



MOXIE SHIELD 1500

PENETRATING CONCRETE SEALER

FREQUENTLY ASKED QUESTIONS

Architects · Engineers · Contractors · Producers · Owners · Specifiers



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- Functions as curing compound function on new pours
- Flooring substrate preparation and moisture testing protocols

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- Up to 6-inch penetration depth
- Tested hydrostatic resistance to 100 psi — negative and positive side
- Freeze-thaw durability testing— exceeds 600 cycles
- Full ASTM compliance profile
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Moxie Shield 1500 Penetrating Concrete Sealer

Moxie Shield 1500 Penetrating Concrete Sealer is a deep-penetrating concrete sealer and hardener engineered for new and existing concrete — above grade and below grade, vertical and horizontal. It penetrates up to 6 inches into the concrete matrix, reacting with cement hydration byproducts to increase density, reduce capillary porosity to near zero, and deliver lasting protection across the most demanding structural and infrastructure applications.

Moxie Shield 1500 Penetrating Concrete Sealer resists hydrostatic pressure up to 100 psi, resists chloride intrusion and acid attack, dramatically increases surface hardness, and can be applied from the negative side. It also functions as a curing compound on new concrete pours.

6" | 100 psi | 600+ | VOC = 0

Penetration depth | Hydrostatic resistance | Freeze-thaw cycles | EPA 24 certified

Questions for Architects

Application scope, below-grade suitability, flooring readiness, and design integration.

ARCHITECTS

What types of concrete assemblies and project types is Moxie Shield 1500 Penetrating Concrete Sealer designed for?

Moxie Shield 1500 Penetrating Concrete Sealer is a deep-penetrating concrete sealer and hardener suitable for all new and existing concrete surfaces — above grade and below grade, vertical and horizontal. Documented applications include arenas, basements, bridges, concrete pipes, foundations, high subgrade moisture conditions, levees and dams, moisture and acid-exposed surfaces, parking structures, retaining walls, secondary containment structures, sewage and water treatment plants, swimming pools, tunnels and subway systems, underground vaults, and veneer stone. Its breadth of application — from occupied below-grade spaces to infrastructure-scale civil structures — distinguishes it from the surface sealers elsewhere in the Moxie Shield line.

ARCHITECTS

How does Moxie Shield 1500 Penetrating Concrete Sealer relate to Moxie Shield 1800 Admixture for new construction?

Moxie Shield 1500 Penetrating Concrete Sealer is a post-application penetrating sealer and hardener applied to the surface of new or existing concrete — it penetrates up to 6 inches and reacts with cement hydration byproducts to densify and harden from the surface inward. Moxie Shield 1800 Admixture is integral protection added to the concrete mix at the batch plant, creating an impermeable matrix throughout the full thickness of the pour from day one.

ARCHITECTS

Can it be used as a curing compound on new concrete pours?

Yes. Moxie Shield 1500 Penetrating Concrete Sealer can be applied to fresh concrete as soon as the surface is set enough to walk on without marring the finish. Applied as a curing compound, one coat at 250 to 300 sq ft per gallon after the final finish is sufficient. For moisture vapor barrier, efflorescence control, or pH management, a second application on day two is recommended. ASTM C309 performance criteria for curing compounds are among the standards this product is tested against — it is a genuine curing compound, not just a sealer used in that role.

ARCHITECTS

Is it appropriate for flooring?

Yes. Moxie Shield 1500 Penetrating Concrete Sealer is specifically documented for preparing concrete to receive resilient flooring, epoxies, coatings, and adhesives. It preserves and prepares the concrete surface for subsequent bonded applications.

Questions for Engineers

Mechanism, test data, penetration depth, hydrostatic resistance, freeze-thaw performance, and ASTM compliance.

ENGINEERS

What is the mechanism of action and how does it differ from the surface sealers in the Moxie line?

Moxie Shield 1500 Penetrating Concrete Sealer undergoes a chemical reaction with the byproducts of cement hydration — specifically calcium hydroxide — to form the highest density of cementitious materials achievable within the existing matrix. The 1500 reacts to reduce capillary porosity to near zero through densification. Not only does Moxie Shield 1500 waterproof and vapourproof the concrete, it dramatically enhances the natural characteristics of the concrete — increasing density, bond strength, and surface hardness — from within the material itself, not as a surface coating.

ENGINEERS

What penetration depth is achieved, and how does that compare to other products in the line?

Moxie Shield 1500 Penetrating Concrete Sealer achieves penetration up to 6 inches into the concrete matrix. This is an order of magnitude deeper than the surface sealers in the Moxie Shield line (1100 through 1400), which penetrate 1/4 to 3/4 inch. The 6-inch penetration depth is not a marketing claim — it reflects the reactivity of the chemistry with cement hydration byproducts throughout the concrete cross-section. This depth ensures protection that cannot be removed by surface wear, abrasion, and is the basis for the product's documented performance in infrastructure applications including tunnels, dams, and water treatment facilities.

