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NANO-CLEAR INDUSTRIAL COATING FOR OXIDIZED WATER SLIDE



Parks & Recreation Dept. City of Sioux Falls, SD

Customer:

City of Sioux Falls Parks & Recreation

Project:

Fortify oxidized fiberglass and enhance the color on the exterior of the water slide in the Drake Springs aquatic center.

Project Location:

Sioux Falls, SD

Applicators: Parks & Recreation personnel

Coating Formulation: Nano-Clear Industrial (NCI) coating

Application System: Roller and brush.

Dates: Application: 2nd week October 2017

Conditions:

60-70F, 40-75%H, both cloudy and sunny days



BEST PRACTICES

REPORT

PROJECT OVERVIEW:

Nano-Clear Industrial coating **(NCI)** was applied to the oxidized fiberglass water slide exterior in the Drake Springs Family Aquatic Center in Sioux Falls, SD. The fiberglass on the water slide had become oxidized and the color had faded due to UV and pool water.

The Parks & Recreation Department decided to use **NCI** on the water slide to extend the service life of the fiberglass and enhance the color of the fiberglass instead of re-painting. The **NCI** penetrated and fortified the existing fiberglass creating a "tough" monolithic protective coating on the exterior surface of the water slide that will last for 5-10 more years.



The Nano-Clear solution saved the city the high cost of prep and repainting.

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CURRENT SITUATION:

The water slide at Drake Springs was installed in 2009. After years of outdoor exposure to the elements, pool water and use, the exterior of the fiberglass water slide in the Drake Springs Aquatic Center had become oxidized and faded.



The options to refurbish the exterior of the water slide were to:

- 1) Hire a contractor to re-paint
- 2) Hire a contractor to coat with Nano-Clear Industrial coating
- 3) Use existing personnel to coat with Nano-Clear Industrial coating
- 4) Use existing personnel to clean the slide but no paint or coating

The cost to purchase a water slide asset of this size is approximately \$40,000 - \$50,000 so it is important to maximize the service life of the city's investment.

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ISUSA SOLUTION:

Doing nothing was not an option because the elements would eventually degrade the fiberglass to a point where repair or replacement would be required. This would be the most expensive option.

The Parks & Recreation Department had the interior slide surface re-painted white and gel coated earlier in the year.

The Parks & Recreation Department decided to coat the water slide exterior with **NCI** to penetrate and fortify the fiberglass protecting it from UV and pool water. In addition, the Nano-Clear will enhance the fiberglass color – saving Sioux Falls the high cost of re-painting.

Nano-Clear Industrial coating is a crystal clear, aliphatic (UV stable), polyurethane/polyurea hybrid top coat formulated to work with existing paint or fiberglass to create a long lasting protective *system* eliminating the need for costly re-painting.

APPLICATION:

Personnel: Sioux Falls Park & Recreation full time employees and part time summer employees.

Step 1: Safety scaffolding was erected on site. The exterior of the water slide was cleaned with a biodegradable and phosphate free cleaner (SuperClean). The SuperClean was mixed according to label directions and spray applied to the fiberglass. The surface of the fiberglass was sprayed with a pressure washer to work the dirt and contaminants off the fiberglass surface. Then the surface was rinsed thoroughly to ensure all the detergent was removed.

Step 2: After cleaning there were some streaks on the fiberglass still present from mineral/chemical deposition and staining. Acetone was used to remove these stains and further clean all of the exterior fiberglass surface.



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APPLICATION:

Step 3: The Nano-Clear was applied to the prepared fiberglass using brushes for the bolted flange sections and Purdy Ultra Finish rollers for the remaining area of each fiberglass section. The addition of a rolling additive was added to the **NCI** to eliminate any bubbles that may form using a roller. NOTE: Application of **NCI** may also be made by HVLP, air-assisted airless or airless spray equipment.

Each section of the water slide received two cross-hatched, wet-on-wet coats of **NCI**...allowing approximately 5-8 minutes in between coats. This ensures there is enough Nano-Clear material to penetrate into the oxidized fiberglass and to form a glossy, monolithic coating on the fiberglass surface for long term protection.



BEST PRACTICES REPORT

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After NCI



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A small investment of money and time made a remarkable difference!

The Drake Springs water slide is a show piece for the Sioux Falls Park & Recreation department. Money and other resources were saved because the Park & Rec department embraced new coating technology. The citizens of Sioux Falls and visitors to the city will notice this water slide when they drive by.

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RESULTS:

Costs			
Materials			
	Cleaning supplies	\$250	
	Nano-Clear	\$1,000	
	Application supplies	\$150	
		Sub-total	\$1,400
Rental			
	Scaffold	\$550 (less if without rain delays)	\$550
Labor			
	Cleaning – 60 total man hours	~\$900 (more temp employees than FTE)	
	Application – 40 total man hours	~\$900 (more FTE employees than temp)	
		Sub-total	\$1,800
		Total	~\$3,750

- The overall finish was very good.
- NCI penetrated the oxidized fiberglass and enhanced the color.
- The finish has high gloss.
- The resulting protective dry film thickness was approximately 1-2 mils. Excellent thickness for long term
 protection.

THE SAVINGS:

- Approximately \$4200 over hiring an outside contractor to do the Nano-Clear application.
- Approximately **\$10,000** over outside contractor re-painting which would still allow UV oxidation of the paint.

SUMMARY & CONCLUSION:

Installed in 2009, it was time to do something to ensure the waterslide would continue to serve the citizens of Sioux Falls *before* the fiberglass substrate had degraded to the point where costly repairs would be needed.

The substrate preparation and the application of **NCI** did not require special training or equipment. With some technical support, the Park & Recreation employees did a great job of both preparing the fiberglass for the Nano-Clear coating and the application of the Nano-Clear coating.

The resulting **NCI**/fiberglass coating system will protect the water slide asset for many years eliminating at least one repainting maintenance cycle which more than paid for the application cost of the **NCI** coating.

Nano-Clear Industrial Coating Saves Money.

Industrial Solutions USA develops and sells "tough" COATINGS & ELASTOMERIC LININGS

to help industrial customers protect their assets from destructive elements.