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NUMERICAL ANALYSIS OF THE EFFECT ON RESIDUAL STRESSES OF DEFECT IN STEEL WELDS

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Abstract : In this investigation, the finite element analysis has been employed to study the distribution and the level of residual stress induced in steel matrix by the mechanism of defect resulting from the process of welding. The effect of interaction of defect and different weld imperfections in spot weld on the residual stresses level were highlighted. The results showed that the distribution of the defect and the interaction between defectand different weld imperfections have a significant influence on the level of the developed residual stresses

Keywords : Finite element; Defect; Residual stress; Spot weld; Steel S45C