

Title (en)

PROCESS FOR MAKING OBJECTS, TOOLS AND PARTS BY POWDER METALLURGY

Publication

EP 0387237 A3 19910123 (DE)

Application

EP 90890046 A 19900222

Priority

AT 49189 A 19890306

Abstract (en)

[origin: EP0387237A2] In a process for making workpieces, in particular tools, with refractory carbides and/or carbonitrides homogeneously distributed in a matrix by powder metallurgy, a content of the elements of group or subgroup IV and V of the periodic table of at least 3 % by weight and a low concentration of carbon and nitrogen is set in a melt and primary precipitations are prevented, and a desired content of carbon and/or nitrogen is produced by atomisation of the melt to form powder and/or diffusion-annealing of the powder with a medium containing carbon or carbon compounds and/or nitrogen or nitrogen compounds, and powders containing at least 10 % by volume of a carbide and/or carbonitride fraction are processed, if desired after mixing with a further powder, in a manner known per se to give a powder metallurgical component. Workpieces, in particular tools, made by this process have a content of the elements vanadium and niobium and/or titanium and/or zirconium and/or hafnium and/or tantalum with a fraction of carbide and/or carbonitride of at least 10 % by volume at a maximum grain size of the carbide and/or carbonitride of 5 µm.

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C22C 1/10

IPC 8 full level

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Citation (search report)

- [A] EP 0156760 A2 19851002 - MANNESMANN AG [DE]
- [A] GB 2048955 A 19801217 - ATOMIC ENERGY AUTHORITY UK
- [A] PATENT ABSTRACTS OF JAPAN, Band 13, Nr. 190 (C-593)[3538], 8. Mai 1989; & JP-A-01 015 344 (MITSUBISHI METAL CORP.) (19-01-1989)

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