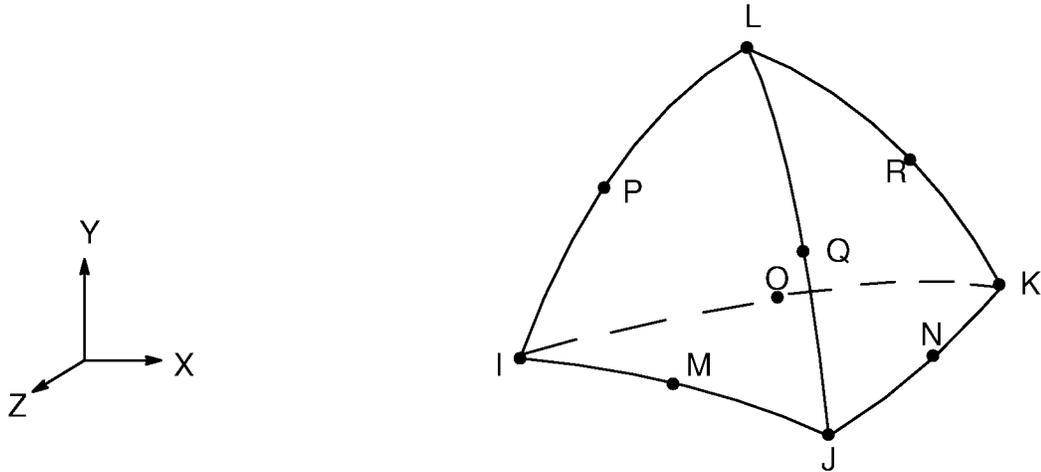


# 14.87 SOLID87 — 3-D 10-Node Tetrahedral Thermal Solid



Matrix or Vector	Shape Functions	Integration Points
Conductivity Matrix	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	11
Heat Generation Load Vector	Equation (12.8.2–20)	4
Convection Surface Matrix and Load Vector	Equation (12.8.2–20) specialized to the face	6

## 14.87.1 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. If KEYOPT(1) = 1, the specific heat matrix is diagonalized as described in Section 13.2.