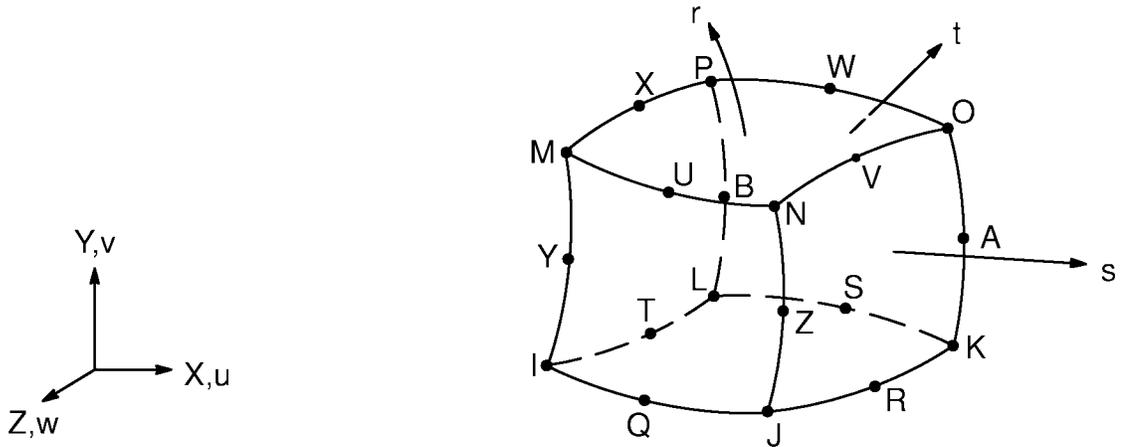


14.147 SOLID147 — 3-D Brick Structural Solid p-Element



Matrix or Vector	Geometry	Geometric Shape Functions	Solution Shape Functions	Integration Points
Stiffness Matrix	Brick	Equations (12.8.20-1), (12.8.20-2), and (12.8.20-3)	Polynomial variable in order from 2 to 8	Variable
	Wedge	Equations (12.8.14-1), (12.8.14-2), and (12.8.14-3)	Polynomial variable in order from 2 to 8	Variable
Thermal and Inertial Load Vector	Same as stiffness matrix.		Polynomial variable in order from 2 to 8	Variable

Matrix or Vector	Geometry	Geometric Shape Functions	Solution Shape Functions	Integration Points
Pressure Load Vector	Quad	Equations (12.5.10-1) and (12.5.10-2)	Polynomial variable in order from 2 to 8	Variable
	Triangle	Equations (12.5.2-1) and (12.5.2-2)	Polynomial variable in order from 2 to 8	Variable

Load Type	Distribution
Element Temperature	Same as geometric shape functions thru element
Nodal Temperature	Same as geometric shape functions thru element
Pressure	Bilinear across each face

Reference: Szabo and Babuska(192)

14.147.1 Other Applicable Sections

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