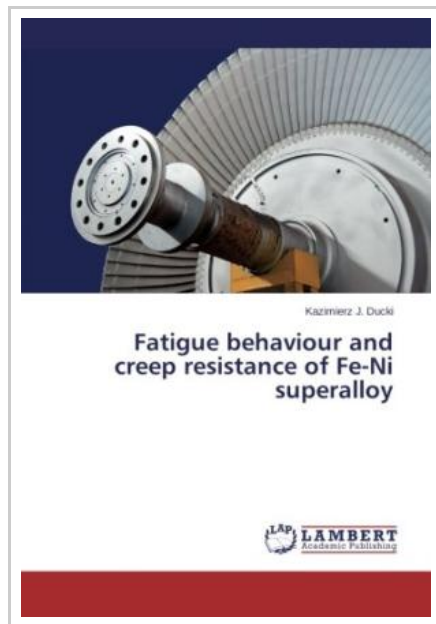




Fatigue behaviour and creep resistance of Fe-Ni superalloy

By Kazimierz J. Ducki

LAP Lambert Academic Publishing Mrz 2014, 2014. Taschenbuch. Book Condition: Neu. 220x150x4 mm. Neuware - This book characterizes the wrought iron-base superalloys. It is comprised of two main parts. The first describes the microstructure, properties and applications of Fe-Ni and Ni-Fe superalloys precipitation strengthened by intermetallic phases and carbides, and of Fe-Cr superalloys of the ODS type. The second part presents the dependencies between the initial heat treatment of a Fe-Ni alloy (A-286) and its microstructure, mechanical properties, fatigue strength and creep resistance. The investigations were conducted using specimens of the Fe-Ni alloy after two variants of heat treatment, i.e. solution heat treatment followed by typical single-stage ageing, and solution heat treatment followed by novel two-stage ageing. It was found that the Fe-Ni alloy after two-stage ageing was distinguished by higher strength properties coupled with a little lower plastic properties. It was also demonstrated that the Fe-Ni alloy after single-stage ageing had higher fatigue strength and creep resistance. The lower fatigue strength and creep resistance of the Fe-Ni alloy after two-stage ageing was explained by increased brittleness of the material in boundary areas. 72 pp. Englisch.



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