

Title (en)

Densification of selected areas of powder metal parts.

Title (de)

Verdichten von bestimmten Teilen pulvermetallischer Formstücke.

Title (fr)

Compaction de parties choisies d'objets en poudre métallique.

Publication

EP 0097027 A2 19831228 (EN)

Application

EP 83303329 A 19830609

Priority

US 38885182 A 19820616

Abstract (en)

Powder metal body, e.g. a gear wheel, is pressed in a mould between multiple depth punches, to produce a compact, parts of which are longer than others. The ratio of longer parts to shorter is preferably between 1.1 and 1.2:1. The compact is sintered until it can stand plastic deformation. It is then pressed again between punches, which may be flat, which bear on the longer parts, in a similar mould, with a central mandrel if one was used initially. The density of the originally longer parts is now greater than those originally shorter. The part of the body just below the root diameter can usefully be made more dense than the rest of the body by this process. The normally porous structure of the powder component is minimised or eliminated by increasing the density. This makes heat treatment or case hardening of steel components more effective.

IPC 1-7

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IPC 8 full level

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CPC (source: EP)

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Cited by

US4708912A; EP1179685A3; EP0774316A1; US6004120A; EP1839780A3; EP2052800A1; EP0565161A1; US5356721A; EP0775806A1; US5724734A; US6599018B2; US7211219B2; US7905018B2

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