EVALUATION RESIDUAL STRESS AT HOLE AREA ON PHOTOELASTIC MODEL BY DIGITAL IMAGE PROCESSING PHOTOELASTIC METHOD

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ABSTRACT
The research of fotoelastisitas method has been done with using model of epoxy resin. The purpose of this study is to analyze the changes of fringe pattern on the area around the holes and cracks and to determine the stress distribution in photoelastic model by Digital Photoelasticity method. The analysis of the change in fringe pattern was carried out by giving three loading variations. Fringe pattern was obtained from experiments using Photoelasticity transmission. To determine the stress distribution on the model, performed image processing using microsoft office picture program manager, matlab, adobe photoshop, and Fringe Image Processing. The loading variation to the model showed the change in the Fringe pattern. Whereas the comparison the graph of the intensity value and of the graph stress distribution showed that the highest value that was shown from respectively the graph happened to the area around the hole.

Key words: Photoelasticity Transmission, Resin Epoxy, Image Processing
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