14.27   MATRIX27 — Stiffness, Damping, or Mass Matrix

Matrix or Vector	Shape Functions	Integration Points
Stiffness Matrix (KEYOPT(3) = 4)	None	None
Mass Matrix (KEYOPT(3) = 2)	None	None
Damping Matrix (KEYOPT(3) = 5)	None	None

14.27.1   Assumptions and Restrictions

All MATRIX27 matrices should normally be positive definite or positive semidefinite (see Section 13.5 for definition) in order to be valid structural matrices. The only exception to this occurs when other (positive definite) matrices dominate the involved DOFs and/or sufficient DOFs are removed by way of imposed constraints, so that the total (structure) matrix is positive definite.