



MiraPrime Aqua-Blok XL

Product Technical Data Sheet

MiraPrime *Aqua-Blok XL* is a clear, single component, water-based, potassium lithium colloidal silicate-based primer that integrally waterproofs concrete, and other cementitious materials. Based on superior inorganic mineral technology, *Aqua-Blok XL* penetrates deep into the capillary structure of cement-based compounds to permanently enhance physical properties, waterproofing performance and to maximize density of the matrix.

Exhibiting highly reactive and hydrophilic properties, *Aqua-Blok XL* quickly migrates through waterways and capillary tracts to chemically convert free water-soluble calcium hydroxide into a dense crystalline network of insoluble calcium silicate hydrate within the concrete and other cementitious materials.

WHERE TO USE

- Concrete pool shells, fountains, and other water features.
- Guniting and shotcrete.
- Water reservoirs, and recreational parks.
- Concrete slabs, walls, and foundations.
- Concrete sidewalks, balconies, and breezeways.
- Underground vaults and elevator pits.
- Dams, spillways, and tunnels.
- Retaining walls and basements.
- Parking structure slabs, columns, and walls.

ADVANTAGES

- Deep penetration up to 4" depending on capillary porosity.
- Water thin micro-crystalline technology – penetrates fast.
- Purges/expels chlorides and other contaminants.
- Enhances physical properties – maintains breathability.
- Significantly reduces migration of efflorescence.
- Minimizes potential for drying shrinkage cracking and dusting.
- Significantly reduces moisture vapor emissivity.
- Hydrophilic moisture barrier – resists hydrostatic pressures.
- Permanent and self-healing integral waterproofing.
- Enhanced protection of reinforcing steel to corrosion.
- Reduces moisture absorption in concrete by as much as 80%.
- Cures, seals, densifies, and hardens new/existing concrete.
- Modified with lithium – self reactive in low pH conditions.
- Zero VOC and flashpoint, non-flammable, and odorless

THEORETICAL COVERAGE RATES

Fresh Concrete: **

First Application	150-200 sq. ft. per gallon
Second Application	150-200 sq. ft. per gallon

Cured Concrete: **

First Application	50-250 sq. ft. per gallon
Second Application	50-250 sq. ft. per gallon

**A minimum of two applications is required on concrete for maximum function/protection. Consumption rates are dependent on many factors including substrate profile, porosity, and water cement ratio. The above rates of application represent typical values.

PACKAGING and COLORS

1-gallon can Color: Clear
5-gallon pail

MIX RATIO

Single component – ready to use.

SHELF LIFE AND STORAGE

Two years from the date of manufacture when material is unopened and stored in a protected environment free from moisture, excessive heat, freezing temperatures, and direct sunlight.

TYPICAL PHYSICAL PROPERTIES @ 75°F (24°C)

Surface Hardness (ASTM C805).....	+30-40% rebound increase
Abrasion Resistance (ASTM C944).....	+25 - 35%
Water Absorption (ASTM C642).....	-50 – 60%
Dusting Resistance (ASTM D4213 visual).....	Eliminated (after 2 applications)
Freeze/Thaw Durability (ASTM C666).....	No loss after 300 cycles
pH.....	11 - 12
Chemical Resistance (ASTM C267 NaCl/NaOH tests).....	(Minimal surface etching)
Specific Gravity.....	1.26
Reflectivity (LRV increase on polish).....	+10 – 15 points typical
Drying Time.....	2-3 hours

OVERVIEW OF INSTALLATION STEPS

- **Surface Preparation – Fresh Concrete:** Upon final set concrete surfaces require no specific surface preparation procedures other than rinsing with water at low pressure to remove any form release compounds or other pore blocking substances that may have been applied to cement-based surfaces.
- **Surface Preparation – Cured Concrete:** All surfaces to be treated must be clean and sound with an open-pore structure to provide access to the capillary network within the concrete matrix. Concrete substrates need to be free from any substances that may inhibit penetration including, but not limited to, grease, oil, sealers, paint, curing compounds, form release agents, adhesives, etc.
- **Mixing** – A single component ready to use liquid, *Aqua-Blok XL* should be gently agitated well before use. Do not alter or dilute in any way and apply strictly as supplied in original containers. Mechanical mixing is acceptable but not required. Immediately rinse thoroughly with water and clean up any spillage on surfaces not intended to be treated.
- **Application** – Depending on the type of application, MiraPrime *Aqua-Blok XL* can be applied in a variety of methods including brush, roller, or spray apparatus.

