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BEFORE AND AFTER HEAT TREATMENT ON WELDMENT OF Ti/AL LASER BEAM DISSIMILAR JOINTS

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Publication date 2017

Journal Journal of Machining and Forming Technologies

Volume 9

Issue 1/2

Pages 39-48

Publisher Nova Science Publishers, Inc.

Description A recent development in laser beam welding technology is ideally suited for joining titanium/aluminium dissimilar metals due to the heat input and decreased spatter. After welding the mechanical and microstructural properties are change depends upon the different melting point of base metals. This has the possibility to vary strength of the weldment. To overcome this problem, a heat treatment process is carried to the welded joint to obtain good mechanical properties and to eliminate the distortion. In this study, Ti6Al4V and AA2024 alloy sheets are welded using Nd: YAG Pulsed laser welding unit and heat treatment are performed by solution heat treatments, followed by water quenching and natural aging in air. Finally before and after heat treatment weldment properties are analysed. Comparing before heat treatment, the mechanical properties are improved after heat treatment.

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K Kalaiselvan, A Elango, NM Nagarajan, K Sekar - Journal of Machining and Forming Technologies, 2017

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