

# FOX FIRE

CLEANERS + SEALERS + CORROSION CONTROL

## MATRIX PRO™

### PENETRATING CRYSTALLINE SEALER, DENSIFIER, SOLUBLE CHLORIDE REDUCER, AND CURE AND SEAL FOR CONCRETE, MASONRY AND CEMENTITIOUS MATERIALS

- Greatly reduces moisture and chloride intrusion into concrete and masonry substrates.
- Offers a high degree of protection against rebar corrosion, spalling, freeze-thaw damage and alkali attack.
- Purges soluble chlorides and prevents re-entry.
- Permanently cures, seals, hardens and dust-proofs freshly placed concrete.
- Does not alter surface profile or breathability. Improves coating and adhesive bond-strength..
- Environmentally friendly. Non-toxic. Zero-VOC.

**DESCRIPTION:** Foxfire Matrix Pro™ is a ZERO-VOC, non-flammable, non-toxic, penetrating sealer that internally strengthens, waterproofs and primes concrete, masonry and cementitious materials. Matrix Pro™ reacts with free calcium hydroxide forming a silica hydrogel that fills the capillaries within the matrix. This hydrogel permanently seals the matrix internally, greatly reducing the ingress of damaging moisture and chloride ions, while simultaneously maintaining breathability of the substrate and allowing trapped moisture vapor to escape.

Matrix Pro™ also acts as a primer for breathable surface coatings and systems. It does not alter the breathability of these coatings and may increase their adhesion and performance characteristics. Matrix Pro™ can also be used in conjunction with non-breathable coatings and systems. Always defer to the manufacturer's recommendations when applying a non-breathable system over substrates that have been treated with Matrix Pro™. For more information regarding use of Matrix Pro™ with either breathable or non-breathable coatings or systems, please contact a Foxfire technical representative.

**PRIMARY APPLICATIONS:** Foxfire SS-WB repellent is suitable for use on new, aged and green concrete as well as on brick, masonry and many types of natural stone. Typical uses include but are not limited to: concrete decks, sidewalks, driveways, building facades, highway barriers, parapets, precast concrete structures, seawalls, retaining walls, stadiums, concourses (at public buildings, amusement parks, race tracks, airports, train and bus stations), and other brick, masonry, or poured-in-place concrete structures.

**SAFETY PRECAUTIONS:** **Caution: always keep out of the reach of children.** Use eye protection; minimize skin contact by wearing gloves and protective clothing, and only apply in areas with adequate ventilation. Avoid breathing vapor.



**APPLICATION PRECAUTIONS:** Application temperature range: 40-100° F. Prior to full-scale application, we recommend performing test patterns to determine substrate compatibility and performance. All surfaces must be clean, sound, dry and completely free of efflorescence, laitance, dirt, oil, grease or any other coatings that may inhibit the penetration and performance of the treatment. Do not apply in extreme heat or in freezing temperatures. Slippery when wet. Protect vehicles, glass surfaces, plant life, aluminum, ceramics, glazed tile and wood from overspray. Remove overspray with water, immediately. Unprotected areas should be pre-wet with water and rinsed continuously. Eye protection, gloves and appropriate clothing should be worn to minimize skin contact. **MAY ETCH GLASS.** Remove overspray immediately.

**HORIZONTAL SURFACE APPLICATION:** Using a low-pressure sprayer (40 psi) with a fan-type nozzle, apply first coat of sealer in an overlapping pattern, to refusal. Approximately 20-40 minutes later, apply a second coat of sealer in an overlapping pattern, again to refusal. Areas that absorb sealer at faster rate may require additional coats. Avoid over-application or ponding as it may cause discoloration on the surface. Brush, broom or mop any ponded material to more absorbent areas.

Approximately 30-40 minutes after the final application of Matrix Pro™, apply a light push coat of potable water at approximately 300 sq. ft. per gallon to the surface. The application of potable water pushes the sealer deeper into the substrate and leaves the surface more open to accept other coatings or overlays. After the final application of potable water, the treated area can be put back into service when the surface is dry to the touch.

Matrix Pro™ must be allowed to cure for 1-7 days, depending upon temperature, humidity and density of the concrete, before any other type of surface material is applied.

**VERTICAL SURFACE APPLICATION:** Apply from top down using a low-pressure sprayer (40 psi) with a fan-type nozzle. Flood surface in an overlapping spray pattern until excess runs down 6 to 8 inches below spray pattern. Approximately 20-40 minutes later, apply a second coat of sealer in an overlapping pattern. Apply only as much material as the surface will readily absorb. Areas that absorb sealer at faster rate may require additional coats.

Approximately 30-40 minutes after the final application of Matrix Pro™, apply a light push coat of potable water at approximately 300 sq ft per gallon to the surface.

**FOR MAXIMUM PROTECTION:** When the highest-degree of protection is required, Foxfire repellents (SB-40 Silane, SS-WB Silane-Siloxane) can be applied over substrates that have been treated with Foxfire Matrix Pro™. Apply Foxfire repellents 48-72 hours after the last application of Foxfire Matrix Pro™. Follow the same application guidelines as when using the repellents as standalone products.

