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Effect of heat treatment on mechanical properties and microstructure of Ti/Al sheet metal joint using laser beam welding

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Description	Industry demands new materials to meet its requirements for that advanced technique are adopted to find solution through research. One such attempt is use of laser beam welding to join Ti/Al dissimilar alloy for the aerospace and other applications. It is still a challenge to achieve the satisfactory joint between these dissimilar alloys. In the present work, Ti6Al4V and AA2024 alloys thin sheet combinations are welded using the Nd: YAG pulsed laser welding unit. Subsequently the welded joints are subjected to age hardening and the results are compared with weld joints prior to aging. Test results reveal that aging treatment brings strength for the structure more than 60% and laser beam welding is suitable for dissimilar metal joining.
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