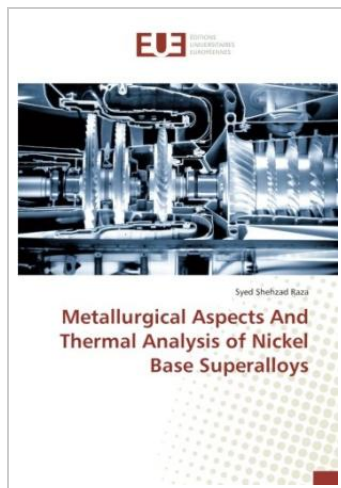




Metallurgical Aspects And Thermal Analysis of Nickel Base Superalloys

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Condition: New. Publisher/Verlag: Éditions universitaires européennes | Nickel based superalloys are used extensively in the aero industry and more specifically in the hot section of aero engines. These nickel and nickel iron based superalloys are precipitation strengthened alloys with a face centered cubic gamma matrix. Metallurgical processing factors like kinetic and thermodynamic parameters which are essential for modeling of Gamma phase precipitation have been studied. These parameters include Gamma solvus temperature, Gibbs free energy of dissociation of the Gamma matrix to form Gamma , nucleation rate, effective diffusivity and interfacial energy. Alloy 718, Allvac 718Plus and Waspaloy have been of great interest in the present study. These three alloys were investigated in terms of how their respective solidification process reveals upon cooling. Differential thermal analyses have been used to approach the task. It was seen that Waspaloy has the smallest solidification range whereas Allvac 718Plus the largest solidification interval in comparison. | Format: Paperback | Language/Sprache: english | 52 pp.



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