14.121 PLANE121 — 2–D 8–Node Electrostatic Solid
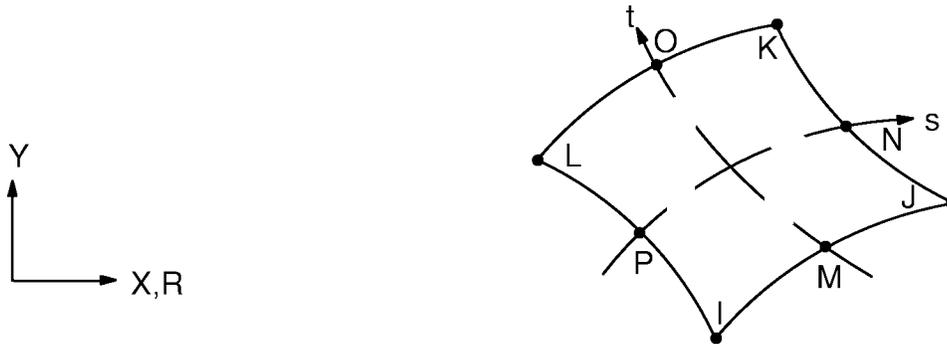
Matrix Or Vector	Geometry	Shape Functions	Integration Points
Coefficient Matrix	Quad	Equation (12.6.7–21)	3 x 3
	Triangle	Equation (12.6.2–21)	3
Charge Density Load Vector	Same as coefficient matrix		3 x 3 for quadrilateral 3 for triangle
Surface Charge Density and Load Vector	Same as coefficient matrix, specialized to the face		2

14.121.1 Other Applicable Sections

Chapter 5 describes the derivation of the electrostatic element matrices and load vectors as well as electric field evaluations. Section 13.1 describes integration point locations.

14.121.2 Assumptions and Restrictions

A dropped midside node implies that the edge is straight and that the potential varies linearly along that edge.