Abstract

In the present study, a thick walled cylinder with a semi elliptical crack located at the inner surface is considered. Weight functions for the surface and the deepest point of an internal semi elliptical crack in a thick-wall cylinder were derived from a general weight function and two reference The weight functions were validated against finite element data given by Mettu and hybrid weight the paper are valid for cylinders with an inner radius to wall thickness ratio, $R_i/t = 4$. complex stress fields. All stress intensity factor expressions given in several linear and nonlinear.
Stress Intensity Factor for Cracks in Thick Pressure Vessels using Weight Function Technique

References

- Brahim EL Khalil Hachi, Said Rechak, Yacine Belkacemi, Gerard Maurice. Modeling of elliptical cracks in an infinite body and in a pressurized cylinder by hybrid weight function approach, International journal of pressure vessels and piping 82, 2005; 917-924.
- M. R. Ayatollahi, H. Khoramishad. Stress entensity factors for an axially oriented internal crack embedded in a buried pipe. Internationla journal of pressure vessel and piping 87, 2010:
Index Terms

Computer Science

Engineering and Technology

Keywords

Weight Function  Stress Intensity factor  Thick-walled cylinder  stress intensity factors