

Title (en)
Method to make sinter-hardened powder metal parts with complex shapes

Title (de)
Verfahren zur Herstellung von sintergeharteten Teilen mit komplizierten Formen

Title (fr)
Procédé de production d'articles durcis par frittage de formes complexes

Publication
EP 1561832 A1 20050810 (EN)

Application
EP 05001266 A 20050121

Priority
US 76615404 A 20040128

Abstract (en)
A method of producing parts from powdered metals is disclosed, comprising the following steps. A metallurgical powder is provided, consisting of iron, 0.3-1.0 weight percent carbon, 0-4 weight percent chromium, 0-3 weight percent copper, 0.5-1.5 weight percent molybdenum, 0.5-4.5 weight percent nickel, 0-1.0 weight percent manganese, and 0-1.5 weight percent silicon. Metal powders are made by atomization and mixing. The powder metal parts are made by compacting, pre-sintering, profile/form grinding, sinter furnace hardening, and secondary operations. Profile/form grinding generates profiles, which can not be formed by compaction tooling, such as undercut. The specific pre-sinter cycle makes parts strong enough for profile grinding with prolonged tool life. Powder metal parts made by this invention are also disclosed. <IMAGE>

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C22C 33/02; **F16H 55/06**

IPC 8 full level
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Citation (search report)
• [AD] US 6148685 A 20001121 - CADLE TERRY M [US], et al
• [A] WO 9413418 A1 19940623 - HOEGANAES AB [SE], et al
• [A] EP 0457418 A1 19911121 - HOEGANAES CORP [US]

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