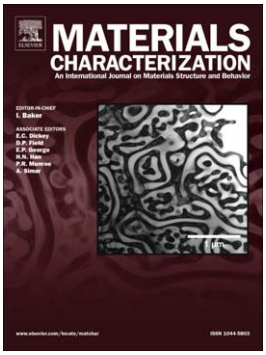

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Deformation and Recrystallization Behavior of a Coarse-Grain, Nickel-Base Superalloy Udimet720Li Ingot Material

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Abstract: The deformation and recrystallization behavior were studied using isothermal hot compression experiments for a cast-and-homogenized Udimet720Li material deformed in the temperature range of 1070 to 1190 °C with strain rates of 0.01 to 0.5 s^{-1} and total strain of 1.21. Flow behavior was well modeled and the variation of the apparent activation energy for deformation with strain rate and temperature were discussed. The distinctions of the dynamic recrystallization (DRX) behavior for the subsolvus and supersolvus deformation were significantly related to the presence of γ' precipitates. The relationship between γ' precipitates and deformation conditions and the interaction between γ' precipitates and grain

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