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### 显微组织对Al-Mg-Si合金断裂行为的影响

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### THE INFLUENCE OF MICROSTRUCTURE ON THE FRACTURE BEHAVIOR OF AN Al-Mg-Si ALLOY

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摘要

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**摘要** <正> The hardness, tensile strength and fatigue properties of an Al-Mg-Si alloy were measured in this paper. The microstructures were observed using a transmission electron microscope. The tensile and fatigue fractures were studied by scanning electron microscopy. The results show that the microstructure affects the fracture behavior of the alloy markedly. The alloy exhibits dimpled fracture in UA and OA conditions, and mixed fracture with dimples and intergranular rupture in PA condition. The fatigue cracks were developed with the features of the alloy in UA condition. The cracks were developed with the second stage mode and the striations could be seen on the surface of the fractures for the alloy in PA and OA conditions. But the intergranular fracture and facets could also be seen in the crack initiation area at these conditions.

**关键词:** 显微组织 Al-Mg-Si合金 断裂 疲劳

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**Keywords:** microstructure Al-Mg-Si alloy fracture fatigue

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