneath the system.

The problem is moisture hides below the surface, making it impossible to detect visually. Surface Moisture Content Testing uses capacitance measurements to detect near-surface moisture in accordance with ASTM F2659 and identifies high-risk areas before waterproofing proceeds. This ensures the substrate is sufficiently dry, reducing failure risk and programs on track.



In-slab Relative Humidity (RH) Testing

Concrete dries from the surface inward, which means the top may look dry while the core is still saturated. Installing membranes or flooring too early traps this internal moisture, causing bubbling, expansion failures, and adhesive breakdown.

RH Testing measures the true internal moisture condition using in-slab probes that assess humidity equilibrium at depth in accordance with ASTM F2170. This gives a reliable indication of when slabs are ready for coverings, preventing premature installation and moisture-related failures.



Surface Fall Gradient Testing

Poor or inconsistent falls allow water to sit where it shouldn't — and ponding water is one of the leading causes of membrane deterioration, efflorescence, and infiltration.

Surface Fall Gradient Testing uses high-precision inclinometers and laser levelling to map the drainage direction and slope of balconies, rooftops, and wet areas. This confirms compliance with AS 3740 and AS 4654.2 and ensures water flows to drainage points as intended, preventing costly rectification later.



Controlled Flood Testing

If waterproofing isn't watertight, finishes and structures can suffer catastrophic damage once the area is put into service.

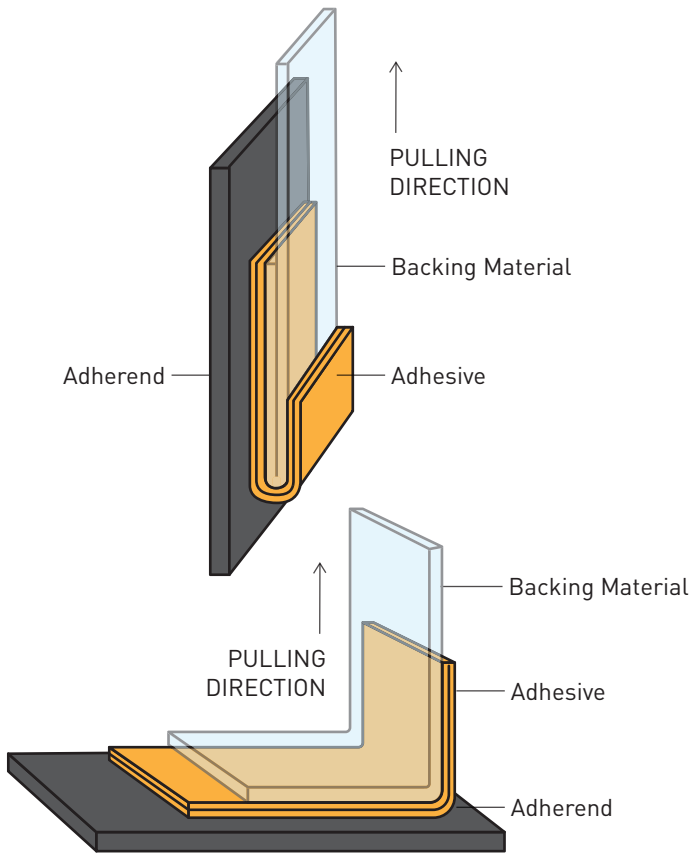
Controlled Flood Testing temporarily dams and fills the area with water in accordance with ASTM D5957, exposing leaks under real hydrostatic pressure conditions. This provides definitive proof of membrane integrity before tiling or handover.



Coating Adhesion (Pull-off) Testing

If a coating or membrane doesn't bond properly to its substrate, it fails under stress, sometimes long after installation.

