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.

MaineDOT Standard Specifications (2014) 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 average residual strength of no less than 150 psi when tested in accordance with ASTM C1399. Minimum fiber length required is 1.50 inches. Macro-synthetic fibers have an aspect ratio (length divided by the equivalent diameter of the fiber) between 45 and 150. Macro-synthetic fibers shall have a minimum tensile strength of 40 ksi when tested in accordance with ASTM D 3822. Macro-synthetic fibers shall have a 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).

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)624-3268.

Product submittals shall include: a completed New Product Evaluation form, a copy of the technical data sheet, current Safety Data Sheet (SDS), and third party, independent test results (or NTPEP test reports where applicable). Any 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 also include the physical and/or chemical requirements stated herein.
Any change in a product, such as formulation, shall require re-testing (through NTPEP if required) and resubmission of an independent analytical laboratory report (or NTPEP testing report) prior to purchase by MaineDOT.

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. This shall include the most recent NTPEP testing. NTPEP provides for retesting of this product category on a 5-year basis. A lapse of NTPEP test results may result in disqualification of the product.

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 207-624-3268 or by email at: NewProducts.MaineDOT@maine.gov