

OTTAWA EPOXY FLOORS

Moisture & Vapour Barriers

Moisture testing, vapour emission rates, hydrostatic pressure management, and barrier systems critical for Ottawa's high water table and snowmelt conditions.

6 Expert Answers from Epoxy IQ

ottawaepoxyfloors.com/construction-brain

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What is the price for a full moisture assessment of an Ottawa commercial slab?

Moisture assessment for a commercial concrete slab in Ottawa is a specialized service that sits at the intersection of concrete testing, flooring preparation, and building science — and the pricing reflects that complexity.

What a Full Commercial Moisture Assessment Involves

A thorough moisture assessment for a commercial slab typically includes several testing methods used together to build a complete picture of what the concrete is doing. The most common and reliable method is the **in-situ relative humidity (RH) probe test**, which involves drilling holes into the slab at a depth of 40 percent of the slab thickness, inserting calibrated sensors, and allowing them to equilibrate for a minimum of 72 hours before reading. This method is governed by **ASTM F2170** and is the gold standard for commercial flooring applications. A second method, the **calcium chloride test (ASTM F1869)**, measures moisture vapour emission rate (MVER) at the surface and is still widely used, though it captures only surface-level conditions rather than the full moisture profile through the slab.

A complete commercial assessment will also include **surface pH testing** (high alkalinity from moisture movement can destroy adhesives and coatings), **thermal imaging** to identify cold spots or moisture intrusion zones, a visual inspection for efflorescence, cracks, and previous coating failures, and documentation of the slab's construction history where available. In Ottawa, assessors will also want to understand the building's drainage, proximity to the water table, and whether the slab was poured with a proper vapour barrier beneath it — many older commercial slabs in areas like Kanata, Gloucester, and the industrial parks along Hawthorne Road were not.

Pricing for a full commercial moisture assessment in Ottawa typically runs between \$800 and \$2,500, depending on the size of the slab, the number of RH probe locations required (ASTM F2170 recommends a minimum of three test sites for the first 1,000 square feet, plus one additional site per 1,000 square feet after that), and whether the assessment includes a written report with remediation recommendations. Larger warehouses or multi-zone commercial spaces can push costs higher. Some flooring contractors include a basic moisture test as part of their quote process, but a standalone third-party assessment from a concrete testing specialist or building envelope consultant provides more defensible documentation — which matters if you are specifying a flooring system with a manufacturer warranty.

Ottawa's climate makes moisture assessment particularly critical for commercial slabs. Spring snowmelt, combined with the city's relatively high water table in areas near the Ottawa River and Rideau River floodplains, creates significant hydrostatic pressure beneath slabs from March through June. A slab that tests dry in August may be pushing well above the **3 lb/1,000 sq ft/24-hour threshold** that most epoxy and polyaspartic systems require by

April. Seasonal testing — or at minimum, testing during the high-moisture spring window — gives you the most conservative and reliable baseline.

If your moisture readings come back elevated, remediation options include **moisture mitigation primers, epoxy moisture barriers, or surface densifiers**, each with different cost and performance profiles depending on the severity of the problem.

For commercial flooring contractors experienced with moisture assessment and mitigation in Ottawa, the **Ottawa Construction Network directory at justynrookcontracting.com** is a good place to start browsing local professionals. It is worth getting at least three quotes and asking each contractor specifically how they handle moisture testing as part of their pre-installation process.

Q2

What is the price for a two-component moisture mitigation epoxy primer in Ottawa?

Two-component moisture mitigation epoxy primers are a specialized product, and their pricing in Ottawa reflects both the material cost and the critical role they play in preventing coating failure on concrete slabs with elevated moisture vapour emission rates.

Understanding Moisture Mitigation Primer Costs in Ottawa

For material costs alone, a professional-grade two-component moisture mitigation epoxy primer typically runs **\$80 to \$180 per gallon** in the Ottawa market, depending on the brand and formulation. Most systems are designed to cover **150 to 250 square feet per gallon** at the recommended application thickness, which means a standard two-car garage of 400 to 500 square feet would require 2 to 3 gallons of mixed product — putting raw material costs at **\$160 to \$540** just for the primer layer before any topcoat system is applied.

