

New Hampshire Department of Transportation  
Bureau of Materials & Research

Qualified Products List – Qualification Criteria

Section 534 – Water Repellent

**B. ITEM 534.3 – Water Repellent (Silane/Siloxane)**

**C. ITEM 534.3 – Water Repellent (Silane/Siloxane) – Cold Weather**

**Specification** - 2010 NHDOT Standard Specifications for Road and Bridge Construction, Section 534

Water repellent (silane/siloxane) shall be a product as included on the Qualified Products List.

**Required Submissions**

QPL Product Submittal Form

The submitted form must be completely filled out and must be the current version of the form. The QPL Product Submittal Form can be obtained at [www.nh.gov/dot/research](http://www.nh.gov/dot/research).

Product Literature

Submit any product literature that is relevant to evaluation of the product.

MSDS

Submit complete MSDS information for the submitted product

VOC Certification

Submit a notarized letter that states the VOC content of the product.

**Qualification Criteria**

Documentation

The Department will review submitted documentation to assure conformance with the specifications. These products must conform to NH Code of Administrative Rules Chapter Env-A 4200 Architectural and Industrial Maintenance Coatings. This document is available from the NH Department of Environmental Services. The VOC content of water repellents shall not exceed 250 g/l.

Water repellent (silane/siloxane) shall be a single component, ready to apply product.

Published product literature for products submitted for possible inclusion on the QPL listing for "Silane/Siloxane – Cold Weather" must indicate that the product can be applied at temperatures as low as 20 ° F.

Lab Testing

After review of all submitted documentation, the Department may request a product sample for laboratory testing. **Unsolicited samples will not be accepted.**

Requested samples will be tested by the Department using a modified version of the test procedure outlined in NCHRP Report 244, as described herein. When tested per this method, products must demonstrate the ability to reduce water absorption in sample cubes by 79%

when compared to untreated control cubes. They must also demonstrate the ability to reduce chloride intrusion in sample cubes by 87% when compared to the untreated control cubes.

### Summary of NHDOT Test Method for Water Repellants

- Mortar cubes, made in accordance with AASHTO T-106, are cured in a wet room for 7 days.
- The cubes are then allowed to air dry for 21 days.
- The cubes, now 28 days old, are wire brushed and coated with the water repellent product being tested.
- The treated cubes, along with untreated control cubes, are allowed to air dry for 14 days. They are then weighed.
- The cubes are placed in a 15% NaCl solution bath for 21 days. They are periodically removed from the bath and weighed at 1 day, 7 days, and 14 days.
- The cubes are removed from the NaCl bath after 21 days and a final weight is recorded.
- Each cube is split in half. One half is tested to determine chloride content as described in AASHTO T 260. The other half is immersed in a water bath for 24 hours after which time the depth of water repellent penetration can be measured.

Qualification Criteria Approved by:

  
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Administrator, Bureau of Materials & Research

Qualification Criteria Accepted by:

  
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FHWA, NH Division

The Department continues to evaluate its qualification criteria as well as products that have been qualified against them, and reserves the right to revise the criteria and/or withdraw product qualification at any time for any reason without notice.

Qualification of a product does not constitute an endorsement of the product, nor does it imply intent to purchase or specify the product.