Capstone™ ST-110

Repellent

Penetrating Sealer for Porous Surfaces

Technical Information

Description

Capstone™ ST-110 is a cationic aqueous fluorochemical dispersion that provides a durable, non-film forming, transparent protective barrier against oil and water on porous mineral surfaces. Capstone™ ST-110 is used in water-based penetrating sealers, especially for natural stones, unglazed tile, grout, terra cotta, concrete, and brick. Capstone™ ST-110 provides oil and water repellency, stain resistance, and easy stain cleanup.

Applications and Formulating Information

Capstone™ ST-110 is used in diluted solutions containing 1.5–2.5% active ingredient (6–10% commercial product) working strength with deionized or tap water for appropriate application levels. Typical coverage rate is from 3–25 m²/L of diluted solution, depending on the porosity of the mineral substrate (thoroughly wet the surface being treated with the diluted product, and remove excess liquid after 15–30 min). The optimum dilution rate should be determined for each application. If blended, maintain pH below 6. The product may be applied using a saturated brush, roller, paint pad, mop, or low-pressure garden-type sprayer in one or two layers (to ensure complete coverage). A biocide should be added to formulations made using Capstone™ ST-110 to protect the formulation against microbial growth.

Typical Properties

Appearance	Clear, yellow liquid
Stability	Stable at normal temperatures Perishable if frozen
pH	4.0–6.0
Active Solids, %	25
Density, g/mL	1.1
Flash Point (Closed Cup), °C (°F)	Does not flash
Shelf Life	2 years

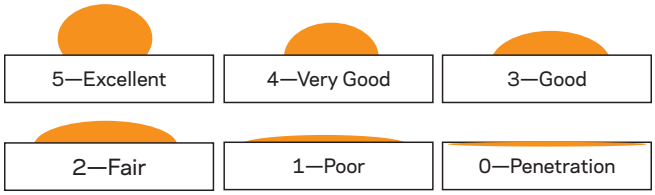
Performance

Capstone™ ST-110 (diluted to 8% of commercial product in water) was compared to a competitive aqueous-based silicone sealer. Each product was applied to limestone and Saltillo (Mexican clay tile or terra cotta) and allowed to dry for three days. Corn oil, Italian dressing, ketchup, mustard, grape juice, and coffee were then placed on the treated substrates. After 24 hr, the tiles were washed with a 1% soap solution and allowed to dry. The ratings were totaled for each tile sample. The results below show that Capstone™ ST-110 outperformed the competitive aqueous-based silicone sealer. Similar results have been achieved on other porous mineral substrates.

Chemours™

Scoring System for Each Stain After Dry	
No Visible Stain	0
Very Slight Stain	1
Light Stain	2
Moderate Stain	3
Heavy Stain/Complete Penetration of Stain into Substrate	4

Scoring System for Water/Oil Repellency



5 Contact angle 100–120°
4 Contact angle 75–90°
3 Contact angle 45–75°
2 Contact angle 25–45°
1 Contact angle 10–25°
0 Contact angle <10°

Performance Comparison

24 hr Stain Scores of Six Stains		
Treatment	Limestone	Saltillo
Capstone™ ST-110	3	5
Silicone (aqueous)	8	13
Untreated	19	21

Cumulative scale from 0 (best) to 24 (worst).
Lower score = Higher performance

Treatment	Oil Repellency	Water Repellency	Stain Resistance
Capstone™ ST-110	Excellent	Excellent	Excellent
Silicone (aqueous)	Poor	Excellent	Poor to Good
Untreated	None	None	Very Poor

Personal Safety, First Aid, Storage and Handling

See Safety Data Sheet (SDS) for use and handling recommendations. Mix well before using. Protect from freezing.

Capstone™ Repellents and Surfactants

- Deliver maximum performance
- Regulatory and stewardship information is available upon request
- Are listed on TSCA inventory

Package Sizes

Tote–2,205 lb (1000 kg), Drum–440 lb (200 kg), Pail–44 lb (20 kg)

For questions regarding technical data, commercial supply, and sampling:

Chemours Advanced Performance Materials

Technical Inquiries

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