When moisture mitigation primer is included as part of a professionally installed floor coating system, it typically adds **\$2 to \$4 per square foot** to the overall project cost. On a 500-square-foot garage floor, that translates to **\$1,000 to \$2,000** added to the base coating price. Some contractors price it as a line item; others build it into the total system quote. Always ask your contractor specifically whether moisture mitigation is included and what product they are using.

This cost is absolutely worth it in Ottawa. The city's geology and climate create some of the most challenging moisture conditions for concrete coatings in Canada. High water tables in areas like Barrhaven, Kanata, and Orleans, combined with spring snowmelt pushing moisture vapour upward through slabs, mean that skipping a

moisture mitigation primer is one of the most common reasons epoxy coatings fail within a year or two of installation. A **calcium chloride test** should be performed before any coating application — if your moisture vapour emission rate exceeds **3 pounds per 1,000 square feet per 24 hours**, a two-component moisture mitigation primer is not optional, it is essential.

These primers work by penetrating into the concrete pores and forming a moisture-tolerant chemical bond that standard epoxy primers cannot achieve. High-quality products like Sherwin-Williams Vapor-Grip, Mapei Planiseal, or equivalent professional-grade systems are formulated to tolerate moisture vapour emission rates up to **8 to 15 pounds** per 1,000 square feet per 24 hours, depending on the specific product. This gives the subsequent coating system a fighting chance even on slabs with moderate moisture issues.

From a seasonal standpoint, moisture mitigation is most critical for **spring installations** in Ottawa, when snowmelt and rising groundwater push vapour transmission rates to their annual peak. If you are planning a coating project between March and June, budget for moisture testing and very likely a mitigation primer as part of your system.

As a practical next step, have any contractor you are considering quote the project with and without moisture mitigation so you can see the cost difference clearly. Ask them what moisture testing method they use and at what threshold they recommend mitigation. A contractor who skips moisture testing entirely is a red flag in Ottawa's climate. You can browse flooring contractors through the **Ottawa Construction Network directory at justynrookcontracting.com** to find professionals experienced with Ottawa's specific moisture challenges.

Q3

Can Ottawa contractors install epoxy on a slab without a poly vapour barrier underneath?

Yes, Ottawa contractors absolutely can and do install epoxy on slabs without a poly vapour barrier underneath — but it is one of the higher-risk scenarios in our local market, and the outcome depends heavily on how well the moisture situation is assessed and managed before the first drop of coating goes down.

Understanding Vapour Barriers and Epoxy in Ottawa

A polyethylene vapour barrier is installed during original slab construction to block ground moisture from migrating upward through the concrete. Many Ottawa homes built before the 1980s — and a surprising number of older garage slabs — were poured directly on compacted gravel or soil with no barrier at all. Others have degraded or punctured barriers that provide little real protection. The absence of a proper vapour barrier does not automatically mean epoxy will fail, but it does mean **moisture vapour emission becomes the central concern** for the entire

project.

Concrete is not waterproof. It is porous, and moisture from the ground below migrates upward as vapour even when the surface looks and feels completely dry. In Ottawa specifically, this is a serious issue — our high water table in areas like Barrhaven, Gloucester, and the older parts of the west end, combined with spring snowmelt pushing enormous volumes of water into the soil, creates conditions where moisture vapour emission rates can spike dramatically. **A slab that passes a moisture test in November may fail the same test in April.** This seasonal variability is something Ottawa homeowners and contractors need to take seriously.

The professional standard before any coating application is a **calcium chloride test** or a **relative humidity probe test** drilled into the slab. Most standard epoxy systems require a moisture vapour emission rate below **3 pounds per 1,000 square feet per 24 hours**. If your slab exceeds that threshold — which is common on barrier-free slabs in Ottawa — a standard epoxy will delaminate, bubble, or peel within months regardless of how well it was applied.

The good news is that the industry has developed products specifically for this situation. **Moisture-tolerant epoxy primers** and **vapour barrier epoxy systems** are formulated to bond to damp concrete and block upward moisture migration. These are two-component epoxy products with modified chemistry that can handle higher moisture levels — some rated up to 8 or even 12 pounds per 1,000 square feet per 24 hours. They are applied as a dedicated primer coat before the decorative or functional coating system goes on top. Expect this to add **\$2 to \$4 per square foot** to your project cost compared to a standard system.

Polyaspartic coatings also perform better than standard epoxy in moderate moisture conditions due to their flexibility and faster cure time, which reduces the window during which moisture can interfere with adhesion.

