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Studies on characteristics of Ti6Al4V/AA2024 dissimilar weld joint using laser beam focusing from AA2024 side

Authors	K Kalaiselvan, A Elango, NM Nagarajan, K Sekar
Publication date	2017/10
Journal	Transactions of the Indian Institute of Metals
Volume	70
Pages	2147-2153
Publisher	Springer India
Description	Laser beam welding is based on interaction between the laser beam and parent metals. Methods have been developed in recent years to produce joints of most light metals and their combinations. It provides good weld joint to simplify the structure and reduce the weight and cost to meet the main concerns of the aircraft industry. To achieve these, Ti6Al4V and AA2024 alloy sheets with a thickness of 1.0 mm have been welded with butt joint configuration using pulsed Nd:YAG laser beam welding without groove and filler metal. The weldment has been subjected to testings such as surface roughness, microstructure, hardness, tensile strength and distortion. Test results reveal that laser beam welding is very much suitable for joining Ti6Al4V/AA2024 alloys, while focusing from aluminium side.
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