



Pentra-Sil® (H)

Dustproofing, Hardener

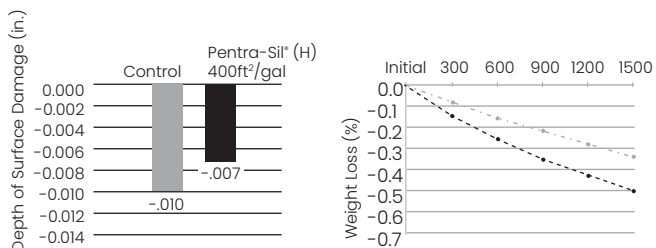
Abrasion Resistance

ASTM C-779 Depth of Wear Cement Mortar

A 0.5 w/c mortar was mixed and poured into the 4x0.5" plastic molds in order to make mortar disks. After 14 days of curing the surface of mortar disks were ground and sealed with product at a rate of 400 sq/ft per gal. Taber test results show approximately 35 % abrasion resistance at 1500 cycles.

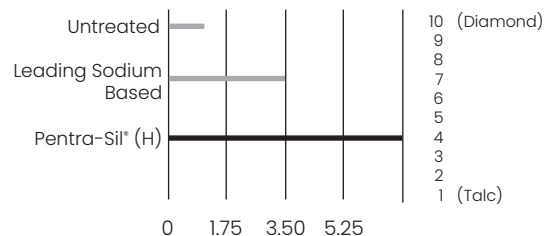
ASTM C 779 – Depth of Wear*

In summary, treatment with Pentra-Sil® (H) improved abrasion resistance 34% over the control. Abrasion resistance – Revolving disks. 32.5% improvement at 30 minutes.



Hardening

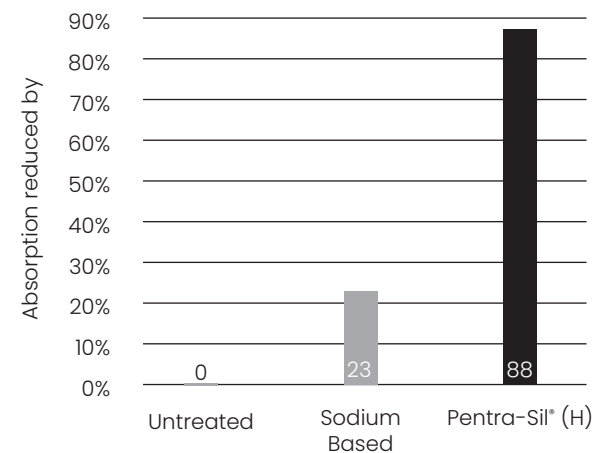
MOHS Hardness Test Results



Impact

This surface abrasion test method describes the procedure used to measure the ability of a concrete specimen to resist surface abrasion by impact of steel balls in the presence of water.

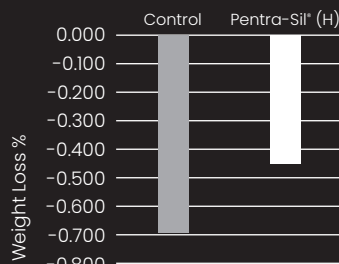
Reduced H2O Absorption



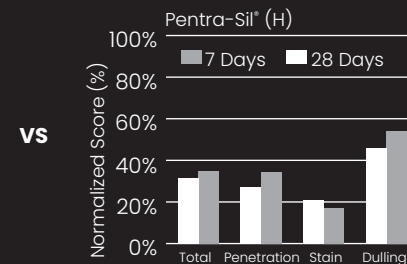
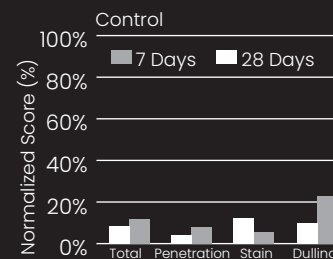


% Weight Loss			Weight Loss vs. Control (% Improvement)		
Sample	2000 CYCLES		Sample	2000 CYCLES	
	3-day	28-day		3-day	28-day
Control	-0.682	-0.74152	Control	0%	0%
Pentra-Sil® (H)	-0.602	-0.48996	Pentra-Sil® (H)	-12%	-34%

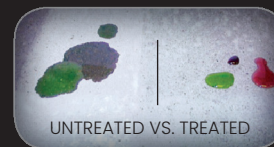
ASTM C-779 Depth of Wear Portland Cement-Based, Self-Drying, Self-Leveling Concrete Topping. Testing was performed at two ages, 3-days and 28-days, applied at 200 ft² per gallon.



Staining

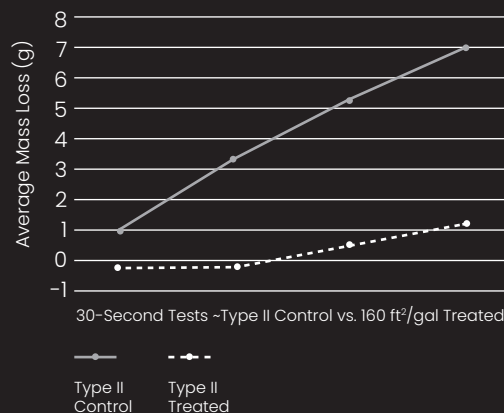


vs



Treated and untreated areas shown being tested against automotive grade antifreeze, transmission fluid and aircraft engine oil.

Average Cumulative Mass Loss- Control vs. 160 ft²/gal Pentra-Sil® (H)



The following graph shows the comparison of treated and control specimens with the average cumulative mass lost in the four 30-second abrasion test for Type II w/c 0.44. Type II w/c 0.44 with 160 ft²/gal of Pentra-Sil® (H) results show less material loss consistently for each 30-seconds test than the control specimen and also show less material loss cumulatively.

RILEM Test Method Test Period-5 Days

- Untreated Concrete - 40% Water absorption
- Sodium Silicate - 35% Water absorption
- Pentra-Sil NL/H - 12% Water absorption

This graph is the AVERAGE absorption rate over 5 days

