

December 8, 2014

Solomon Colors
4050 N. Color Plant Road
Springfield, Illinois 62702

REPORT OF TESTS

SUBJECT: **Concrete Sealer Comparative Study**

PROJECT: **Maryhill Catholic Cemetery Chicago – RCC Surface Pro (Placed 06/26/14)**

TEST METHODS: AASHTO T 259, "Standard Method of Test for Resistance of Concrete to Chloride Ion Penetration"

AASHTO T 260, "Standard Method of Test for Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials"

ASTM C 666, "Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing"

ASTM C 672, "Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals"

ASTM C 779, "Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces"

NTL PROJECT #: 14-1190

MATERIALS: Delivered to NTL on August 7, 2014

PAGE: 1 of 6

TEST DATA

Hardened concrete specimens were delivered to NTL for testing on August 7, 2014 by Solomon Colors. All specimens were cut from larger concrete slabs by Litgen Concrete Cutting & Coring. All concrete was placed on June 26, 2014 using traditional roller compacted concrete methods and coated with IDOT 309 White Cure. Half of the specimens were extracted from an area that was treated with RCC Surface Pro, a topically applied admixture applied at a rate of 100 to 150 sf/gallon. The control specimens were taken from an area that was untreated. All specimens were from the same concrete slab and placed using the same methods and mix design.

December 8, 2014
Solomon Colors – RCC Surface Pro Study
NTL Project #14-1190
Page 2 of 6

TEST RESULTS

AASHTO T 259/T 260 – Chloride Penetration

Start Date: August 21, 2014
Finish Date: November 19, 2014
Test Duration: 90 days
Specimens: Average from four 6 x 6 x 3-in specimens

Results:

Control (untreated)

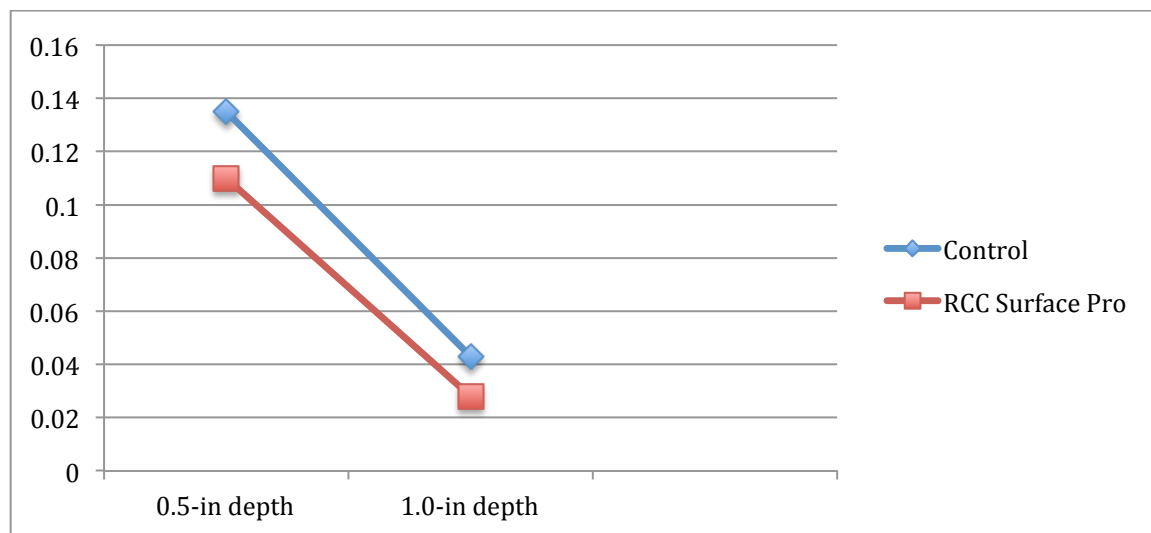
Chloride Content up to 0.5-in	0.135%
Chloride Content up to 1.0-in	0.043%

RCC Surface Pro

Chloride Content up to 0.5-in	0.110%
Chloride Content up to 1.0-in	0.028%

Improvement over Control

Chloride Content up to 0.5-in	18.5%
Chloride Content up to 1.0-in	34.9%



AASHTO T 259 – Chloride Penetration

December 8, 2014
Solomon Colors – RCC Surface Pro Study
NTL Project #14-1190
Page 3 of 6

