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PI.211 – PRODUCT INFORMATION: CSS Emulsion™

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CSS Emulsion is a concentrated, premium quality, durable, clear sealer for protecting concrete, polymer modified concrete overlays, stained concrete and colored concrete and concrete floors.

1. DESCRIPTION and USES:
CSS Emulsion, which stands for Concentrated Solvent Sealer is engineered and formulated for sealing new, old, interior or exterior concrete and polymer modified concrete overlays where a clear finish is desired.

CSS Emulsion is a concentrated, premium, clear coating that must be diluted before use with an oxygenated or aromatic solvent. Check with local, state and federal VOC laws before choosing a solvent.

CSS Emulsion protects and reduces staining from materials such as oil, grease, food spills, deicing salts, UV radiation, many chemicals and weather by producing a low maintenance, abrasion resistant film.

CSS Emulsion is excellent for protecting imprinted concrete and polymer modified concrete overlays such as TEXTURE-PAVE™, THIN-FINISH™ and MICRO-FINISH™ Overlays.

CSS Emulsion is highly effective when used over concrete or polymer modified concrete overlays which have been colored with CHEM-STONE™ or ULTRA-STONE Stains, which produce uneven, variegated and translucent coloring similar to that of natural stone. CSS Emulsion enhances the appearance as well as protects the surface from normal use.

CSS Emulsion must be applied in thin coats. When applying CSS Emulsion to surfaces with little or no texture, a slip resistant additive may be needed to increase skid resistance.

2. LIMITATIONS:
CSS Emulsion must only be used on concrete that is well drained and is not subject to hydrostatic pressure. Alkali stains may form at edges, cracks and expansion joints.

CSS Emulsion is not recommended for concrete subject to continuous water submersion, chemical exposure or high abrasion such as metal wheeled traffic.

CSS Emulsion must be allowed to dry completely prior to being exposed to water.

CSS Emulsion is a high quality coating and may require occasional maintenance and re-application to maintain premium performance.

3. CHEMICAL COMPOSITION:
CSS Emulsion is a 50%+ solution of an acrylic copolymer based on methyl methacrylate dissolved in a high flash aromatic solvent. Solids reduction may be accomplished with either aromatic or oxygenated solvents such as xylene, Oxsol 100 (PCBTF), acetone or lacquer thinner. Check with local, state and federal VOC laws before use. See CSS-V for alternative with non-exempt VOC of 154.7 grams per liter.

4. APPLICABLE STANDARDS:
CSS Emulsion may not comply with all applicable air quality management regulations including those restricting VOC content to less than 400 g/L. See CSS-V for alternative with non-exempt VOC of 154.7 grams per liter.

5. PACKAGING:
CSS Emulsion is available from stock in 1 gallon or 5 gallon pails and 55 gallon drums.

6. COVERAGE:
CSS Emulsion must be diluted prior to application to reduce solids and vary performance to meet the needs of the application.

Coverage will vary depending on method of application and the texture and porosity of the surface. Although two to three coats are typical, user must determine application needs.

7. SHELF LIFE:
When stored in temperature controlled areas, shelf life is one year for unopened containers. It is recommended to rotate stock as formula improvements may be made when technology becomes available.

8. CAUTIONS:
CSS Emulsion should only be used with adequate ventilation. Keep away from heat, sparks and flame. Vapors may cause flash fire. Do not smoke. Extinguish all flames and pilot lights and turn off stoves, heaters, electric motors and other sources of ignition during use until all vapors are gone. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation.

Avoid contact with eyes and skin. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. Ensure fresh air entry during application. If you experience watering eyes, headaches, or dizziness or if air monitoring demonstrates vapor levels are above applicable limits, wear a properly fitted respirator (NIOSH/MSHA TC 23C approved) during and after application. Follow respirator manufacturer's directions for use.

Read the Material Safety Data Sheet – MSDS.414 CSS Emulsion for additional information.

9. CHEMICAL and STAIN RESISTANCE:
Chemical and stain resistance may vary depending on the condition of the surface, surface preparation, method of application, surface texture and exposure time.

10. TEXTURE and SLIP RESISTANCE:
CSS Emulsion should only be applied to slip resistant surfaces such as broom finished, stamp imprinted and splatter textured surfaces unless a non-skid additive is included.

For safety a sample area should be applied to ensure product suitability. The entire project should be inspected after completion to approve the adequacy of the wet and dry slip resistance.

11. DETERMINING SOLIDS REDUCTION:
CSS Emulsion is specifically engineered and packaged as a high solid sealer emulsion. The user can vary film build, viscosity and overall performance.

