

Title (en)
METHOD OF MANUFACTURING POWDER COMPACTS

Publication
EP 0011981 B1 19831214 (EN)

Application
EP 79302649 A 19791121

Priority
US 96353978 A 19781124

Abstract (en)
[origin: EP0011981A1] A method of making high density powdered metal compacts and also a method for making high density powder metal sintered products is disclosed. With respect to the compacts, iron powder of coarse or fine configuration is mixed or coated with a low-melting metal additive selected from the group consisting of tin, copper-tin, copper-lead, or lead in a percentage by weight of 2-5% of the admixture. The admixture is subjected simultaneously to both heat (at a temperature level such that the low-melting alloy is in a liquid phase) and pressure which is in the range of 10-30 tsi. Upon relief of heat and pressure, the agglomerated or compacted product will possess an increased density in excess of 80% and an improved hardness and strength level. With respect to a sintered product, the powder metal is selected to have a fine particle size (average range of about 4-5 microns) and the powder is dry impact coated by ball milling with a low-melting additive such as tin, copper-tin, copper-lead or lead; the coated particles are warm briquetted and subjected to a sintering operation whereby the resulting product has a minimum density of 97% or more.

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CPC (source: EP US)
B22F 1/17 (2022.01 - EP US); **C22C 33/0207** (2013.01 - EP); **C22C 33/0264** (2013.01 - EP US)

Cited by
KR101283756B1; EP0165872A3; EP0151185A4; FR2477926A1; EP0769131A4; CN103042205A

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