TEST RESULTS (continued)

ASTM C 666 – Freeze-Thaw Resistance (Procedure A)

Start Date: August 20, 2014
Finish Date: November 2014
Test Duration: 300 Cycles
Specimens: Average from three 3 x 3 x 11-in specimens

Results:

Control (untreated)

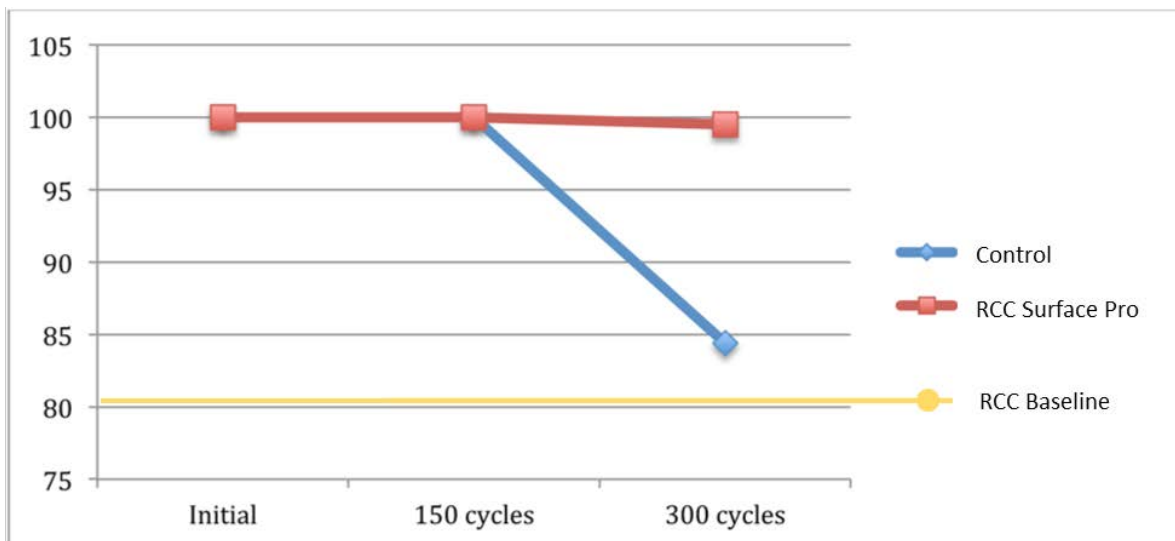
Durability Factor @ 300 Cycles 84.4
Observations: Specimens showed scaling

RCC Surface Pro

Durability Factor @ 300 Cycles 99.5
Observations: No change in specimens

Improvement over Control

Durability Factor @ 300 Cycles 15.2%



ASTM C 666 – Freeze-Thaw Durability Results

December 8, 2014
Solomon Colors – RCC Surface Pro Study
NTL Project #14-1190
Page 4 of 6

TEST RESULTS (continued)

ASTM C 672 – Salt Scaling

Start Date: August 21, 2014
Finish Date: October 30, 2014
Test Duration: 50 Cycles
Specimens: Average from three 8 x 9 x 6-in specimens

Results:

Control (untreated)

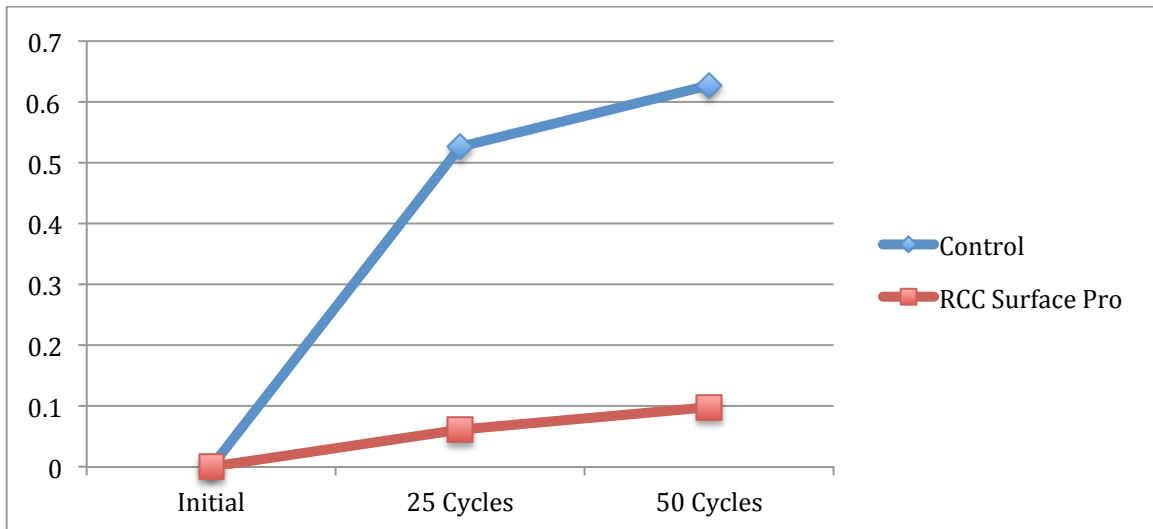
Mass Loss @ 50 Cycles 0.628 lbs/ft²
Rating @ 50 Cycles Rating 5 – Severe Scaling