Cure and Seal Fresh Concrete Applications – Apply *Aqua-Blok XL* when surfaces have achieved sufficient set to resist foot traffic. Apply uniformly at a rate of 150 to 200 square feet per gallon and avoid the puddling of material in slab depressions and low-lying areas. When applying to vertical surfaces use low pressure sprayers (40 psi) with a fan tip nozzle or a minimum 3/8" nap roller and begin applying from the bottom and work up the vertical face with north/south and east/west spray patterns. Saturate the host surface thoroughly until excess material forms a rundown pattern of 6 to 8 inches below the spray contact point. On horizontal substrates, apply a flood coat with enough material to maintain a wet condition for 3 to 5 minutes. If material ponds in shallow depressions use a broom or roller to evenly distribute material to surrounding areas that may be more absorptive.

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For maximum function and performance on both vertical and horizontal surfaces, a second wet-on-wet application within 20 to 40 minutes is required. Apply the second application at right angles from the first in a crisscross pattern. During hot weather conditions, pre-wet the substrate to saturated surface dry (SSD) state to cool the surface down prior to application.

Cured Concrete Applications - When applying *Aqua-Blok XL* to vertical surfaces use low pressure sprayers (40 psi) with a fan tip nozzle or a minimum 3/8" nap roller and begin applying from the bottom and work up the vertical face with north/south and east/west spray patterns. Saturate the concrete surface thoroughly until refusal and excess material forms a rundown pattern of 6 to 8 inches below the spray contact point. Once the first application has been absorbed immediately apply the second and apply only as much as the surface will readily absorb. Watch for areas that dry out at a faster rate and re-apply, as necessary. On horizontal substrates, apply a flood coat with enough material to maintain a wet condition for 3 to 5 minutes. If material ponds in shallow depressions use a broom or roller to evenly distribute material to surrounding areas. For maximum function and performance on both vertical and horizontal surfaces, a second wet-on-wet application within 20 to 40 minutes is required. As a final step and approximately 30-40 minutes after the last application of *Aqua-Blok XL*, apply two light mist-coats of potable water to the entire treated surface 30-40 minutes apart. This helps transport any uncured inorganic potassium/silicate minerals near the surface and drive them down into concrete capillaries. This also leaves the near surface concrete pores open for the uninhibited application of subsequent coatings, stains, and sealers.

FOR BEST RESULTS

- Always install a minimum 4' x 4' on-site mock-up to verify actual coverage rates, and for approval of acceptable color, texture, finish, adhesion, and any other critical requirement acceptable to the owner prior to proceeding with the installation.
- Verify and download current versions of product technical data sheets (PTDS), material safety data sheets (MSDS), and installation guides (IG) at www.miracote.com.
- Protect materials from excessive heat and cold, and pre-condition to room temperature, as necessary.
- Measure surface and ambient temperatures to ensure the material is only applied when temperatures are 40°F (4.5°C) and rising during placement and cure time.
- When applying *Aqua-Blok XL* to concrete exhibiting excessive hydrostatic activity, as evidenced by saturated and weeping surfaces, vacuum, and dry surfaces and immediately follow up the first application with a second and third application, as required.
- Depending on climatic conditions, density of the treated concrete, and potential for purging of chlorides and other entrapped contaminants, *Aqua-Blok XL* is required to cure for 1-7 days prior to the application of surface applied materials.
- Prior to applying subsequent surface coatings any contaminants purged from the concrete must be removed by vacuum and cleaning.

- The proper application of this product is the sole responsibility of the end user. Job site visits by Miracote representatives are only for observation and making recommendations. This does not assume any liability for supervision or quality control.

LIMITATIONS

- Protect MiraPrime *Aqua-Blok XL* treated surface from rain for a minimum of two hours after final application.
- Protect glass, plant life, aluminum, ceramics, glazed tile, wood vehicles from contact by overspray. Remove with water immediately.
- **Can etch glass**, avoid contact and rinse glass immediately.
- Do not apply if minimum/maximum ambient and substrate temperatures are 40°F (4.5°C) and above 100°F (37.8°C) 24 hours prior to and following application.
- Concrete surface sealers and polymer-modified mixes will inhibit penetration and function of MiraPrime *Aqua-Blok XL*.
- Rebound-laden shotcrete and gunite structures will be deficient in cementitious content to form a proper chemical reaction and full waterproofing potential.

LIMITED WARRANTY

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CAUTION: ALWAYS KEEP OUT OF THE REACH OF CHILDREN.



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