

Title (en)

Method for the production of a metallic workpiece, like an element of a vehicle wheel, and corresponding wheel

Title (de)

Verfahren zur Herstellung eines Werkstücks aus Metall, wie ein Teil eines Fahrzeugsrads, und entsprechendes Rad

Title (fr)

Procédé de fabrication d'une pièce métallique, telle qu'une partie de roue destinée au roulage d'un véhicule, et une telle roue

Publication

EP 1063033 A1 20001227 (FR)

Application

EP 00112143 A 20000606

Priority

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- FR 9907519 A 19990608

Abstract (en)

The component (7, 8, 9) is cast from a metallic material having a thixotropic structure and a semi-solid state. In a subsequent cold treatment stage, at least a part of the component is cold treated by impact with projectiles for plastic deformation. Preferably, after the casting stage and before the subsequent cold treatment stage, the formed component is subjected to structural hardening comprising quenching and tempering. Before structural hardening, the formed component is subjected to die-stamping. The metallic material is an alloy based on one of the following metals: aluminum, magnesium, titanium, iron, chromium, cobalt, nickel, copper, zinc, silver, tin, lead and antimony, preferably an aluminum alloy containing 6.5-7.5 weight % silicon and 0.5-0.6 weight % magnesium. Corundum particles of size 75-150 microns, glass microspheres, and steel shot of size 200-800 microns and are used in at least one operation of the cold treatment stage. Independent claims are given for: (a) fabrication of a metal component (9) for a vehicle wheel (9), the wheel (9) comprising a wheel disk (7) and a rim (8), so that the wheel comprises the fabricated metal component, and where the cold treatment stage involves subjecting the whole or at least a part of the face (7a) of the disc (7) and/or the rim (8) to impact with projectiles; (b) fabrication of a metal component (7 or 8) for a vehicle wheel (9), the component (7 or 8) comprising a wheel disk or a rim, so that the component comprises the fabricated metal component (7 or 8), and where the cold treatment stage involves subjecting the whole or at least a part of the face (7a) of the disc (7) and/or the rim (8) to impact with projectiles; and (c) a vehicle wheel (9) comprising a rim (8) on which is fixed a metallic disc (7) which is fabricated according to the above process.

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IPC 8 full level

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Citation (search report)

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- [A] EP 0905266 A1 19990331 - MAZDA MOTOR [JP]
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