Stainless Steel Equipment Care and Maintenance

A practical guide for commercial aquatic facilities

The most important rule of stainless steel care:

Rinse stainless steel with clean water, never pool water

Pool water can leave chlorides and other dissolved residues on the surface, increasing the risk of staining and corrosion.

Understanding Stainless Steel Maintenance:

Stainless steel naturally forms a protective chromium oxide layer that helps resist corrosion. Passivation removes free iron and surface contaminants, helping maintain this protective layer.

However, exposure to chlorides, chemical residue, and trapped moisture can compromise its corrosion resistance. Routine cleaning and proper maintenance help protect the finish and extend equipment life.

Remember: Stainless steel is corrosion-resistant, not corrosion-proof.

Daily Maintenance:

Rinse exposed stainless steel surfaces with clean, fresh water to remove pool chemicals, salts, and other deposits. Dry surfaces when practical, paying particular attention to areas where moisture collects. Inspect regularly for discoloration or early signs of corrosion.

Treating rust and preventing recurrence:

Use Spectra-Clean System 1 to remove surface rust and restore the stainless steel's protective passive layer. Once completely dry, apply Spectra-Shield for additional protection, paying special attention to seams, pits, and crevices.

Heavy, flaky rust may indicate permanent pitting, which can require more frequent maintenance. However, even severely rusted railings can often be restored to an improved condition with proper cleaning and treatment.

Regular inspections and prompt removal of new rust or discoloration will help prevent further corrosion.

Step 1: Clean and Passivate (30 Minutes)

- Begin with a dry surface. Apply Spectra-Clean System 1 by spraying or wiping it onto the stainless steel.
- Keep the surface wet for 30 minutes, reapplying the solution as needed.
- After 10 minutes, gently scrub with a white 3M Scotch-Brite nonabrasive pad. For stubborn rust, use a maroon pad and repeat as necessary.
    - Do not use pads more abrasive than 3M Scotch-Brite maroon on railings. Green or coarser pads may scratch the finish and create additional corrosion sites.
        - 3M Scotch-Brite Maroon Pads are available here: https://www.3m.com/3M/en_US/p/dc/v000194219
        - 3M Scotch-Brite White Pads are available here: https://www.3m.com/3M/en_US/p/d/b40066283

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- After 30 minutes, rinse thoroughly with clean water, not pool water, to remove all chemical residue, which may leave white deposits if allowed to dry.
- Hand-dry to prevent water spots.

Spectra-Clean and Spectra-Shield can be easily purchased from our website, www.spectrumproducts.com.

Step 2: Dry Completely

- All surfaces, including seams, crevices, and pits, must be completely dry before applying Spectra-Shield.
- Recommended: Allow at least 48 hours of drying time.
- During pool operation: Allow at least 4 hours of air drying.

Step 3: Apply Spectra-Shield (10 Minutes)

- Using a clean cotton cloth, generously apply Spectra-Shield until the surface is thoroughly wet, not just damp.
- Allow the product to remain on the surface for 10 minutes.
- Wipe away excess product with a clean, dry cotton cloth.

Spot treatment and follow-up:

Rust that reappears after treatment may indicate incomplete passivation, insufficient drying or an area that was not fully sealed. Treat only the affected area:

- Apply Spectra-Clean System 1 and keep the spot wet for 30 minutes, agitating as needed.
- Thoroughly remove the cleaner with fresh water.
- Dry completely.
- Apply Spectra-Shield generously (wet but not dripping). After 10 minutes, wipe with a dry cotton cloth.

Special applications -

Removable small fittings:

For removable escutcheons and certain compression-anchor components, consider keeping spare parts so pieces can be removed for treatment.

- Soak the item in Spectra-Clean System 1 in a clean, residue-free plastic container.
    - For heavy corrosion on these removable parts, a stainless steel brush may be necessary.
- Rinse thoroughly with clean, fresh water. Air-dry for at least 24 hours, preferably off the pool deck in a warm area.

Soak in Spectra-Shield for 10 minutes, remove and wipe off excess with a dry cotton cloth.

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Anchors embedded in concrete:

Treat rusting stanchion-post anchors and applicable compression anchors in place.

- Remove the post or grab bar and any anchor lid.
- Apply Spectra-Clean System 1 and agitate with a Scotch-Brite pad appropriate to the corrosion. Remove corrosion and rinse thoroughly with clean, fresh water.
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    - For heavy corrosion a stainless steel brush may be necessary.
- Dry the entire anchor, inside and out, with a clean cotton towel.
- Apply Spectra-Shield generously (wet but not dripping). After 10 minutes, wipe with a dry cotton cloth.

Important safety and product notes:

- Always follow the current product labels, Safety Data Sheets (SDS), and equipment-specific maintenance instructions. This guide provides general maintenance recommendations and does not replace product-specific instructions or professional evaluation when structural corrosion is suspected.
- Never mix cleaning chemicals.
- Pitting may be permanent and can require professional evaluation or replacement.

* Safety Data Sheets for all Spectra-Clean and Spectra-Shield products can be found on our website at: https://spectrumproducts.com/safety-data-sheets

* **Structural Safety:** Surface rust does not necessarily indicate structural damage. However, deep pitting, cracking, loose connections, or significant corrosion may compromise equipment integrity. Remove affected equipment from service until a qualified professional has evaluated it. Cleaning and surface treatments do not restore lost metal or structural strength.

* **Maintenance Responsibility:** Facility owners and operators are responsible for establishing appropriate inspection and maintenance procedures based on equipment use and environmental conditions. Failure to properly maintain stainless steel may result in premature corrosion or equipment deterioration.

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