From a permit standpoint, applying a coating system to an existing slab — even with a moisture mitigation primer — is still a cosmetic treatment and does not require a City of Ottawa building permit. If the moisture problem points to a larger drainage or waterproofing issue, that work may involve permits depending on scope.

The practical next steps here are straightforward. First, perform a moisture test — a simple plastic sheet taped to the slab for 24 hours gives a rough indication, but a proper calcium chloride kit (available at flooring supply stores for around \$30 to \$50) gives you real data. Second, share those results with any contractor you speak to so they can specify the right primer system. Third, get at least three written quotes that explicitly address moisture mitigation in the scope of work.

If you want to connect with flooring contractors who work with moisture-compromised slabs in Ottawa, the **Ottawa Construction Network directory at justynrookcontracting.com** is a good place to start browsing local options.

How much does applying a silane-siloxane moisture blocker cost before epoxy in Ottawa?

Applying a silane-siloxane penetrating sealer before epoxy is a smart move for Ottawa homeowners dealing with the city's notoriously challenging moisture conditions — and the cost is quite reasonable relative to the protection it provides.

Silane-Siloxane Pre-Treatment Costs in Ottawa

A professional silane-siloxane application to a concrete floor in Ottawa typically runs **\$1.50 to \$3.50 per square foot**, depending on the porosity of the concrete, the number of coats required, and the contractor's mobilization costs. For a standard two-car garage of 400 to 600 square feet, expect to pay **\$600 to \$2,100** if the treatment is done as a standalone service. When bundled as part of a full epoxy coating project, many contractors include a silane-siloxane primer or moisture-blocking treatment at a reduced rate — often adding only **\$0.75 to \$1.50 per square foot** to the total project cost because the labour is already on-site.

DIY silane-siloxane products are available at Ottawa building supply stores and online, with materials costing **\$80 to \$250 for a two-car garage** depending on concentration and brand. These are among the more DIY-accessible concrete treatments, as application typically involves a pump sprayer or roller and does not require mechanical equipment. That said, proper surface preparation — meaning the concrete must be clean, dry, and free of previous sealers — is essential for the product to penetrate and bond correctly.

It is important to understand what silane-siloxane actually does and what it does not do. These penetrating sealers work by chemically bonding with the silica in concrete and creating a hydrophobic barrier within the pores of the slab. They are excellent at reducing water vapour transmission and protecting against surface moisture intrusion, freeze-thaw damage, and road salt penetration. However, **silane-siloxane is not a substitute for a proper vapour barrier system** in basements or slabs with high hydrostatic pressure. If your moisture vapour emission rate (MVER) is above 3 pounds per 1,000 square feet per 24 hours on a calcium chloride test, you likely need a dedicated vapour mitigation epoxy primer rather than a penetrating sealer alone.

Ottawa's spring conditions make this treatment particularly relevant. Snowmelt from February through April pushes significant moisture vapour up through concrete slabs — especially in older homes in areas like Centretown, Hintonburg, and Vanier where slabs may lack a proper vapour barrier beneath them. Applying a silane-siloxane treatment in the fall, before freeze-thaw cycling begins, is one of the best preventive measures a homeowner can take. It also extends the life of any subsequent epoxy or polyaspartic coating by reducing the moisture-related delamination risk that causes so many Ottawa coating failures.

From a timing standpoint, silane-siloxane products require the concrete to be dry and the temperature to be above **5 degrees Celsius** during application and for at least 24 hours afterward. This makes late spring through early fall the ideal window for Ottawa garages.

Before any coating project, always request that your contractor perform a **calcium chloride moisture test or a relative humidity probe test** — this tells you whether silane-siloxane alone is sufficient or whether you need a more aggressive moisture mitigation strategy as part of your coating system.

If you are planning a full epoxy or polyaspartic project and want to explore contractor options, the Ottawa Construction Network directory at justynrookcontracting.com is a free resource where you can browse local flooring contractors and reach out directly for quotes.

Q5

How much does a moisture-tolerant primer system add to garage epoxy cost in Kanata?

Moisture-tolerant primer systems typically add \$2 to \$4 per square foot to your garage epoxy project cost in Kanata, bringing a standard two-car garage from the typical \$2,000-\$7,200 range up to \$2,800-\$9,600 depending on your chosen topcoat system and decorative options.

