

TOPCRET USA LLC

MICROCEMENT USA

SUBSTRATE PREPARATION GUIDE

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Technical guidance issued by Topcret USA LLC. Subject to the Topcret USA Terms and Conditions applicable to each transaction.

WHEN THESE TERMS APPLY

This Guide sets out the technical requirements for evaluating and preparing substrates before the installation of any Topcret microcement system in the United States. It applies to floors, walls, ceilings, and stairs, in residential and commercial environments, interior and exterior. It is issued to installers, applicators, contractors, and design professionals.

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1. STATUS OF THIS GUIDE

1.1 Technical guidance. This Guide is issued by Topcret USA LLC as technical guidance. It describes how substrates are evaluated and prepared. It does not create any warranty, representation, or guarantee, and it does not alter the allocation of responsibility set out in the applicable contract.

Where this Guide differs from the Topcret USA Terms and Conditions applicable to a transaction, those Terms govern. This Guide creates no warranty.

1.2 Acceptance criteria. The moisture acceptance criteria are stated in Section 4.2 of this Guide. This Guide is the single source of those criteria: the Topcret USA Terms and Conditions incorporate this Guide and refer to it rather than restating them, so that there is one place to look and one place to update.

1.3 Which version applies. The version of this Guide that applies to a project is the version current when the quotation was issued. Superseded versions remain available at topcretusa.com/terms. Where any provision of this Guide conflicts with the Terms and Conditions applicable to a transaction, those Terms govern; please report any such conflict to info@topcretusa.com so that it can be corrected.

1.4 Status. Always confirm you are working from the version referenced on your quotation or invoice. This Guide does not create any warranty and does not alter the allocation of responsibility in the applicable contract.

2. NATURE OF THE SYSTEM

(a) What the system is. The microcement system, correctly specified, applied, sealed and maintained, is an impermeable decorative finish. It resists the penetration of water applied to the finished face of the surface — the positive side — and is suitable for use in kitchens, bathrooms and other wet environments.

(b) What the system is not. The system is not a waterproofing system, a tanking or below-grade system, a shower pan or receptor, a damp-proof membrane, a vapor barrier, a crack-isolation or anti-fracture membrane, or a structural product. It does not replace, substitute for or reduce any waterproofing, flashing, drainage or vapor control assembly required by the building code, by the project specification or by good construction practice.

A material that is impermeable is not the same thing as a waterproofing assembly. Ceramic tile is impermeable; no shower is waterproofed with tile alone. The same principle applies to microcement.

(c) Mandatory waterproofing beneath. In showers, wet rooms, steam rooms, tub surrounds, balconies, terraces, roof decks, pools, exterior surfaces, areas over occupied space, and any area subject to standing water, immersion or water penetration, a properly designed, independently tested and code-compliant waterproofing assembly must be installed beneath the microcement by others, and must be flood-tested and documented before the microcement is applied. The waterproofing assembly is the responsibility of the Customer and its design and trade professionals.

(d) Positive side only — no resistance to moisture from beneath. The system is a positive-side finish. It has no meaningful capacity to resist negative-side hydrostatic pressure or water vapor transmission arising from beneath or behind the substrate. Rising damp, vapor drive through a slab on or below grade, moisture retained beneath a concrete slab, a high or seasonal water table, a failed or absent under-slab vapor retarder, defective site drainage, and water entering the structure from any source will cause blistering, osmotic bubbling, loss of adhesion, delamination, efflorescence, staining, and discoloration.

(e) Delayed and seasonal appearance. Moisture-driven failures characteristically appear weeks, months or seasons after installation, and may appear and recede with rainfall, groundwater level, irrigation and heating or cooling cycles. The absence of any such condition at the time of installation or at handover is not evidence that the substrate is free of moisture risk.

2.1 Thin build, no leveling capacity. The system is applied in 7–9 thin coats to a total build of approximately 1/8 inch. It is not self-leveling, is not a filler, does not create slope, and does not bridge cracks or joints. It replicates the geometry of the substrate beneath it: any irregularity, joint, crack, hollow, or change of plane in that substrate will be visible in the finished surface.

2.2 THE QUALITY AND DURABILITY OF A FINISHED INSTALLATION ARE DETERMINED PRINCIPALLY BY THE CONDITION AND PREPARATION OF THE SUBSTRATE. NO SYSTEM PERFORMANCE COMPENSATES FOR STRUCTURAL DEFICIENCY, MOISTURE, OR INADEQUATE LEVELING.

3. EVALUATION BEFORE INSTALLATION

3.1 **Conditions for inspection.** Surfaces must be clean, exposed, and unobstructed before evaluation. Existing finishes and contaminants must be identifiable. An evaluation carried out over covered, obstructed, or unfinished surfaces is not valid.

3.2 **Building conditions.** The building must be enclosed, weathertight, and operating at service temperature and humidity before substrate evaluation and before installation. Readings taken in a building that is not conditioned will not reflect in-service conditions.

