



## Pool Shell Protection and Waterproofing

**DESCRIPTION** SCP's SD400 Pool Shell Densifier is a state-of-the-art premium densifier, hardener and water proofing sealer for new and existing concrete pool shells. SD400 is a multi-phase penetrating colloidal silica/proprietary particulate based treatment that reacts with the concrete to produce insoluble calcium silicate hydrate that locks aggregate together and fills vacant concrete pores while building a water-resistant matrix. SD400 is an effective solution for preventing water seepage and efflorescence in concrete. SD400 is a water-borne, deep penetrating, surface and sub-surface densifying and impregnating molecular bonding and densifying treatment. It integrally waterproofs, densifies and preserves concrete of any age at any point during the concrete's useful lifespan.

**ADVANTAGES:** SD400 is faster and easier to apply than other pool shell protection products - it can be applied with a pump-up sprayer and in addition, SD400 eliminates the need for the pool owner to water the shell surface (hydrating) during its initial curing stage. SD400 will not trigger or contribute to surface ASR (Alkali Silicate Reaction).

The use of SD400 will significantly protect the pool shell from damages (spalling, etc.) caused by freeze-thaw cycles. SD400 neutralizes existing internal corrosives such as acids and chlorides preventing internal chemical reactions. SD400 retards the rusting or corroding of embedded steel and will also prevent chemically treated pool water from passing through the pool shell and leaching into the ground water supply.

Only SD400, because of its water-resistant matrix feature, makes it unnecessary to apply a special water proofing product where water line tiles are normally installed.

Compared to competition:

- Easier to Apply
- Faster Reacting
- More Benefits
- Superior Technology

### BENEFITS

- ◆ Easy to apply, use pump-up or airless sprayer
- ◆ Prevents moisture penetration
- ◆ Reduces bleed through stains
- ◆ Eliminates normal efflorescence
- ◆ Significantly strengthens gunite, shotcrete or concrete pool shells – hard enough to diamond polish
- ◆ Maximum penetration and impregnation
- ◆ Protects from effects of freeze-thaw cycles
- ◆ Helps protect rebar from rust
- ◆ Halts alkali silica reactivity
- ◆ Eliminates watering the shell surface (hydrating) and special water line tile preparation
- ◆ Waterborne, Low VOC content

**CAUTIONS:** SD400 will not extend protection if:

1. There are polymers mixed in the shell
2. The shell has been previously sealed
3. The shell was cleaned with acid
4. Where rebound in pneumatically applied concrete is in the pool shell

Additional:

1. Cover everything not intended for the product. Incidental damage and or issues may occur on unintended surfaces. Be especially careful where wind drift is present.
2. SD400 can discolor aluminum and pit glass; flush immediately with water.

**SURFACE AND AIR TEMPERATURES:** For maximum effectiveness surface and air temperatures should be 50-95°F (10-35°C). Dry time will be slower at lower temperatures.

- Ambient air temperatures ideally should be 50 - 95°F (10-35°C); Temperatures above 95°F are marginal, that is the carrier will evaporate too fast not allowing the active elements to chemically react with the substrate.
- When surface temperatures are too hot, the carrier (water) will evaporate too fast and preventing the silicate elements to penetrate and form an adequate bond which can lead to a shorten product life cycle. Typically, surface temperatures above 95°F can create this situation.
  - Where ambient temperatures typically reach above 95°F in the afternoon, application should



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- be scheduled for the morning where it will be cooler. Hand held surface temperature reading devices are inexpensive and eliminate guess work.
- Air temperature below 50°F will cause the product to cure slower. Do not apply if substrate temperatures are less than 40° F and will not decrease to less than 40° F for six hours.
- If surface temperature will drop below freezing within 48 hours do not apply.

Do not let product freeze – freezing will render product ineffective

**EQUIPMENT:** The easiest method of application is with a low-pressure pump-up sprayer or, alternatively, with an airless sprayer.