**CURE AND SEAL FOR NEW CONCRETE:** Can be used to cure and seal newly placed concrete. Method: Upon removal of forms and disappearance of bleed water, and when concrete will not be marred by walking workmen, use a low-pressure sprayer with a fan-tip nozzle producing ½ gal per min to apply uniform film. Avoid puddling in low areas. Avoid over-application or ponding as it may cause discoloration of surface. Brush or broom to spread to more porous areas.

**DRY TIME:** Dry to touch in 2 to 6 hours depending upon temperature and humidity.

**COVERAGE:** Test patterns should be performed to determine best approach and estimated coverage.

Fresh Concrete: 150 - 250 sq. ft. /gal  
Cured concrete: Rough Slab Finish: 50 – 150 sq ft/gal  
Dense and Smooth Finish: 150 – 250 sq ft/gal

\*Different concrete and masonry composites may require different system approaches. Contact Foxfire for further information.

**PACKAGING:** 55-gal (208 L) drums and in 5 gal (18.9 L) pails.

**TRANSPORTATION:** DOT Regulated. Please see Safety Data Sheet for details.

**STANDALONE PERFORMANCE:** Test results were obtained under controlled laboratory conditions. Field conditions may cause variations in performance.

**ASTM C642-13:** Standard Test Method for Density, Absorption, and Voids in Hardened Concrete Section 7 = Water Absorption Reduction >94%. 48-hr immersion= 0.23%, 50-day immersion= 1.32%

**ASTM C672-12:** Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals Section 10 = Efflorescence Scale Rating 0 (100 Freeze Thaw Cycles)

**ASTM C666-15:** Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing = No Scaling

**ASTM C666-15:** Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing = Salt Resistance (Passes)

**AASHTO-T-259/T260:** Chloride Ion Analysis (90 days)  
Chloride Ion Content @ 1/16"-1/2" = 0.50lb/yd<sup>3</sup>  
Chloride Ion Content @ 1/2"- 1" = 0.20lb/ yd<sup>3</sup>

**NCHRP 244 Series II:** National Cooperative Highway Research Program Series II-Water weight gain percent reduction= 87%

**NCHRP 244 Series II:** National Cooperative Highway Research Program Series II = Chloride Ion Penetration Reduction 86%

**ASTM E514-11:** Water Penetration Depth: >0.12"

**Depth of Penetration: Fresh Concrete= 2.9", Aged Concrete: 0.4"**

**EPA Method 24:** Volatile Organic Compound = (VOC) Content 0 g/L

**COMBINATION PERFORMANCE:** (Application of Foxfire Matrix Pro™ penetrating treatment followed 48-72 hours later by application of Foxfire SB-40 Silane). Test results were obtained under controlled laboratory conditions. Field conditions may cause variations in performance.

**ASTM C642-13:** Standard Test Method for Density, Absorption, and Voids in Hardened Concrete Section 7 = Water Absorption Reduction >98%. 48-hr immersion= 0.15%, 28-day immersion= 0.80%

**ASTM C672-12:** Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals Section 10 = Efflorescence Scale Rating 0 (100 Freeze Thaw Cycles)

**ASTM C666-15:** Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing = No Scaling

**ASTM C666-15:** Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing = Salt Resistance (Passes)

**AASHTO-T-259/T260:** Chloride Ion Analysis (90 days)=  
Chloride Ion Content @ 1/16"-1/2" = 0.21lb/ yd<sup>3</sup>  
Chloride Ion Content @ 1/2"- 1" = 0.08lb/ yd<sup>3</sup>

**NCHRP 244 Series II:** National Cooperative Highway Research Program Series II-Water weight gain percent reduction= 98%

**NCHRP 244 Series II:** National Cooperative Highway Research Program Series II = Chloride Ion Penetration Reduction 99%

**EPA Method 24:** Volatile Organic Compound (VOC) Content= 0 g/L. Note: Foxfire Matrix Pro™ and Foxfire SB-40 are both 0-VOC products.

**COMBINATION PERFORMANCE:** (Application of Foxfire Matrix Pro™ penetrating treatment followed 48-72 hours later by application of Foxfire SS-WB Silane-Siloxane Repellent). Test results were obtained under controlled laboratory conditions. Field conditions may cause variations in performance.

**ASTM C642-13:** Standard Test Method for Density, Absorption, and Voids in Hardened Concrete Section 7 = Water Absorption

Reduction >96%. 48-hr immersion= 0.25%, 28-day immersion= 0.88%

**ASTM C672-12:** Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals Section 10 = Efflorescence Scale Rating 0 (100 Freeze Thaw Cycles)

**ASTM C666-15:** Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing = No Scaling

**ASTM C666-15:** Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing = Salt Resistance (Passes)

**AASHTO-T-259/T260:** Chloride Ion Analysis (90 days)  
Chloride Ion Content @ 1/16"-1/2" = 0.25lb/ yd<sup>3</sup>  
Chloride Ion Content @ 1/2"- 1" = 0.88lb/ yd<sup>3</sup>

**NCHRP 244 Series II:** National Cooperative Highway Research Program Series II-Water weight gain percent reduction= >92%

**NCHRP 244 Series II:** National Cooperative Highway Research Program Series II = Chloride Ion Penetration Reduction 97% @96 days

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