3.3 **What is recorded.** Substrate type, age, and construction; moisture test results with method, instrument, calibration date, equilibration time, and probe locations on a marked plan; presence and type of vapor barrier or under-slab retarder; presence and flood-test record of any waterproofing assembly; level tolerance and planimetry; drainage falls; existing cracks, mapped and photographed; existing coatings, sealers, adhesives, and contaminants; movement, control, and expansion joints; ambient and substrate temperature and relative humidity; and photographs of the entire area.

4. MOISTURE AND VAPOR CONTROL

4.1 **The principal risk.** Rising moisture and vapor pressure from beneath the substrate are the primary risk factors affecting system performance. Consequences include loss of adhesion, surface bubbling and osmotic blistering, delamination, efflorescence, and cracking. These conditions characteristically appear weeks, months, or seasons after installation, and may appear and recede with rainfall, groundwater level, irrigation, and heating or cooling cycles.

4.2 **How moisture is measured, and the acceptance criteria**

Testing is carried out in accordance with recognized U.S. standards, within the framework of ASTM F710. The values in the right-hand column are maximum permissible values: a substrate that exceeds any of them must not be coated until the condition is corrected or a moisture mitigation system is installed.

Method	What it measures	Reported as	Acceptance
ASTM F2170	In-situ relative humidity within the slab, at 40% depth where drying from one side, 20% where drying from two sides	% RH	≤ 75% RH
ASTM F1869	Moisture vapor emission rate, anhydrous calcium chloride	lb / 1,000 sq ft / 24 hr	≤ 3.0 lb
ASTM F710	Surface alkalinity of the prepared substrate	pH	7.0 to 10.0
ASTM D4263	Plastic sheet test	Pass / fail	Screening only — not an acceptance criterion

(a) **These are Seller's own acceptance criteria.** The limits above are the installation acceptance criteria adopted by Seller. They are not stated as, and must not be represented as, requirements published by the manufacturer of the Products. Seller applies them because they reflect the limits commonly required for continuous mineral coating systems and because they are conservative.

(b) **A stricter published limit governs.** Where the manufacturer publishes, for a particular system, a limit stricter than the criteria above, the stricter limit governs and is applied in its place.

(c) **Applied per system.** The criteria are applied to the specific system being installed. Where Seller installs Baxab® Eco, Ecocemento®, Microcemento®, T/Swim® or Summery®, the criteria published for that system, if any, govern.

(d) ASTM D4263 is a screening tool only. A pass result under ASTM D4263 does not establish that a substrate satisfies the criteria above and is never relied upon as a basis for proceeding. A slab may pass the plastic sheet test and fail ASTM F2170 substantially.

(e) Handheld meters. A handheld pin or pinless moisture meter is a screening tool only. It is not calibrated for concrete, reads only near the surface, has no correlation to the criteria above, and is never an acceptable basis for a decision to proceed.

Test density. Minimum three ASTM F2170 test locations for the first 1,000 sq ft and one additional per further 1,000 sq ft, including at least one within three feet of each exterior wall and one at the lowest point of the slab. Probes equilibrate for a minimum of 24 hours, 72 hours preferred.

A reading is a snapshot. All moisture readings describe the substrate on the date tested, at the locations tested, under the building conditions then prevailing. No moisture test measures, models, or predicts the future moisture condition of a substrate.

4.3 Vapor barriers — when mandatory

A vapor barrier is mandatory in the following conditions:

- All ground-floor applications, interior and exterior, regardless of substrate: concrete, tile, granite, or terrazzo.
- Balconies, terraces, and roof decks exposed to weather.
- Walls and ceilings adjacent to soil, planters, or exterior ground contact.

Third-party product. Any vapor barrier or moisture mitigation system is a third-party product. It performs only within the limits published by its own manufacturer, stated as a maximum vapor emission rate, a maximum internal relative humidity, a maximum pH, or an equivalent rated capacity. It is supplied subject to that manufacturer's own warranty and conditions of use.

MOISTURE MITIGATION IS EFFECTIVE ONLY OVER THE AREA TO WHICH IT IS APPLIED. WHERE MITIGATION IS INSTALLED TO PART OF A FLOOR OR WALL ONLY, MOISTURE MAY MIGRATE Laterally FROM UNTREATED ADJACENT AREAS BENEATH OR BEHIND THE TREATED AREA.

5. WATERPROOFING IN WET AREAS

MICROCEMENT IS NOT A WATERPROOFING SYSTEM. IN SHOWERS, WET ROOMS, STEAM ROOMS, TUB SURROUNDS, BALCONIES, TERRACES, ROOF DECKS, POOLS, EXTERIOR SURFACES, AND ANY AREA SUBJECT TO STANDING WATER OR IMMERSION, AN APPROVED WATERPROOFING ASSEMBLY MUST BE INSTALLED BENEATH THE MICROCEMENT BY OTHERS, FLOOD-TESTED, AND DOCUMENTED BEFORE INSTALLATION BEGINS.