### PREPARATION

1. Plaster Coat: Once SD400 is applied wait 48 hours before applying a breathable plaster coat
2. Penetration: Any previous coatings on the shell must be completely removed. Abrasion of the surface may be required to allow penetration. To determine if there are any penetration issues, spritz the surface with water. If the water sits on top of the surface or beads up, abrading is required.
3. Fractures: SD400 only seals the concrete itself, not fractures.
4. Do not dilute or alter product.
5. If pool shell has been acid washed, neutralize the surface before applying SD400.

### APPLICATION

For new or established pool or spa shells:

1. SD400 can be applied with a pump-up sprayer.
2. If a high- pressure airless sprayer is used, use a spray tip size as follows:
  - a. Steel troweled pool decking and smooth plaster .013
  - b. Shotcrete .015–. 019
  - c. Gunite .019
3. Spray tip fan width: 8”–12” wide
4. Apply spray directly to the surface of the wall or floor.
5. Pre-moist, mist, the area to be applied with water. Continue to keep the shell moist during application of the product.
6. Apply a saturation coat wet on wet: apply SD400 to an area, once absorbed, and while wet, treat a second time. The more SD400 applied, the stronger/denser

will be the cured shell. Saturate, but do not allow product to puddle. Disperse puddled areas with a broom before it dries. Do not allow unabsorbed product to dry on the surface.

- a. As soon as the sheen from the first wet on wet application has disappeared, go back over the same area just treated using an overlapping spray pattern.
  - b. The more product than can be absorbed by the shell the stronger the protection.
6. For vertical walls, begin at the bottom using an overlapping spray pattern. Work your way from the bottom to the top. As soon as the sheen from the first application has disappeared, go back over the same area just treated again using an overlapping spray pattern.
  7. **Once cured/dried, SD400 cannot be applied over itself.**

### SAFETY AND CLEAN UP

- Caution must be taken, as treated surfaces may be slippery until completely cured.
- Always wear protective gloves. Avoid getting on skin – product is an irritant and can burn with extended exposure. Do not get in eyes. Always wear protective eyewear; in enclosed areas it is advisable to wear an appropriate respirator to avoid possible irritation to breathing.
- Consideration should be made to wearing watches, eyeglasses, etc., as SD400 can etch glass or discolor aluminum if allowed to dry.
- Clean equipment using water and mild soap. Never store spray equipment without cleaning and following manufacturer’s recommendations for storage between usages.

### LIMITATIONS

- Limited shelf life – remains storage stable for approximately 12 months in sealed factory containers, use within 6 months where possible
- SD400 is an alkaline material. Substrates such as glass, wood, plastic and metal should not be treated with SD400
- Will not prevent water penetration through material defects or structural cracks/fissures in the shell.
- Do not allow product to freeze

**COVERAGE RATE:** Coverage will be approximately 150 sq ft per gallon depending on porosity and the amount of saturation achieved.



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**Packaging:** SD400 is available in 5-gallon/18.9-liter pails. 55-gallon drums.

**CAUTION! HARMFUL IF SWALLOWED. EYE, SKIN AND RESPIRATORY IRRITANT.**

If swallowed DO NOT induce vomiting. Call physician immediately. In case of: Eye contact - flush with large amounts of room temperature water for 15 minutes. Skin contact- wash thoroughly with soap and water. Irregular or stopped breathing-administer oxygen, give artificial respiration. Get medical attention (immediately). Do not breath vapors or spray mist. Wear respirator approved by NIOSH. (NIOSH/MSHA TC 23C or equivalent).

### FOR EXTERIOR & INTERIOR USE

**Use with adequate ventilation**

**Keep Out of Reach of Children**

**WARRANTY:** The information and recommendations made are based on our own research and the research of others and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of our products, nor anticipate every variation encountered in natural stone, masonry and concrete surfaces, job conditions, and methods used for application. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose.

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Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 877-333-8188 and ask for

Customer Care - technical support