

3757 MEMBRANE WATERPROOFING SYSTEM

3757.1 SCOPE

Provide a membrane waterproofing system to be used for waterproofing below-grade joints in concrete structures, tunnels, and other below grade applications on concrete structures.

3757.2 REQUIREMENTS

Provide a membrane waterproofing system meeting the following requirements:

- (1) Listed on the Approved/Qualified Products List, and
- (2) Consists of a primer, a rubberized asphalt membrane on a cross-laminated polyethylene carrier film, an pointing mastic, and a protection course.

A Primer

Provide a solvent-based primer meeting the requirements of Federal and Minnesota Pollution Control Agency VOC regulations and specially formulated for use with the waterproofing system being used.

B Membrane

Provide waterproofing system with a membrane meeting the requirements of Table 3757-1:

Table 3757-1 Waterproofing Membrane Requirements		
Property	Specification	Test Method
Thickness	≥ 56 mil [1.42 mm]	ASTM D 3767, Method A
Tensile strength	≥ 250 psi [1.7 MPa]	ASTM D 412, Die C
Elongation	≥ 300%	ASTM D 412, Die C
Composition	Rubber asphalt	Infrared scan

C Carrier Film

Provide membrane waterproofing system with carrier film meeting the requirements of Table 3757-2:

Table 3757-2 Waterproofing Carrier Film Requirements		
Property	Specification	Test Method
Thickness	≥ 4 mil [0.1 mm]	ASTM D 3767, Method A
Composition	Polyethylene	Infrared scan

D Composite Membrane

Provide membrane waterproofing system with a composite membrane meeting the requirements of Table 3757-3:

Table 3757-3 Waterproofing Composite Membrane Requirements		
Property	Specification	Test Method
Pliability, 180° bend, 1 in [25 mm] mandrel at -25 °F [-32 °C]	Unaffected	ASTM D 146
Permeance	< 0.05 Perms	ASTM E 96, Method B
Peel adhesion	≥ 5 lb/in [kg/mm]	ASTM D 903 Modified*
Water absorption	-0.1%, 72 h	ASTM D 1970
* 90 percent peel after 7 days at 70 °F [21 °C], plus 7 days at 120 °F [49 °C], plus 7 days at 70 °F [21 °C] (dry) (wet). The 180° peel strength is run at a rate of 12 in [300 mm] per minute.		

3757.3 SAMPLING AND TESTING

Provide samples in rates and sizes meeting the requirements of the Schedule of Materials Control, or as required by the contract.

The Materials Engineer, may perform tests on samples taken from the product proposed for use or on samples submitted and certified by the manufacturer as representative of the membrane waterproofing system to be supplied.