

Structural Performance Evaluation of Power Boiler for the Pressure Release Valve in Consideration of the Thermal Expansion

Authors : Young-Hun Lee, Tae-Gwan Kim, Jong-Kyu Kim, Young-Chul Park

Abstract : In this study, Spring safety valve Heat - structure coupled analysis was carried out. Full analysis procedure and performing thermal analysis at a maximum temperature, then to the results obtained through to give an additional load and the pressure on the valve interior, and Disc holder Heat-Coupled structure Analysis was carried out. Modeled using a 3D design program Solidworks, For the modeling of the safety valve was used 3D finite element analysis program ANSYS. The final result to be obtained through the Analysis examined the stability of the maximum displacement and the maximum stress to the valve internal components occurring in the high-pressure conditions.

Keywords : finite element method, spring safety valve, gap, stress, strain, deformation

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