Solids reduction may be accomplished with either aromatic or oxygenated solvents such as xylene, Oxsol 100 (PCBTF), acetone or lacquer thinner. Check with local, state and federal VOC laws before use. See CSS-V for alternative with non-exempt VOC of 154.7 grams per liter. Check with local, state and federal VOC laws.

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Use the chart below to help determine the level of performance needed for the project in mind.

PROTECTION	DILUTION	COATS
Light Duty with Minimal Stain Resistance: Ideal for broom finish overlays and conventional concrete where "stain resistance" is not critical	1:2	2
Light Duty with Minimal Stain & Skid Resistance: Ideal for broom finish overlays and conventional concrete where "stain resistance" is not critical. Add 3+ ounces of skid grip per gallon	1:1.5	2
Medium Duty with Fair Stain Resistance: Ideal for stamped overlays and conventional stamped concrete on exterior applications	1:1	2
Medium Duty with Fair Stain & Skid Resistance: Ideal for stamped overlays and conventional stamped concrete on exterior applications needing additional skid resistance. Add 3+ ounces of skid grip per gallon on final coat	1:1	2
Medium Duty with Good Stain Resistance Ideal for nearly all overlays and decorative concrete on exterior applications	1:1	2
Medium Duty with Good Stain & Skid Resistance: Ideal for nearly all overlays and decorative concrete on exterior applications. Add 3+ ounces of skid grip per gallon on final coat	1:1	2
Heavy Duty with Excellent Stain & Chemical Resistance: Ideal for nearly all overlays and decorative concrete on exterior applications	1:1	3
Heavy Duty with Excellent Stain, Chemical & Skid Resistance: Ideal for nearly all overlays and decorative concrete on exterior applications. Add 3+ ounces of skid grip per gallon on final coat. Note: The addition of skid grip in not recommended for interior applications	1:1	3

Dilution ratio is CSS Emulsion to solvent.

Mix the CSS Emulsion and solvent with drill and mixing paddle for 2 minutes. Do not entrain air in the mixture.

12. APPLICATION EQUIPMENT:
Protective gear should be worn when using equipment and materials during preparation and installation.

A pump up sprayer or lambs-wool roller is recommended for most applications of CSS Emulsion to apply an even coating.

13. APPLICATION:
Cover surrounding areas, landscaping and adjacent surfaces with masking to protect from over spray, spills and tracking. The entire work area should be roped off and nearby vehicles should be removed.

CSS Emulsion must be properly mixed prior to application. Failure to mix properly may result in uneven sealing and create discoloration throughout the finish.

Application must be made at the coverage rates recommended in section 6. COVERAGE, using the equipment and methods described.

CSS Emulsion must be applied thinly and evenly while maintaining a wet edge and overlapping must be controlled.

CSS Emulsion must not be over applied to allow puddling or collection in joints, resulting in a prolonged cure.

CSS Emulsion should be applied on a dry day when the surface and ambient temperatures are between 40° and 90° F and will not fall below 32° within the next 6 to 8 hours.

The surface to be sealed must be dry and free of moisture that will interfere with bonding and cure. Do not apply CSS Emulsion on foggy, rainy to extremely humid weather conditions. On hot, dry days, application should be made during the cooler part of the day and when the surface is under shade or non-direct sunlight.

The second or consecutive coats can be made once the first coat is completely dry.

Do not expose the freshly sealed surface to rain, sprinklers or condensation for 12 hours after final coating.

Sealed surfaces will be tack free in 1 to 2 hours at an ambient temperature of 70° F. Under these conditions, the freshly sealed surface may take light foot traffic in 3 to 4 hours.

The CSS Emulsion must be allowed to complete cure prior to taking heavy traffic. Typical cure time is 12 to 24 hours.

Sealed surfaces should be inspected to verify and approve the installation for safety including wet and dry slip resistance prior to opening to traffic.

14. PRODUCT AVAILABILITY:
CSS Emulsion is marketed nationwide and internationally, directly to trained installers through strategically located authorized distributor and suppliers.

15. PRODUCT COST:
At an application rate of 250 to 350 sq. ft. per gallon, the material cost per coat is approximately $0.05 to $0.15 per sq. ft.

16. OTHER SEALER OPTIONS:
Additional information is available in the Elite Crete Systems Technical Data TD-414 SEALER OPTIONS.

17. WARRANTY SUMMARY:
For the complete warranty statement and important limitations, read the Material Safety Data Sheet and Warranty. Generally, Elite Crete Systems, Incorporated represents and warrants only that its products are of consistent quality. No other oral or written statement is authorized. Any liability is limited to refund or replacement of the defective product. The end user shall determine product's suitability and assume all risks and liability.