

Title (en)  
PROCESS FOR INCREASING THE ROOM TEMPERATURE DUCTILITY OF AN OXIDE DISPERSION HARDENED NICKEL BASE SUPERALLOY  
ARTICLE HAVING A COARSE COLUMNAR GRAIN STRUCTURE DIRECTIONALLY ORIENTED ALONG THE LENGTH

Publication  
**EP 0274631 B1 19910306 (DE)**

Application  
**EP 87117524 A 19871127**

Priority  
CH 511186 A 19861219

Abstract (en)  
[origin: US4795507A] Process for increasing the room-temperature ductility of a workpiece composed of oxide-dispersion-hardened nickel-base superalloy and existing as coarse, longitudinally oriented columnar crystallites by subjecting the previously zone-annealed workpiece to a solution anneal in the temperature range between 1,160 DEG and 1,280 DEG C. under argon atmosphere for 1/2 h to 5 h and then to a purposefully chosen cooling down at a rate of 0.1 DEG C./min to 5 DEG C./min to a temperature of 500 DEG to 700 DEG C. Thereafter the workpiece is cooled down to room temperature in air. Preferred purposefully chosen cooling down rate: approx. 0.5 DEG C./min.

IPC 1-7  
**C22C 32/00**; **C22F 1/10**

IPC 8 full level  
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Citation (examination)  
J.S. Benjamin, Metall. Trans. 1970,1,p. 2943 to 2951; M.Y. Nazmy, R.F. Singer, Scripta Metallurgica, 1985, Vol. 19, p. 829 to 832; T.K. Glasgow, Nasa TM-78973 (1978)

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