ENGINEERS

What hydrostatic pressure resistance is documented, and can it be applied from the negative side?

Moxie Shield 1500 Penetrating Concrete Sealer has been tested to resist hydrostatic pressure at 100 psi — equivalent to approximately 231 feet of water head. Critically, it is documented for both negative-side and positive-side application. Negative-side application — sealing from the dry interior face of a wall or slab against water pressure acting from the exterior — is a capability that most penetrating sealers cannot accomplish, and that membrane and coating systems routinely fail to achieve under sustained hydrostatic conditions. This makes the 1500 the appropriate product for below-grade foundation walls, basement slabs, tunnels, and secondary containment structures where access is only from the interior.

ENGINEERS

Does it resist acid attack, and what does that mean for industrial and infrastructure applications?

Yes. Acid attack resistance is documented for Moxie Shield 1500 Penetrating Concrete Sealer — a performance attribute not shared by the surface sealers in the line. This is critical for sewage and water treatment plants, secondary containment structures, industrial floors, and any concrete surface exposed to acidic effluent, cleaning chemicals, or biogenic sulfuric acid attack. The densified cementitious matrix formed by the 1500's chemistry presents a significantly reduced surface area for acid reaction and limits the penetration depth of corrosive agents.

Questions for Contractors and Applicators

Substrate preparation, absorption testing, multi-step application protocol, moisture testing, and critical warnings.

CONTRACTORS AND APPLICATORS

What is the Water Absorption Test and why is it required before application?

The Water Absorption Test is mandatory before applying Moxie Shield 1500 Penetrating Concrete Sealer — substrate preparation is the single most important factor for performance. Pour two to three tablespoons of water onto the concrete surface: if it spreads out and absorbs within 15 to 20 minutes, the surface is ready. If water beads and shows no absorptive qualities, the surface must be mechanically abraded before treatment. It is the contractor's responsibility to provide an absorptive surface. Bead blast, scarify, or grind with a diamond blade to expose the pore structure. Acid etching is not recommended. Remove all flooring materials, coatings, finishes, waxes, grease, paint, adhesives, or any material that could impede penetration on existing slabs.

CONTRACTORS AND APPLICATORS

What is the application protocol for existing concrete slabs — step by step?

Temperature window: do not apply below 50 degrees F or above 90 degrees F on existing concrete. Ideal controlled environment temperature is 68 to 78 degrees F. Do not apply in rain. Step 1: mist the surface to dampen the substrate. Step 2: apply the first coat using a low-pressure sprayer or by pouring and brooming evenly — do not leave puddles in low areas. Step 3: broom low areas first to prevent pooling and ensure even absorption. Step 4: apply the second coat when the surface appears 90% dry. When absorption takes 30 minutes or longer, no further applications are necessary. Step 5: after final application absorbs, mist with clean water. Step 6: after 16 to 24 hours, saturate thoroughly with water to allow further penetration and neutralize the surface. Broom water from low spots. Broom off any efflorescence until none remain. When dry and efflorescence-free, the sealing process is complete.

CONTRACTORS AND APPLICATORS

What is the application protocol for new concrete — how does it differ from existing slabs?

New concrete application is significantly simpler. Moxie Shield 1500 Penetrating Concrete Sealer can be applied as soon as the concrete surface is set enough to walk on without marring the finish. Apply the first coat using a low-pressure sprayer, then apply the second coat as soon as the first coat has absorbed — typically within 10 minutes. No additional preparation is needed before or after the two-coat application. Coverage rate for new concrete is 150 to 200 sq ft per gallon for horizontal surfaces and 100 to 125 sq ft per gallon for vertical.

CONTRACTORS AND APPLICATORS

What moisture testing is acceptable before installing flooring or coatings — and what is explicitly not acceptable?

ASTM E1907 (relative humidity test) is the only acceptable moisture verification protocol per Moxie's warranty requirements. ASTM F1869 (Calcium Chloride Test) is explicitly not acceptable — it removes approximately 50% of the moisture from the top inch of concrete, creating a void in the zone where the chemical process is still completing, and produces erroneously high readings. ASTM F2170 (electrical conductivity or in situ probe test) is also not acceptable — problematic moisture initially converted to colloidal gel during the sealing reaction will indicate current flow and produce erroneously high readings. Use ASTM E1907 only. For existing concrete, wait 48 hours after the final water saturation step before installing flooring or coatings.

CONTRACTORS AND APPLICATORS

Which adjacent materials must be protected, and what happens if they are not?

