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TiAl基金属间化合物的显微组织与断裂韧性^①

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摘要: 通过复合热机械处理新工艺, 得到了细小均匀的TiAl基合金的显微组织, 并研究了这些显微组织的断裂韧性。结果表明: 全层片组织的断裂韧性最高, 近层片组织的稍次, 双态组织的最低。最后分析了TiAl基合金的显微组织被均匀细化的原因, 并讨论了各种显微组织的断裂机制。

关键字: TiAl基合金 显微组织 断裂韧性 复合热机械处理

FINE MICROSTRUCTURES AND FRACTURE TOUGHNESS OF TiAl-BASED ALLOY

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Abstract: The microstructures of TiAl-based alloy were refined and homogenized by multi-step thermomechanical treatment (MSTMT) process, and the fracture toughness of the materials with these fine microstructures were investigated. The results showed that the lamellar microstructure yielded higher fracture toughness than the duplex microstructure did. The refining mechanism of the microstructures was analysed and the fracture mechanisms were discussed.

Key words: TiAl-based alloy microstructures fracture toughness

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