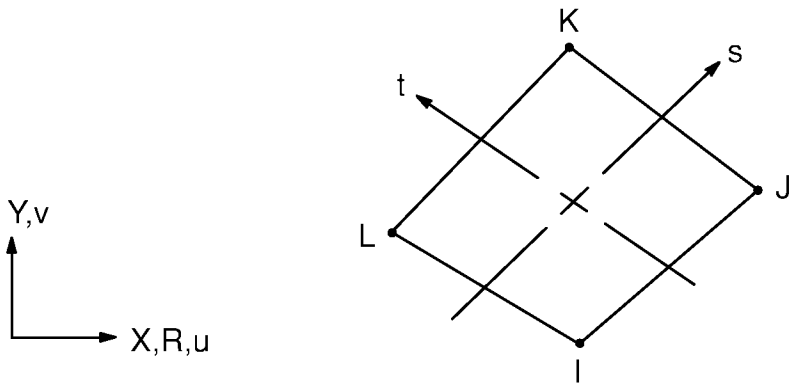
14.182 PLANE182 — 2–D Structural Solid



Matrix or Vector	Shape Functions	Integration Points
Stiffness Matrix	Equations (12.6.5–1) and (12.6.5–2)	See Section 4.182 of the Element Reference Manual
Mass Matrix	Same as stiffness matrix	Same as stiffness matrix
Stress Stiffness Matrix	Same as stiffness matrix	Same as stiffness matrix
Pressure Load Vector	Same as stiffness matrix, specialized to face	2

Load Type	Distribution
Element Temperature	Bilinear across element, constant thru thickness or around circumference
Nodal Temperature	Same as element temperature distribution
Pressure	Linear along each face

14.182.1 Other Applicable Sections

Chapter 2 describes the derivation of structural element matrices and load vectors as well as stress evaluations. Section 13.1 describes integration point locations.

14.182.2 Theory

This element uses $\overline{B}$ method (selective reduced integration technique for volumetric terms) (Hughes(219), Nagtegaal et al(220)) if KEYOPT(1) = 0. If KEYOPT(1) = 1, the uniform reduced integration technique (Flanagan and Belytschko(232)) is used.