Due to the high pH of the formulation, Moxie Shield 1500 Penetrating Concrete Sealer must not come in contact with glass, porcelain, ceramic tile, aluminum, zinc, or galvanized steel — it will permanently etch or erode smooth surfaces and leave a hard white residue. Remove immediately with running water or a damp cloth on accidental contact. Do not allow contact with plant life or leather. Do not apply to fresh concrete (less than 28 days) if a calcium chloride accelerator was used in the mix. Do not use compressed air for application — the product will foam.

Questions for Concrete Producers

Integration with new pours, curing compound function, coverage rates, and supply.

CONCRETE PRODUCERS

Can Moxie Shield 1500 Penetrating Concrete Sealer replace a conventional curing compound on new pours?

Yes. Moxie Shield 1500 Penetrating Concrete Sealer meets ASTM C309 performance criteria for curing compounds and can replace conventional curing compounds on new concrete pours. Applied as soon as the surface can support foot traffic without marring, it seals moisture into the concrete during the critical early hydration period while simultaneously reacting with cement hydration byproducts to begin the densification process. One coat at 250 to 300 sq ft per gallon for curing applications. For moisture vapor barrier or efflorescence control, apply a second coat. This dual function — curing and sealing in a single application — eliminates a product and a scheduling step on new construction projects.

CONCRETE PRODUCERS

What are the coverage rates for horizontal vs. vertical applications?

For two-coat horizontal coverage: 150 sq ft per gallon. For two-coat vertical coverage: 100 sq ft per gallon. As a curing compound: one coat at 250 to 300 sq ft per gallon. Coverage varies with substrate porosity and surface condition. Moxie Shield 1500 Penetrating Concrete Sealer is available in 5-gallon pails, 55-gallon drums, and 275-gallon totes. Contact the Moxie sales team at (844) 845-1975 for volume supply and project-scale logistics.

CONCRETE PRODUCERS

Are there mix design or concrete chemistry restrictions that affect compatibility?

Yes — one critical restriction: do not apply Moxie Shield 1500 Penetrating Concrete Sealer to fresh concrete (less than 28 days old) if a calcium chloride accelerator was used in the mix. Calcium chloride can interfere with the chemical reaction between the sealer and cement hydration byproducts. For standard concrete mixes without calcium chloride acceleration, the product can be applied to fresh concrete immediately after finishing. Consult Moxie's technical team for guidance on accelerated mixes or non-standard concrete chemistry.

Questions for Owners

What the Moxie Shield 1500 Penetrating Concrete Sealer does that surface treatments cannot, long-term value, and infrastructure-scale performance.

OWNERS

How is Moxie Shield 1500 Penetrating Concrete Sealer different from a standard concrete sealer?

Most concrete sealers coat the surface — they sit on top of the concrete and protect it until they wear, crack, or peel. Moxie Shield 1500 Penetrating Concrete Sealer penetrates up to 6 inches into the concrete matrix and reacts with the concrete's own chemistry to densify and harden it from within. The protection is not a layer on top of the concrete — it becomes part of the concrete itself. It cannot wear away, peel, or delaminate. This is the fundamental distinction between a surface coating and a reactive penetrating densifier, and it is why the 1500 is specified for applications where surface treatments consistently fail: below-grade structures, high-moisture environments, infrastructure subject to hydrostatic pressure, and concrete requiring long-term hardness.

OWNERS

What does it protect against, and what are the headline performance numbers?

Moxie Shield 1500 Penetrating Concrete Sealer stops moisture and vapor migration, resists hydrostatic pressure up to 100 psi, resists chloride intrusion and reinforcing steel corrosion, exceeds 600 freeze-thaw cycles, resists acid attack, dramatically increases surface hardness, prevents efflorescence, prevents mildew and fungi, and dust-proofs the surface. It can be applied from the negative side — sealing from the dry face against water pressure from the other side — which most competing products cannot achieve.

OWNERS

What types of structures and facilities is it most critical for?

Any concrete structure where moisture, pressure, or chemical exposure is ongoing and where failure is expensive or dangerous. That includes parking structures (chloride from de-icing salts attacking rebar), below-grade foundations and basements (hydrostatic pressure and ground moisture), water and wastewater treatment facilities (acid attack and sustained moisture), tunnels and subway systems (hydrostatic pressure and freeze-thaw), bridges (chloride and freeze-thaw), swimming pools (hydrostatic pressure and chemical exposure), secondary containment structures (chemical resistance), and high-subgrade moisture conditions where conventional waterproofing systems have failed or are impractical.

OWNERS

Can it be applied to concrete that already has moisture problems, or only to new construction?

It is designed for both. For existing concrete showing signs of moisture migration — efflorescence, surface dusting, spalling, failed floor adhesives, mold, or moisture under floor coverings — Moxie Shield 1500 Penetrating Concrete Sealer is a proven remediation tool. The key prerequisite is that the substrate must be absorptive: all existing coatings, sealers, adhesives, and contaminants must be removed so the product can penetrate. Once the surface is prepared and absorptive, the treatment can be applied to existing concrete regardless of age.