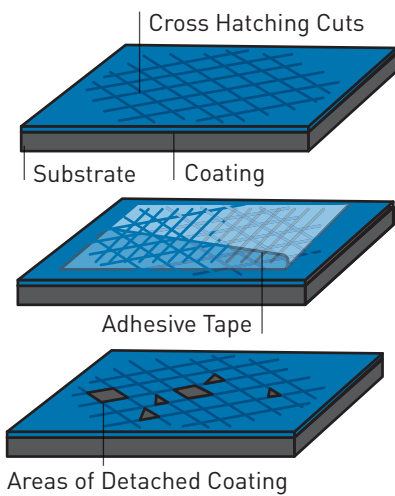
Pull-off adhesion testing uses calibrated hydraulic equipment to measure the tensile force required to detach the coating in accordance with ASTM D7234. This quantitative test confirms the system's reliability and identifies weak bonding before it leads to delamination.



Peel Adhesion Testing

Sheet membranes rely on consistent bonding across their entire surface.

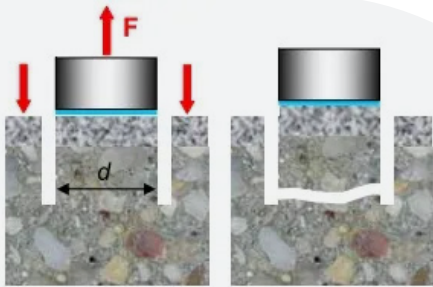
If adhesion is weak in any area, water can track underneath and undermine the system. Peel adhesion testing evaluates bond strength by peeling the membrane away at a controlled angle and rate in accordance with AS 1580.408.4. This verifies substrate compatibility, primer effectiveness, and correct system installation.



Cross-cut Adhesion Testing

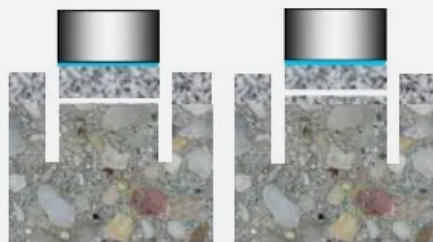
Multi-layer systems depend on strong adhesion between each layer.

Cross-cut testing quickly evaluates whether coatings and membranes are properly bonded in accordance with AS 1580.408.1 by incising a grid into the coating and assessing how much material lifts when tape is applied. This provides an immediate indication of adhesion quality and highlights areas that require re-preparation.



BOND-TEST

(a) Failure in substrate



(b) Bond failure

(c) Failure in overlay



Mortar Adhesion Testing

Repairs and overlays must bond properly to the underlying concrete to perform long term. Poor adhesion leads to cracking, delamination, and structural failure.

Mortar adhesion testing applies controlled tensile force in accordance with ASTM C1857 to measure the bond strength between the repair mortar and substrate. This ensures repairs are structurally sound and ready for waterproofing or load-bearing service.

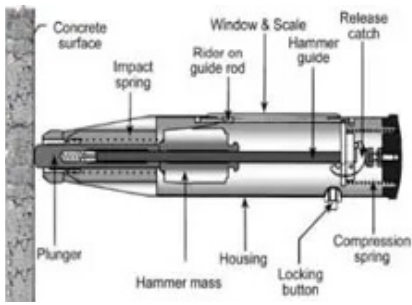


Concrete Surface Profile (CSP) Testing

A coating will only bond correctly if the substrate has the right texture.

Too smooth, and adhesion fails; too rough, and the coating struggles to wet out. CSP testing uses calibrated gauges to measure surface roughness in microns in accordance with ASTM D8271 and ICRI CSP guidelines. This confirms surface preparation meets membrane manufacturer requirements for mechanical adhesion.





Schmidt Hammer Testing

Weak or deteriorated concrete affects the entire waterproofing system, from adhesion to structural performance.

Schmidt Hammer Testing measures surface hardness and estimates compressive strength non-destructively in accordance with ASTM C805, identifying compromised areas that need repair before waterproofing or load-bearing works proceed.



Sealant Adhesion Testing

Sealant joints are often the weakest link in façade and waterproofing systems; if they debond under movement, wind load, or thermal cycling, water can bypass even the best membranes.

