QCML Criteria
Sheet Waterproofing Membrane System

General Requirements

Chemical composition, physical properties and dimensional requirements of the sheet membrane shall conform to the manufacturer's specifications for the material.

All accessory materials such as, flashing, primer, etc., used in the application of the sheet membrane will be considered a part of this specification and shall conform to the manufacturer's requirements. The membrane waterproofing system shall consist of:

- Primer
- Sheet Membrane
- Mastic

Material Requirements

The primer shall meet the requirements of Subsection M9.09.1 of the Standard Specifications.

The membrane sheet shall meet the requirements in ASTM D6153 and Table M9.08.2-1.

The composition of the primer, membrane, and mastic that make up the membrane waterproofing system shall conform to the manufacturer's specifications for the material. All components shall be approved by the manufacturer as being compatible for use with the specified membrane. Cleaning solvents shall also be approved by the manufacturer for use with the membrane.

The mastic for use with rubberized sheets shall be a rubberized asphalt cold-applied joint sealant. The mastic for use with modified bitumen sheet shall be a blend of bituminous and synthetic resins. The mastic shall be approved for use by the manufacturer.

Membrane

PROPERTY	TEST	REQUIREMENTS
Thickness		≥60 mils
Permeance	ASTM E96 Water Method, Procedure B	≤1.0 perms
Pliability	ASTM D146 [1]	No breaks
[1] The test temperature of the specimen shall be 0°F after 24 hours and 180° bend over a ¼ inch mandrel.		

Material Qualification

A manufacturer requesting approval of a preformed sheet membrane shall furnish to the Research and Materials Section the following:

1. The membrane system material specifications including product performance data.

2. The peel-off backing material shall be tear resistant to prevent portions of it from remaining after the membrane is applied.
3. Certified independent test reports demonstrating conformance to ASTM D6153, Table M9.08.2-1, and the submitted product performance data.
    a. The independent lab shall be recognized by the National Cooperation for Laboratory Accreditation (NACLA) in Construction Materials Engineering and Testing (CMET) or an equal program approved by Research & Materials. All testing shall be performed by the same independent lab.
    b. Independent test reports must be dated within two years from the initial submission. Samples for all required testing shall be fabricated at the same time. Test reports shall denote the lot of material as well as the sample fabrication and testing dates.
4. A detailed summary of successful installations that have occurred in the United States, including owner contact information, design and construction details (substrate type & condition, membrane system components, hot mix asphalt overlay thickness and mix details, etc.), year constructed, tests performed, performance monitoring and/or testing, and any other additional information requested by the Department.

A demonstration of the product's installation and performance may be required to be qualified by MassDOT.

All submittals shall be certified to be in conformance with the manufacturer's instructions. Systems qualified by MassDOT per the performance criteria shall be considered for placement on the MassDOT QCML.

Once approved, the waterproofing system will be listed on the MassDOT QCML. The product shall remain on the approved list for five (5) years unless one of the following occurs:

- If the product's technology changes. If the product formulation or technology changes, the Manufacturer shall notify MassDOT RMS.
- MassDOT RMS determines that the product no longer meets the minimum requirements.

A written request for re-approval must be submitted to the Department at least 90 days prior to the expiration date for the product to remain on the QCML. The manufacturer will be required to submit certified test reports demonstrating conformance to the specification.