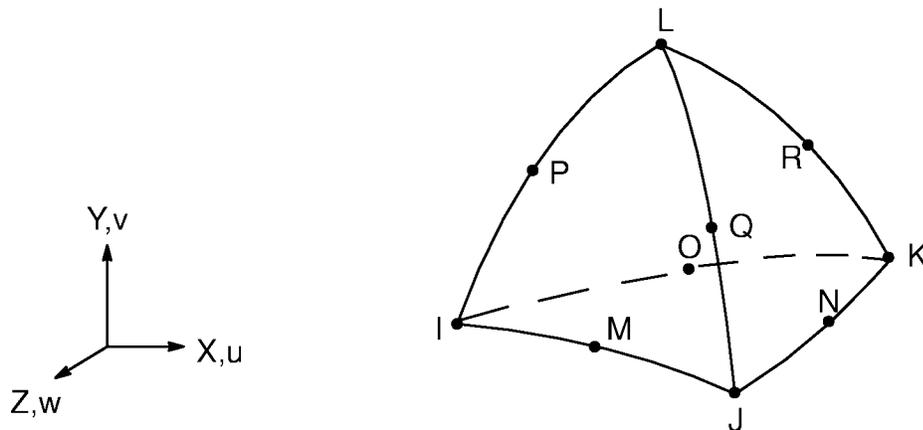


14.148 SOLID148 — 3-D Tetrahedral Structural Solid p-Element



Matrix or Vector	Geometric Shape Functions	Solution Shape Functions	Integration Points
Stiffness Matrix	Equations (12.8.2-1), (12.8.2-2) and (12.8.2-3)	Polynomial variable in order from 2 to 8	Variable
Thermal and Inertial Load Vector	Equations (12.8.2-1), (12.8.2-2) and (12.8.2-3)	Polynomial variable in order from 2 to 8	Variable
Pressure Load Vector	Same as stiffness matrix specialized to face	Polynomial variable in order from 2 to 8	Variable

Load Type	Distribution
Element Temperature	Same as geometric shape functions
Nodal Temperature	Same as geometric shape functions
Pressure	Linear across each face

Reference: Szabo and Babuska(192)

14.148.1 Other Applicable Sections

Chapter 2 describes the derivation of structural element matrices and load vectors as well as stress evaluations.