Visual inspection alone cannot confirm whether a sealant is truly bonded or just "sitting in the joint." Sealant Adhesion Testing simulates in-service movement by probing, cutting, and pulling sections of the joint in accordance with ASTM C1521. By observing whether failure occurs cohesively (within the sealant) or adhesively (at the interface), we confirm bond quality, primer compatibility, and workmanship.

This prevents hidden joint failures, supports NCC façade performance requirements, and provides clear evidence that seals are capable of long-term waterproofing performance.



Slip Resistance Testing

Even a well-built waterproofing system can become a liability if the finished surface is slippery when wet.

Pedestrian areas like balconies, podiums, pool surrounds, and entries must meet defined slip-resistance levels to satisfy safety, NCC, and WHS obligations. Slip Resistance Testing uses the Wet Pendulum Test to measure the frictional performance of floor surfaces under wet conditions in accordance with AS 4586:2013 (new surfaces) and AS 4663:2013 (existing surfaces). Results are expressed as a slip rating (P0–P5), clearly indicating whether the surface meets the recommended classification for its use.



Needle Gauge Seam Test

Poorly welded seams in sheet membranes can allow water to track along laps and joints, even when the membrane looks neat and continuous on the surface.

A single void or missed section in a weld can turn into a major leak once the system is under hydrostatic pressure. The Needle Gauge Seam Test applies low air pressure directly into the seam zone and monitors for pressure loss or air escape, typically combined with a soap solution to highlight bubbles at defects.

Carried out in line with sheet membrane manufacturer procedures and the installation intent of AS 4654.2, this test confirms that welded laps and junctions are continuous, airtight, and watertight before the system is covered or placed into service.



Dry Electronic Leak Detection (Dry ELD)

Small punctures, pinholes, and thin spots can compromise an entire waterproofing system — but they're nearly impossible to see.

Dry ELD scans exposed membranes with a low-voltage electric field that instantly detects breaches, even those smaller than a pin. Testing is carried out in accordance with ASTM D7877, providing fast, accurate, and non-destructive results, allowing immediate repair of defect points before finishes are installed or areas are handed over.



Vector Mapping Electronic Leak Detection (Wet ELD)

When waterproofing is buried under tiles, screeds, soil, or insulation, leaks can appear far from the source and are extremely difficult to trace.

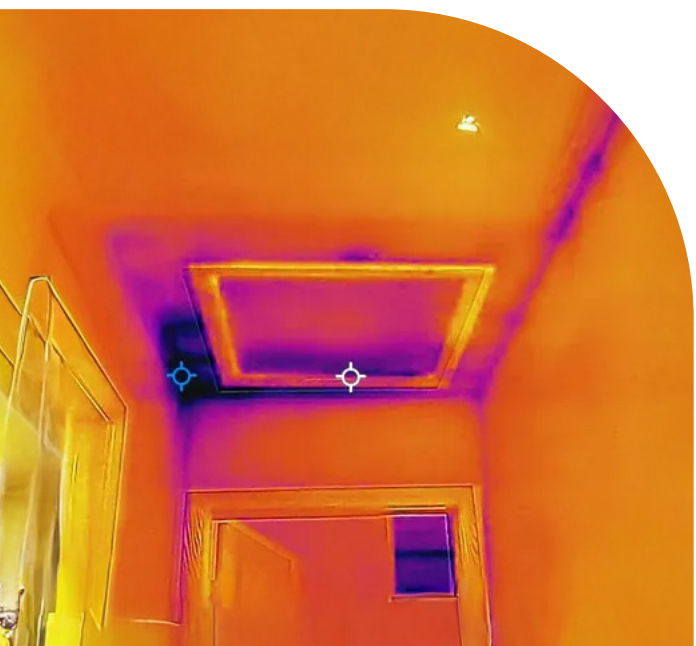
Vector Mapping applies a controlled electrical field across the dampened surface, tracing the direction of current flow through any breach in the membrane. Conducted in accordance with ASTM D7877, this method locates hidden defects beneath the surface without lifting finishes, making it one of the most cost-effective diagnostic tools for completed systems



Facade Water Spray (RWT) Testing

Wind-driven rain exploits even the smallest defects in façade systems, often causing leaks within window frames, joints, or cladding panels.

