

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

Qualified Products List – Qualification Criteria

Section 604 – Catch Basins, Drop Inlets, and Manholes

A. FIBER REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES

Specification

Reinforcing shall be steel, or structural fibers. Steel shall conform to the requirements of Section 544. Fibers shall be a product as shown on the NHDOT 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.

Product Literature

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

Documentation of Product Testing

The manufacturer shall submit test results indicating the maximum load obtained for typical precast drainage structures as determined by ASTM C497, Three Edge Bearing Test. Test sections (risers) shall be fabricated as per Section 604 of the NHDOT Standard Specifications for Road and Bridge Construction, and shall be cast using the manufacturer's recommended fiber dosage rate. Control sections shall be cast using woven wire fabric (wwf) reinforcement. Both test and control sections shall be wet cast and shall be 4' in diameter. Sections of the following heights shall be tested:

Test Sections

- 2 – 2' risers w/fibers
- 1 – 3' riser w/fibers
- 2 – 4' risers w/fibers

Control Sections

- 1 – 2' riser w/wwf
- 1 – 3' riser w/wwf
- 1 – 4' riser w/wwf

All tests shall be performed or witnessed by an independent lab. In addition, adequate notification shall be provided to the Department's Materials and Research Bureau, to allow the opportunity for a NHDOT representative to witness the testing. Certified test results shall be submitted on the letterhead of the independent lab. Documentation showing that the independent lab is qualified to perform these tests shall also be provided.

Test reports shall provide the following results:

- Maximum load supported by the riser before a crack having a width of 0.01 in. occurs as described in section 4.5.4 of AASHTO T280.
- Concrete properties
 - Slump, AASHTO T119
 - Air content, AASHTO T152
 - 28 day compressive strength, AASHTO T22

Qualification Criteria

Fiber reinforcement at the manufacturer's recommended dosage rate shall have a strength that is equal to or greater than that of woven wire fabric reinforcement. The fiber reinforcement shall not exhibit any properties that are detrimental to the concrete or the finished surface.

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.