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**Microstructural characterization and mechanical properties of high
power ultrasonic spot welded aluminum alloy AA6111-TiAl6V4
dissimilar joints**

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Abstract

Aluminum alloy AA6111 and TiAl6V4 dissimilar alloys were successfully welded by high power ultrasonic spot welding. No visible intermetallic reaction layer was detected in as-welded AA6111/TiAl6V4 welds, even using transmission electron microscopy. The effects of welding time and natural ageing on peak load and fracture energy were investigated. The peak load and fracture energy of welds increased with an increase in welding time and then reached a plateau. The lap shear strength (peak

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