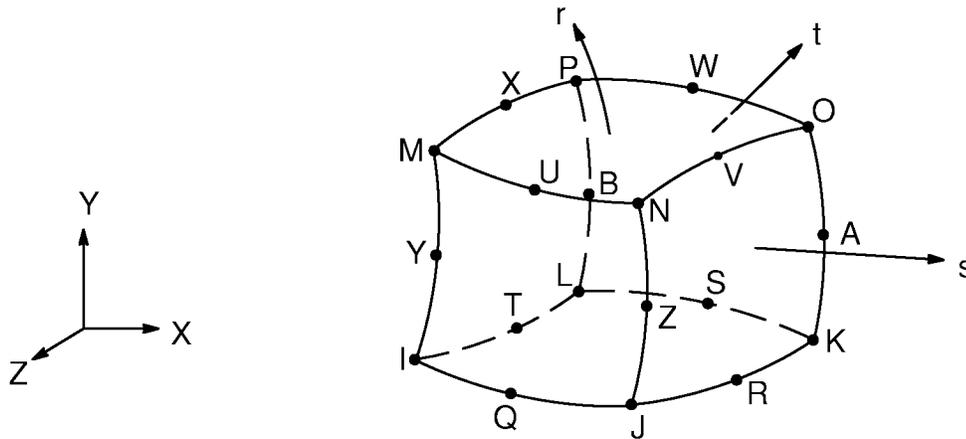


14.90 SOLID90 — 20–Node Thermal Solid



Matrix or Vector	Geometry	Shape Functions	Integration Points
Conductivity Matrix	Brick	Equation (12.8.20–20)	14
	Wedge	Equation (12.8.14–20)	3 x 3
	Pyramid	Equation (12.8.7–20)	2 x 2 x 2
	Tet	Equation (12.8.2–20)	4
Specific Heat Matrix	Same as conductivity matrix. If KEYOPT(1) = 1, the matrix is diagonalized as described in Section 13.2.		Same as conductivity matrix
Heat Generation Load Vector	Same as conductivity matrix		Same as conductivity matrix
Convection Surface Matrix and Load Vector	Quad	Equation (12.5.10–20)	3 x 3
	Triangle	Equation (12.5.2–20)	6

14.90.1 Other Applicable Sections

Chapter 6 describes the derivation of thermal element matrices and load vectors as well as heat flux evaluations. Section 13.1 describes integration point locations.