

Paper Titles

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Corrosion of Aluminum Metal Matrix Composites: A Review of the Effect of Manufacturing Processes, Processing Routes and Secondary Phases

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Abstract:

The vulnerability of Al matrix composites to general and preferential corrosion is due to the intrinsic proneness of binary materials to undergo advanced deterioration. Control of the prevalent sites for evolution and proliferation of confined corrosion strongly influence the corrosion resistance of the composites. The problem for enhanced utilization of composites, has exacerbated with attention on the productive life and resilience to environmental degeneration during operational service. This can be achieved through proper comprehension of the electrochemical mechanism, the intriguing nature of SiC grains and their importance on the secondary phases, metallurgical configuration, and manufacturing process routes. This review confirms the relevance of secondary phases, microstructures and manufacturing processes in relation to SiC particles on the corrosion invulnerability of Al matrix composites to further add corrosion mitigation in design and and technological advancement.

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