

## Microstructure and Texture Evolution of Cryo Rolled and Annealed Ductile TaNbHfZrTi Refractory High Entropy Alloy

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**Abstract :** The microstructure and texture evolution of cryo rolled and annealed ductile TaHfNbZrTi refractory high entropy alloy was investigated. To obtain that, the alloy is severely cryo rolled and subsequently annealed for the recrystallization process. The cryo rolled - 90% shows the presence of very fine grains and microstructural heterogeneity. The cryo rolled samples are annealed at a temperature ranging from 800°C to 1400°C, the partial recrystallization is observed at 800°C annealed condition, and at higher annealing temperatures the complete recrystallization process is noticed. The development of ND fiber texture is observed after the annealing.

**Keywords :** refractory high entropy alloy, cryo-rolling, annealing, microstructure, texture

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