

Title (en)

METHOD FOR MANUFACTURING MECHANICAL COMPONENTS MADE OF PARTICULARLY WEAR-RESISTANT AUSTEMPERED SPHEROIDAL CAST IRON

Title (de)

METHODE ZUR HERSTELLUNG MECHANISCHER KOMPONENTEN AUS BESONDERS VERSCHLEISSFESTEM, ZWISCHENSTUFENVERGÜTETEM SPHÄROGUSS

Title (fr)

MÉTHODE DE FABRICATION DE COMPOSANTS MÉCANIQUES EN FONTE SPÉROÏDALE BAINITIQUE PARTICULIÈREMENT RÉSISANTE À L'ABRASION

Publication

**EP 2582856 B1 20160406 (EN)**

Application

**EP 11725767 A 20110617**

Priority

- IT VR20100124 A 20100618
- EP 2011060166 W 20110617

Abstract (en)

[origin: WO2011157840A1] A method for manufacturing mechanical components made of spheroidal cast iron, characterized in that it comprises the following steps: - providing a casting of a mechanical cast iron component with a percentage of pearlitic structure greater than 70%, having a carbon content comprised between 2.5% and 4.0%, a silicon content comprised between 1.5% and 3.5%, a manganese content comprised between 0.6% and 1.2%, a molybdenum content comprised between 0% and 1%, and a chromium content comprised between 0% and 0.5%; - bringing the cast iron casting with a percentage of pearlitic structure greater than 70% to a temperature that is higher than the upper austenitization temperature (Ac3) for the time required to obtain a fully austenitic structure; - performing a thermal treatment for interrupted quenching in a salt bath, comprising a step of cooling the mechanical components in a salt bath at a cooling rate that is higher than the critical rate and an isothermal holding step at a temperature comprised between 250 °C and 320 °C for a time comprised between 10 minutes and 60 minutes in order to obtain a matrix comprising metastable unsaturated austenite in a percentage comprised between 40% and 90% of the total.

IPC 8 full level

**C21D 1/46** (2006.01); **C21D 5/00** (2006.01); **C22C 33/08** (2006.01); **C22C 37/00** (2006.01); **C22C 37/04** (2006.01); **C22C 38/08** (2006.01)

CPC (source: EP US)

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