

MaineDOT Qualified Products Acceptance Criteria

Macro-Synthetic Fibers for Concrete Reinforcement

Overview

The Macro Synthetic Fibers for Concrete Reinforcement QPL represents materials prequalified as a reinforcement replacement for 6 x 6 #10-gauge welded wire fabric when used at the manufacturer's prescribed dosage rates for the construction of manhole and catch basin structures as allowed under Maine DOT Standard Specification, 712.06 Precast Concrete Units. These fibers

are NOT intended to be a replacement for any reinforcing steel (rebar) in structural concrete.

Criteria

All products must comply with MaineDOT Standard Specifications: Current Version, Section(s) 712.06 Precast Concrete Units.

The fiber manufacturer is required to obtain certified independent testing lab reports that confirm the product being submitted meets the requirements listed below and submit those results to the Maine Department of Transportation's New Product Committee.

Macro synthetic fibers shall be manufactured from virgin polyolefins (polypropylene and polyethylene), nylon, and carbon and comply with ASTM C1116, Type III Synthetic Fiber-Reinforced Concrete. Fibers manufactured from materials other than those listed above must show documentary evidence confirming their long-term resistance to deterioration when in contact with the moisture and alkalis present in cement paste and the substances present in admixtures throughout the anticipated useful life of the structure.

Minimum dosage rate in pounds of fibers per cubic yard is established by determining an equivalent flexural strength ratio RT_{150} and no less than 25% when tested in accordance with ASTM C1609. Macro synthetic fibers shall meet the following:

- Minimum fiber length required is 1.50 inches
- Aspect ratio (length divided by the equivalent diameter of the fiber) between 45 and 150.
- Minimum tensile strength of 40 ksi when tested in accordance with ASTM D 3822.
- Minimum modulus of elasticity of 400 ksi when tested in accordance with ASTM D 3822.

The fiber manufacturer is required to obtain independently performed test results that confirm the requirements listed herein and submit those for approval.

PRODUCT CONFORMITY: At the discretion of MaineDOT, any shipment of product to a MaineDOT location may be tested, such as by infrared or gas chromatography, for compliance with the SDS and uniformity with the formulation of the approved product (where applicable).

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NOTE: MaineDOT may require a field evaluation before final acceptance and inclusion on the Qualified Products List (QPL).

A vendor who wishes to have products preapproved for future use should contact MaineDOT's Product Evaluation Coordinator via email at NewProducts.MaineDOT@maine.gov or by calling (207) 557-1788. More information can also be found on our website, including our electronic submittal and recertification forms.

Submittals

Product Submittal Packets shall include the following information:

- [Electronic New Product Submittal](#) form
- Current Technical Data Sheet
- Current Safety Data Sheet (SDS)
- Third Party, Independent Test Results OR AASTHO Product Evaluation & Audit Solutions (formerly NTPEP) testing ID for those products requiring this testing

Incomplete submittals will not be evaluated for inclusion on MaineDOT's Product Lists.

All reports shall be issued and signed by an authorized laboratory representative. The report shall include date of testing, product name, and the physical and/or chemical requirements stated herein.

Product Changes

Any change in a product, such as formulation, shall require re-testing (through AASTHO Product Evaluation & Audit Solutions (formerly NTPEP) if required) or independent, third-party lab. Manufacturers shall notify MaineDOT of products changes and resubmit as a new product for re-evaluation, failure to do so may result in removal of product from MaineDOT's QPL.

Manufacturers shall submit, for re-evaluation, an updated independent analytical laboratory report (or AASTHO Product Evaluation & Audit Solutions (formerly NTPEP) testing ID) prior to approval or purchase by MaineDOT.

Recertifications

MaineDOT requires re-certification by all manufacturers every five years (except for electrodes used for field welding which are recertified every year) to ensure that product names and formulations have remained the same since the product was originally placed on this list and that products are still relevant and in production. Where applicable, this shall include the most recent AASTHO Product Evaluation & Audit Solutions (formerly NTPEP) testing ID. Additionally, AASTHO Product Evaluation & Audit Solutions (formerly NTPEP) provides for retesting products.

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A lapse of AASTHO Product Evaluation & Audit Solutions (formerly NTPEP) testing/audit schedule as set forth in the associated workplan shall result in disqualification of the product.

Manufacturers of any products requiring MASH testing must contact MaineDOT Product Evaluation Program of any changes to their products. Manufacturers are responsible for tracking their recertification dates, reminders will not be sent. Failure to recertify products may result in removal from the QPL. Recertifications can be completed using the [Electronic Certificate of Compliance](#) found on our website.

Other Information

The Department continues to evaluate its Acceptance Criteria and reserves the right to revise the criteria and/or withdraw product qualification at any time for any reason without notice.

Furthermore, the ability of a product to meet these requirements does not necessarily guarantee addition to the Qualified Products List. Reminder that, products once placed on the Qualified Products List are to be considered prequalified for use only, meaning that they have undergone preliminary review for compliance with MaineDOT, and AASHTO specifications. As with all products, final approval rests with the Designer, Project Manager, Supplier and/or Resident to determine if a product best suits the need of a particular project.

If you are experiencing difficulties reading or printing this page, or have questions regarding the Qualified Products List website, please contact the Product Evaluation Program Coordinator at (207) 557-1788 or by email at: NewProducts.MaineDOT@maine.gov