

**New Hampshire Department of Transportation
Bureau of Materials & Research**

Qualified Products List – Qualification Criteria

Section 550 – Structural Steel

A. FAST SETTING GROUTS FOR ANCHOR BOLTS

- Specification

Material shall be specified by the manufacturer for the specific use (by Item number).
Material shall be non-shrink, non-metallic, non-chloride, non-gypsum.

- Required Submissions

1. Completed Preliminary Information for Product Evaluation (PIPE) form.
2. Applicable MSDS information
3. Any and other pertinent literature.

The Department will review submitted information to assure conformance with the specifications. Following a review of submitted information, the Department may request a sample of the product for testing in the Department's Materials & Research laboratory. Test results published by the AASHTO National Transportation Product Evaluation Program (NTPEP) may be accepted in lieu of NHDOT testing.

- Qualification Criteria

1. Shrinkage will be evaluated by direct measurement of cubes after curing, or in accordance with AASHTO T 160.
2. Compressive strength testing will be performed on three (3) specimens in accordance with AASHTO T 106, modified as follows:
 - a. The grout will consist only of the cementitious material submitted for testing (i.e. no additional aggregate will be added). The grout will be mixed using the maximum amount of water and/or admixture recommended by the manufacturer.
 - b. The mixing time shall conform to manufacturer recommendations.
 - c. Material shall meet the minimum compressive strength criteria outlined in Table 1.
3. Freeze-Thaw testing will be performed on two (2) specimens in accordance with AASHTO T 161, Procedure A, modified as follows:
 - a. The measured weight loss after 300 cycles shall not exceed the percentage specified in Table 1. The relative dynamic modulus of elasticity of all specimens shall meet or exceed the values specified in Table 1.

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4. Permeability testing will be performed on three (3) specimens in accordance with AASHTO T 277. Currently this test is performed for informational purposes only, however, the Department reserves the right to establish permeability limits and qualify or reject products based on that criteria.

Table 1 – Testing Requirements

Item No.	3 hour compressive strength (psi)	1 day compressive strength (psi)	7 day compressive strength (psi)	28 day compressive strength (psi)	Length Change Allowable (%)	Freeze - Thaw Allowable weight loss (%)	Minimum Relative Dynamic Modulus of Elasticity (%)
550.A	*	1000	3000	≥ 7 day strength	+/- 0.1%	5%	90.0%

* 1 and 3 hour compressive strength will be measured and recorded for all items.

Approved by: *Alan D. Rawson*
Bureau Administrator

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.