RCC Surface Pro

Mass Loss @ 50 Cycles 0.098 lbs/ft²
Rating @ 50 Cycles Rating 3 – Moderate Scaling

Improvement over Control

Mass Loss @ 50 Cycles 84.4%



ASTM C 672 – Salt-Scaling Mass Loss Results (lbs/in²)

December 8, 2014
Solomon Colors – RCC Surface Pro Study
NTL Project #14-1190
Page 5 of 6

TEST RESULTS (continued)

ASTM C 779 – Abrasion Resistance (Method B)

Test Dates: August 19 and 20, 2014
Test Duration: 60 Minutes
Specimens: Average from three 12 x 12 x 4-in specimens

Results:

Control (untreated)

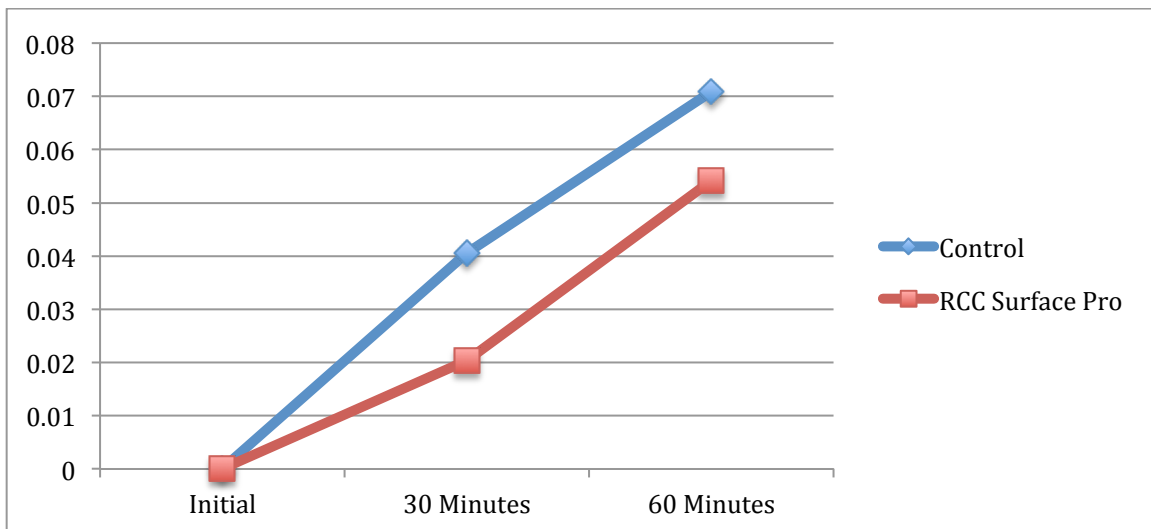
Wear Depth @ 30 Minutes	0.0406-in
Wear Depth @ 60 Minutes	0.0709-in

RCC Surface Pro

Wear Depth @ 30 Minutes	0.0204-in
Wear Depth @ 60 Minutes	0.0542-in

Improvement over Control

Wear Depth @ 30 Minutes	49.8%
Wear Depth @ 60 Minutes	23.6%



ASTM C 779 – Abrasion Results (inches)

December 8, 2014
Solomon Colors – RCC Surface Pro Study
NTL Project #14-1190
Page 6 of 6

Respectfully submitted,

NELSON TESTING LABORATORIES



Mark R. Nelson
President