OWNERS

Is there a manufacturer guarantee?

Yes. Moxie Shield 1500 Penetrating Concrete Sealer is guaranteed to perform and be manufactured per the specifications contained in Moxie Engineering documentation. With over 50 years of laboratory and field performance data — including infrastructure applications at tunnels, treatment plants, and water retention structures — Moxie's guarantee on the 1500 is among the most substantiated in the concrete sealer category.

Questions for Specifiers

The most comprehensive compliance profile in the Moxie Shield line — specification language, performance thresholds, and documentation for deep-penetrating concrete densification.

SPECIFIERS

Which CSI division and section does Moxie Shield 1500 Penetrating Concrete Sealer fall under?

Moxie Shield 1500 Penetrating Concrete Sealer is specified primarily under Division 03 — Concrete, within sections covering concrete curing (Section 03 39 00) for curing compound applications, and concrete sealing and hardening treatments for post-cure densification. For waterproofing and below-grade applications, it may also appear under Division 07 — Thermal and Moisture Protection. For flooring substrate preparation, it may reference Division 09. Moxie's technical team provides CSI-formatted specification language and a full CSI Specification Sheet — both are available on request.

SPECIFIERS

What performance thresholds can be written into the specification?

Moxie Shield 1500 Penetrating Concrete Sealer supports the following verifiable specification thresholds: reactive penetrating chemistry penetrating up to 6 inches into the concrete substrate, hydrostatic pressure resistance at minimum 100 psi, freeze-thaw durability exceeding 600 cycles per ASTM C666, surface hardness improvement per ASTM C805, zero VOC per ASTM D3960, moisture vapor retarder compliance per ASTM E1745, curing compound performance per ASTM C309, negative-side and positive-side application capability, acid attack resistance, and dust-proofing function. No film-forming or surface-coating product can meet the penetration depth, hydrostatic pressure, and negative-side application criteria simultaneously.

SPECIFIERS

What moisture testing protocols are specified for flooring installation verification, and which are excluded?

Per Moxie requirements, ASTM E1907 (relative humidity test) is the only acceptable post-treatment moisture verification protocol when flooring, epoxies, or coatings are to be installed. ASTM F1869 (Calcium Chloride Test) must be excluded — it removes moisture from the top inch of concrete during the active chemical process and produces erroneously high readings that will fail treated slabs incorrectly. ASTM F2170 (electrical conductivity probe) must also be excluded — colloidal gel formation during the sealing reaction interferes with electrical readings and produces similarly erroneous results. Specifying the correct test protocol protects both the contractor and the owner from false failures.

SPECIFIERS

How do I write a specification that excludes film-forming sealers and conventional curing compounds?

Specify: reactive penetrating chemistry reacting with cement hydration byproducts to form dense cementitious material within the concrete matrix (not a surface film or coating), minimum 6-inch penetration depth, hydrostatic pressure resistance to 100 psi, negative-side application capability, freeze-thaw durability exceeding 600 cycles per ASTM C666, surface hardness improvement per ASTM C805, zero VOC, and ASTM C309 curing compound compliance. Film-forming curing compounds, acrylic sealers, and epoxy coatings cannot meet the penetration depth, negative-side application, or densification chemistry criteria. This set of requirements defines Moxie Shield 1500's performance class while excluding all surface-treatment alternatives on technical grounds.

SPECIFIERS

Are there project references available for infrastructure-scale applications?

Yes. Moxie Shield 1500 Penetrating Concrete Sealer has over 50 years of documented field and laboratory performance across tunnels, bridges, dams, levees, water treatment facilities, parking structures, foundations, and below-grade infrastructure. References from structural engineers, specifiers, and contractors on infrastructure and commercial projects are available upon request. A CSI Specification Sheet, Technical Bulletins, Application Procedures, and SDS are all available.

Documents available on request

CSI Specification Sheet

Division 03, 07 formatted spec language

Safety Data Sheet (SDS)

Handling, pH, and compatibility warnings

Technical Bulletins

Application-specific guidance documents

ASTM C156 / C309 Compliance

Water retention and curing compound testing

ASTM C666 Data

Freeze-thaw — exceeds 600 cycles

ASTM C805 Data

Surface hardness improvement

ASTM E96 / E1745 Compliance

Vapour transmission and retarder testing

ASTM F710 / D4263 Reference

Flooring substrate readiness protocols

ASTM D5084 Compliance

Hydraulic conductivity testing

USDA / CARB / VOC Documentation

EPA VOC = 0 and food processing approval

LEED Documentation

Credit qualification and calculation sheet