

Title (en)

MULTI-PART COOLED PISTON FOR AN INTERNAL COMBUSTION ENGINE AND METHOD FOR PRODUCING THE SAME

Title (de)

MEHRTEILIGEN GEKÜHLTEN KOLBEN FÜR EINEN VERBRENNUNGSMOTOR UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

PISTON REFROIDI COMPOSE DE PLUSIEURS PARTIES POUR MOTEUR A COMBUSTION INTERNE ET PROCEDE DE FABRICATION ASSOCIE

Publication

EP 1561023 B1 20110525 (DE)

Application

EP 03769203 A 20030919

Priority

- DE 0303117 W 20030919
- DE 10244513 A 20020925

Abstract (en)

[origin: US6691666B1] In a multipart cooled piston (20) for a combustion engine with a piston upper part (1) of steel comprising a combustion bowl (3) and a ring wall (4) with ring belt (11), and with a piston lower part (2) comprising a piston skirt (9), pin bosses (12) for receiving the piston pin connecting the piston (20) to the connecting rod, and pin boss supports (6) connected to the piston skirt (9), and in a method for manufacture of such a piston (20), inexpensive manufacture and good form stability are to be achieved in that a cooling channel (7) formed inside the piston upper part (1) has forged supporting ribs (8) in its area extending to the combustion bowl (3), which each form sections of an all-round ring rib (5) with a connection surface radially to the longitudinal piston axis (K), in that the piston lower part (2) has an annular and all-round carrier rib (10) with a connection surface connected to the pin boss supports (6), and in that the piston upper part (1) and the piston lower part (2) are non-detachably connected by means of the connection surfaces of the ring rib (5) and the carrier rib (10).

IPC 8 full level

F02F 3/00 (2006.01); **F02F 3/22** (2006.01)

CPC (source: EP KR US)

F02F 3/00 (2013.01 - KR); **F02F 3/003** (2013.01 - EP US); **F02F 3/0076** (2013.01 - EP US); **F02F 3/22** (2013.01 - EP KR US)

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

US 6691666 B1 20040217; AU 2003277806 A1 20040419; AU 2003277806 A8 20040419; CN 100347432 C 20071107; CN 1685140 A 20051019; DE 10244513 A1 20040408; DE 10393902 D2 20050901; EP 1561023 A1 20050810; EP 1561023 B1 20110525; HK 1078918 A1 20060324; JP 2006500507 A 20060105; JP 4411212 B2 20100210; KR 20050065560 A 20050629; WO 2004029441 A1 20040408

DOCDB simple family (application)

US 34927303 A 20030122; AU 2003277806 A 20030919; CN 03822841 A 20030919; DE 0303117 W 20030919; DE 10244513 A 20020925; DE 10393902 T 20030919; EP 03769203 A 20030919; HK 05110761 A 20051125; JP 2004538731 A 20030919; KR 20057005302 A 20050325