Understanding Moisture-Tolerant Primers in Kanata

Kanata's suburban location means many homes sit on clay soils with naturally high water tables, making moisture vapor transmission through garage slabs a common issue. A moisture-tolerant primer creates a vapor barrier between your concrete and the epoxy topcoat, preventing the coating failure that occurs when moisture pushes up through the slab and breaks the bond. These specialized primers can handle moisture vapor emission rates up to 8-12 pounds per 1,000 square feet per 24 hours, compared to standard epoxy's limit of 3 pounds.

Epoxy-novolac primers are the most common moisture-tolerant option, offering excellent chemical resistance and adhesion even on damp concrete. They cost \$3-\$5 per square foot installed and require 12-24 hours cure time before topcoat application. **Polyaspartic moisture-tolerant primers** cure faster (4-6 hours) and can be applied at lower temperatures, making them ideal for Kanata's climate conditions. These run \$4-\$6 per square foot but allow same-day completion of your entire floor system.

The primer application process involves diamond grinding your concrete to achieve proper profile, applying the moisture-tolerant primer at 4-6 mils thickness, then following with your chosen epoxy or polyaspartic topcoat system. This creates a **total system thickness of 12-18 mils** compared to 8-12 mils for standard epoxy alone.

Spring timing is critical in Kanata due to snowmelt and seasonal moisture fluctuations. Your contractor should perform calcium chloride moisture testing before determining if a moisture-tolerant system is necessary. Many Kanata garages built in the 1980s and 1990s lack proper vapor barriers beneath the concrete, making these primer systems essential for long-term coating success.

For professional assessment of your garage's moisture conditions and primer requirements, browse flooring contractors through the Ottawa Construction Network directory at justynrookcontracting.com who can perform proper moisture testing and recommend the appropriate system for your specific Kanata location.

Q6

What is the cost for an epoxy primer that tolerates up to twelve pounds MVER in Ottawa?

High-moisture epoxy primers designed to tolerate up to 12 pounds MVER (Moisture Vapor Emission Rate) typically cost between \$8 to \$15 per square foot installed in Ottawa, significantly higher than standard epoxy systems due to their specialized moisture-blocking technology. These primers are essential for Ottawa basements and garages where spring snowmelt and high water tables create challenging moisture conditions.

Understanding High-MVER Primer Systems

Standard epoxy systems fail when concrete moisture vapor emission exceeds 3 pounds per 1,000 square feet per 24 hours, but **moisture-tolerant primers use specialized chemistry** to bond even when MVER reaches 12 pounds or higher. These systems typically employ 100% solids epoxy with moisture-scavenging additives, or they may use polyaspartic technology that chemically reacts with moisture rather than being damaged by it. The primer creates a moisture barrier that prevents vapor drive from causing adhesion failure or coating bubbles.

In Ottawa's challenging climate, these high-performance primers are often necessary in basements built before modern vapor barriers were standard, garages with poor drainage, and any concrete slab experiencing seasonal moisture fluctuations. **The primer material itself costs \$4 to \$7 per square foot**, with professional installation adding \$4 to \$8 per square foot for surface preparation, application, and a compatible topcoat system.

Temperature and timing remain critical factors even with moisture-tolerant systems. Application should occur when ambient temperatures stay between 15 to 25 degrees Celsius, making late spring through early fall the ideal window for garage applications. Basement installations can proceed year-round in climate-controlled spaces. The primer typically requires 12 to 24 hours cure time before topcoat application, and full system cure takes 5 to 7 days.

Before investing in high-MVER primer, **confirm your actual moisture levels through calcium chloride testing or relative humidity probe testing**. Some concrete that appears problematic may test within normal ranges, allowing use of less expensive standard epoxy systems. However, if testing confirms high moisture vapor emission, these specialized primers provide the only reliable solution for long-term coating success.

For professional assessment and installation of moisture-tolerant epoxy systems, browse flooring contractors through the Ottawa Construction Network directory at justynrookcontracting.com, where you can connect with professionals experienced in challenging moisture conditions.

Disclaimer: This guide is provided for informational purposes only by Ottawa Epoxy Floors. It does not constitute professional advice. Always consult qualified, licensed contractors and your local building authority before starting any epoxy flooring, concrete coating, or floor resurfacing project. Information is current as of August 9, 2026 and may change. Visit ottawaepoxyfloors.com for the latest answers.