

Title (en)

HEAT INSULATION PLUNGER SLEEVE FOR DIE CASTING MACHINE

Title (de)

WÄRMEISOLIERUNGSKOLBENHÜLSE FÜR DRUCKGUSSMASCHINE

Title (fr)

CYLINDRE DE PISTON THERMIQUEMENT ISOLANT POUR MACHINE A COULER SOUS PRESSION

Publication

**EP 1607154 A1 20051221 (EN)**

Application

**EP 03715558 A 20030327**

Priority

JP 0303895 W 20030327

Abstract (en)

The invention provides a plunger sleeve for use in die casting machines which is outstanding in heat insulating and heat-retaining properties and which is capable of suppressing the drop in the temperature of molten nonferrous metal to the greatest extent and maintaining a stabilized casting operation under pressure. The plunger sleeve comprises a first metal layer made of a metal having high heat resistance and forming the inner periphery of the sleeve, a second metal layer providing the outer periphery of the sleeve, and a ceramic layer formed between the first metal layer and the second metal layer. The ceramic layer comprises a ceramic powder and/or a ceramic fiber consolidated to at least 50% to not greater than 90% in relative density. <IMAGE>

IPC 1-7

**B22D 17/20**

IPC 8 full level

**B22D 17/20** (2006.01)

CPC (source: EP US)

**B22D 17/2023** (2013.01 - EP US)

Citation (search report)

See references of WO 2004087351A1

Cited by

CN100381231C; FR2949694A1; US9962761B2; WO2011030025A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1607154 A1 20051221**; AU 2003220875 A1 20041025; CN 1758971 A 20060412; JP WO2004087351 A1 20060629; US 2006213634 A1 20060928; WO 2004087351 A1 20041014

DOCDB simple family (application)

**EP 03715558 A 20030327**; AU 2003220875 A 20030327; CN 03826231 A 20030327; JP 0303895 W 20030327; JP 2004570124 A 20030327; US 54962805 A 20050920