

Microstructure and Mechanical Properties of Aluminum Matrix Composites Reinforced with Pre-oxidized β - Si_3N_4 Whiskers

Chenxu Zhang, Dongxu Yao, Jinwei Yin, Kaihui Zuo, Yongfeng Xia, Hanqin Liang, Yuping Zeng



PII: S0921-5093(18)30374-5
DOI: <https://doi.org/10.1016/j.msea.2018.03.038>
Reference: MSA36231

To appear in: *Materials Science & Engineering A*

Received date: 23 January 2018
Revised date: 7 March 2018
Accepted date: 8 March 2018

Cite this article as: Chenxu Zhang, Dongxu Yao, Jinwei Yin, Kaihui Zuo, Yongfeng Xia, Hanqin Liang and Yuping Zeng, Microstructure and Mechanical Properties of Aluminum Matrix Composites Reinforced with Pre-oxidized β - Si_3N_4 Whiskers, *Materials Science & Engineering A*, <https://doi.org/10.1016/j.msea.2018.03.038>

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Title:**Microstructure and Mechanical Properties of Aluminum Matrix Composites Reinforced with Pre-oxidized β -Si₃N₄ Whiskers****Authors:**

Chenxu Zhang ^{a, b}, Dongxu Yao ^a, Jinwei Yin ^a, Kaihui Zuo ^a, Yongfeng Xia ^a, Hanqin Liang ^a, Yuping Zeng^{a, *}

* Corresponding author.

E-mail address: yuping-zeng@mail.sic.ac.cn

Affiliations:

^a State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

^b University of Chinese Academy of Sciences, Beijing 100049, China

Abstract

Aluminum matrix composites (AMCs) reinforced with pre-oxidized β -Si₃N₄ whiskers (β -Si₃N₄w) were fabricated by hot pressing method. An amorphous SiO₂ layer was formed on the surface of β -Si₃N₄w aiming to enhance the interfacial bonding strength between aluminum and β -Si₃N₄. The interfacial structure showed that β -Si₃N₄w was well bonded with aluminum and no reaction products were formed near the interface. Effect of pre-

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