Where microcement is applied over a waterproofing membrane, that membrane must be rigid and non-flexible. Cement-based waterproofing systems give the best cohesion with the system. Flexible sheet membranes directly beneath microcement will transmit movement and cause cracking.

The design, specification, installation, and testing of the waterproofing assembly are the responsibility of the owner and its design and trade professionals. Topcret USA does not design, install, or warrant waterproofing.

6. CLEANLINESS, PLANIMETRY, AND DRAINAGE

6.1 Surface cleanliness

All substrates must be free of dust, grease, oils, solvents, chemical residues, adhesives, plaster, soap or shampoo deposits, and any foreign material affecting adhesion. During installation, avoid airborne dust contamination and direct wind carrying particles: contamination during application affects both surface finish quality and system cohesion.

6.2 Leveling and planimetry

All leveling and slope corrections must be completed before installation begins. The system replicates the existing substrate geometry and any irregularity will be visually transferred to the final finish. Drainage falls must be functional and verified for proper water evacuation. Failure to ensure drainage leads to water accumulation, mineral deposits on exterior surfaces, and residue marks in interior wet areas.

6.3 Cracks and movement joints

Evaluate every crack: identify its cause, fill and level it flush with the surface, and treat it so that it does not reflect through the finish. Verify the integrity of previous repairs and remove any poorly bonded areas. Existing movement, control, and expansion joints must be carried through the finished surface; the system does not bridge them.

7. SUBSTRATE-SPECIFIC PREPARATION

7.1 Concrete, self-leveling, and microtopping

- Structurally sound, fully cured (ideally at least 28 days), flat, smooth, clean, and dry, with an adequate damp-proof membrane installed where required.
- Mechanically clean and vacuum the surface.
- Remove sealers, paints, varnishes, and chemical residues. Recommended method: mechanical grinding or sanding.
- Verify the integrity of previous repairs and remove poorly bonded areas.

7.2 Tile surfaces

- All tiles clean, degreased, and fully bonded.
- Loose tiles removed and voids filled with leveling mortar.
- Where joints are deep or transitions uneven, apply a thinset leveling layer before installation to improve planimetry and prevent joint telegraphing.

7.3 Plywood, floor applications

- All panels securely fastened and structurally stable.
- Seal and fill all panel joints.
- Apply a self-leveling floor underlayment to create a rigid surface, eliminate deflection, and achieve a smooth substrate condition.

7.4 Walls and ceilings

Applicable to drywall, Durock, cement board, DensShield, and equivalent systems.

- Panels fully secured; screws flush and concealed.
- All joints taped, filled, and finished with plaster.
- All transitions treated: wall-to-wall, wall-to-ceiling, and wall-to-floor.
- Final leveling completed before microcement application.

7.5 Stairs

- For wooden stairs, each tread must be a single solid piece, properly screwed and bonded.
- No movement permitted between tread and riser.
- All joints filled with rigid fillers. Flexible materials — caulking, silicone — are not permitted.

8. LIMITATIONS

- Microcement must never be applied over flexible substrates or materials.

- System performance is entirely dependent on substrate stability and preparation.
- Improper preparation results in cracking, delamination, and aesthetic defects.
- No system performance compensates for structural deficiencies, moisture problems, or improper leveling.

9. TECHNICAL RESPONSIBILITY

9.1 Where Topcret USA does not perform the installation. Substrate evaluation, testing, preparation, and the decision whether to proceed are the sole responsibility of the installer or contractor. All conditions must be verified before application. Topcret USA's issue of this Guide is technical guidance only and transfers no responsibility to Topcret USA.

9.2 Where Topcret USA performs the installation. Topcret USA carries out the substrate evaluation and records it in a Substrate Condition Report signed by the customer. The substrate itself remains the responsibility of the customer and its trades. Topcret USA installs over the substrate in the condition in which it is presented on the day of installation, and gives no warranty as to the future condition or behavior of the substrate, the slab, or the building.

In both cases, the party that prepares the substrate is responsible for it. This Guide sets the standard; it does not transfer the obligation.

10. DOCUMENTATION TO RETAIN

In the event of a future failure, the position of whoever prepared the substrate depends entirely on the quality of this record:

- The moisture test report, with instrument, calibration date, serial number, equilibration time, ambient conditions, and probe locations on a marked plan.
- Photographs of the substrate before, during, and after preparation.
- The vapor barrier and waterproofing submittals, and the flood-test record.
- The customer's signed approval of the physical sample.
- The customer's signed acknowledgment of any deficiency the customer elected to proceed over.
- Batch numbers and delivery documentation.
- Ambient condition logs during application.
- Signed handover of the Care and Maintenance Guide (MNT-US).

11. REVISION RECORD

Version	Effective	Change
SPG-US-v1.0	August 1, 2026	First U.S. edition. Moisture testing aligned to ASTM F2170, F1869, F710, and D4263. Technical responsibility made conditional on who performs the installation.
SPG-US-v1.1	August 4, 2026	This Guide becomes the single source of the moisture acceptance criteria. The Terms and Conditions now incorporate it and refer to it rather than restating the criteria in a schedule.