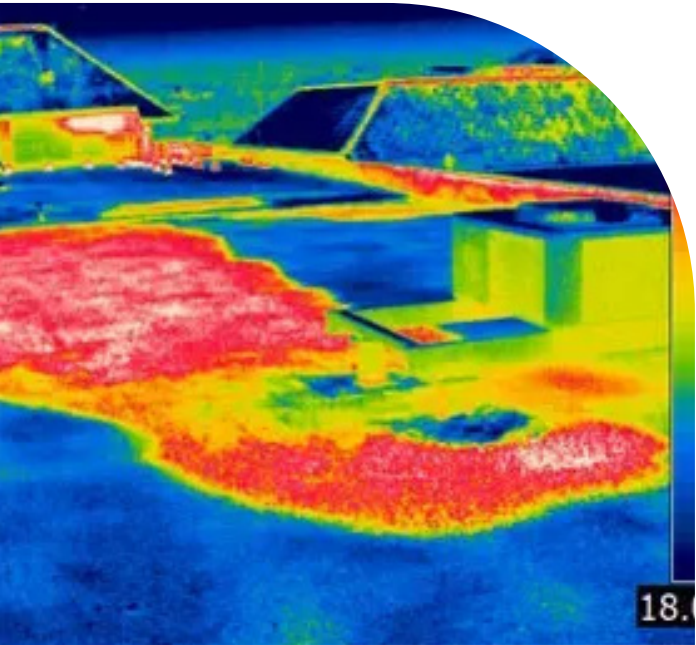
Rain wand testing simulates these conditions by applying correctly pressurised and patterned water spray to the façade while monitoring inside for leakage. Conducted in accordance with AAMA 501.2, this test exposes installation weaknesses early and verifies the weatherproofing performance of curtain walls, cladding, and glazing.



Thermal Imaging Diagnostics

Water intrusion and insulation problems often hide behind walls, ceilings, or membranes long before visible signs appear.

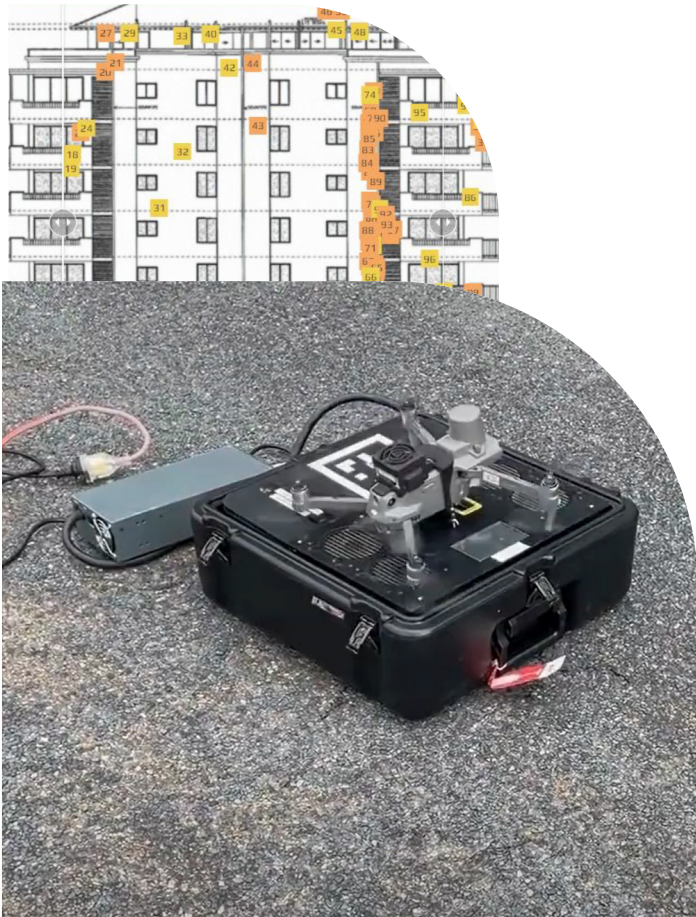
Thermal imaging reveals these hidden issues by detecting subtle temperature differences associated with moisture retention, evaporative cooling, and missing insulation. Performed using professional-grade infrared equipment in line with ISO 18434 thermographic inspection principles, it provides a fast, non-invasive diagnostic method to locate hidden issues and prioritise targeted investigation.



