

Title (en)

Method of manufacturing powder compacts.

Title (de)

Pulvermetallurgisches Verfahren zur Herstellung von Formkörpern.

Title (fr)

Fabrication de pièces par le procédé de la métallurgie des poudres.

Publication

**EP 0011981 A1 19800611 (EN)**

Application

**EP 79302649 A 19791121**

Priority

US 96353978 A 19781124

Abstract (en)

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)

Citation (search report)

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**EP 79302649 A 19791121**; CA 336663 A 19790928; DE 2966491 T 19791121; JP 14637879 A 19791112