

**NIA-TIC-102-24 MASTICS AND COATINGS FOR INSULATION SYSTEMS**

Application	Type	Vapor Retarder	Notes	Reference Standards and Specification
Pipes, Ducts, Equipment, & Fittings (Below Ambient)	Water Based Mastic / Coatings	Yes	Applied direct to unfaced insulation with mesh reinforcement. Provide vapor retarder and mechanical protection of the insulation.	ASTM C647, ASTM C755, Sec.7.2.2
	Water Based Mastic / Coatings	Yes	Used in conjunction with vapor retarder laminate jacketing to seal seams, punctures, terminations and breaks in the laminate jacketing. Together they provide a vapor retarder system and mechanical protection of the insulation.	C647, C755, Sec. 7.2.2.4
	Solvent Based Mastic / Coatings	Yes	Applied direct to faced and unfaced insulation with mesh reinforcement. Provide vapor retarder and mechanical protection of the insulation.	ASTM C647, ASTM C755, Sec.7.2.2
	Lagging Adhesive / Coatings	No	Applied with fiberglass or canvas lagging cloth over vapor retarder laminate jacketing. The vapor retarder is provided by the laminate jacket while the lagging coating and cloth provide mechanical protection.	MIL-DTL-3316D, Cl 1
Pipes, Ducts, Equipment, & Fittings (Above Ambient)	Water Based Mastic / Coating	No	Applied direct to faced and unfaced insulation with mesh reinforcement. Provide mechanical and weather protection and liquid water seal over the insulation.	ASTM C647
	Lagging Adhesive / Coatings	No	Applied with fiberglass or canvas lagging cloth over faced or unfaced insulation for mechanical protection of the insulation and/or facing materials.	MIL-DTL-3316D, Cl 1

**STANDARDS AND SPECIFICATIONS:**

ASTM C647: Standard Guide to Properties and Tests of Mastics and Coating Finishes for Thermal Insulation

ASTM C755: Standard Practice for Selection of Water Vapor Retarders for Thermal Insulation

MIL-DTL-3316D: Detail Specification, Adhesives, Fire Resistant for Thermal Insulation

The listed ASTM standards provide a guide to relevant physical properties for mastics and coatings used with mechanical and thermal insulation. ASTM C755, Section 7.2.2 provides guidance on required vapor retarder performance for mastics and coatings under various below ambient conditions. MIL-DTL-3316D provides a standard for lagging adhesive coatings used over insulation. Refer to ASTM standard, product technical literature, or contact manufacturer for further information on product conformance and selection for specific applications.