Drone Thermal Survey

Access constraints can limit roof and façade inspections, leaving huge blind spots.

Drone thermal surveys provide high-resolution thermal and optical data from above, identifying heat loss, trapped moisture, membrane failures, and drainage issues across large or elevated surfaces. Conducted in line with ISO thermographic interpretation principles, this method identifies heat loss, trapped moisture, and membrane failures across large assets without physical access equipment.



Facade Condition Assessment (FCA)

Manual façade inspections are slow, subjective, and often inconsistent.

AI-powered façade scanning uses automated image capture combined with machine learning to detect cracks, moisture ingress, spalling, corrosion, and sealant failures with up to 95% accuracy. Results follow industry-aligned façade condition assessment protocols, producing digital defect maps that support compliance, maintenance planning, and remedial design.



Tracer Gas Leak Detection

Water often travels far from the actual entry point, making leak sources almost impossible to identify visually.

Tracer Gas Testing injects a safe hydrogen-based gas into the structure, which migrates along the same pathways water uses. Sensitive detectors identify gas escape points with high precision. Testing follows EN 13143 tracer gas diagnostic principles, providing unmatched accuracy in locating concealed leak sources.



Vacuum Bell Testing

Sheet membrane seams and welds can contain micro-defects that cause leaks once under pressure.

Vacuum Bell Testing applies negative pressure over the seam and uses a soapy solution to reveal escaping air as visible bubbles. Conducted in alignment with AS 4654.2 installation quality practices and international membrane integrity protocols, this method ensures watertight welds before coverings or backfilling.



Anchor & Fixing Pull-Out Testing

Anchors and fixings that are inadequately embedded, poorly installed, or under-strength can compromise structural performance and integrity, especially where brackets, balustrades, or mechanical fixings penetrate a waterproofed slab or façade.

Anchor and Fixing Pull-Out Testing uses calibrated hydraulic equipment to apply controlled tensile loads to installed anchors in accordance with ASTM E488 / E488M. By measuring load versus displacement and recording the failure mode, we verify that anchors achieve their design capacity and are safely integrated with waterproofing systems.



Electromagnetic Scanning (Moisture & Leak Mapping)

Large roofs and podiums often hide moisture pathways that conventional testing can't detect.

Electromagnetic scanning generates a dynamic electrical field that maps moisture variations across an entire area, revealing leak paths, saturated substrates, and weak spots with high accuracy. Performed in line with ASTM D7877 principles, it provides a high-resolution overview ideal for complex or multi-layered waterproofing systems.



Design Compliance Auditing

Many waterproofing failures are “designed in” long before membranes are installed — through incomplete details, conflicting specifications, or non-compliant system selection.

Once built, these errors are expensive and disruptive to fix. Design Compliance Auditing proactively reviews drawings, details, and specifications against the National Construction Code (NCC), key Australian Standards (AS 4654, AS 3740, AS 4858) and best-practice guidelines such as BS 8102 for below-ground protection. By checking falls, interfaces, movement joints, terminations, system compatibility, and buildability before construction, we identify risks early and recommend practical fixes. This ensures designs are compliant, warrantable, and constructible, reducing disputes, rework, and long-term water ingress issues.



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