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TITLE: X-RAY DIGITAL RADIOLOGY TO INFERENCE WELDING DEFECTS DEPTH

ABSTRACTS

X-ray digital radiology is increasingly used in aerospace industries and medical applications because of their numerous advantages such as the non-use of consumables and chemicals products, the capability to storing information via digital media, the reduction of time of control, etc. Today, the use of X-ray digital radiology give news needs and challenges for industrials. In this paper, X-ray digital radiology is used to infer welding defects such as depth of collapse or undercut, in welded assemblies, by measuring the grey level difference. Two batches of representatives samples are tested according to different composition: the first one is HA188 and the second HA230. Comparing depths of collapse measured by X-ray technique with those obtained by laser profilometer and micrographics cuts, we observe a good agreement, in the range of 30 - 250 µm. This results demonstrate the capability of X-ray non-destructive technique to estimate the “depth of collapse” in representative samples. Further investigations will be applied on real parts and results will be presented in a new paper.

KEYWORDS

X-Ray digital radiology | Welded assemblies | Depth of collapse |