

Title (en)

Manifold for an internal combustion engine and method for manufacturing such a manifold

Title (de)

Abgaskrümmer für einen Verbrennungsmotor und Verfahren zur Herstellung eines solchen Abgaskrümmer

Title (fr)

Collecteur d'échappement pour un moteur à combustion interne et et méthode de fabrication d'un tel collecteur d'échappement

Publication

**EP 1365121 B2 20101103 (DE)**

Application

**EP 03004679 A 20030303**

Priority

DE 10218103 A 20020423

Abstract (en)

[origin: EP1365121A1] The manifold has one or more exhaust pipes (1,2,3) enclosed in an outer shell (7), and a flange (4) to connect it to the engine. The connection between exhaust pipes and flange, and between pipes and outer shell and/or shell and flange, is formed as a soldered joint. A press fit and/or one or more tack weld points are provided between the parts to be connected. All solder points are positioned on a side of the exhaust pipes away from the exhaust flow, behind a shoulder (11) or in a groove. The outer shell consists of two half shells (8,9) soldered together. The solder is copper filler metal, copper-nickel solder, or a high temperature nickel solder.

IPC 8 full level

**F01N 13/10** (2010.01)

CPC (source: EP)

**F01N 13/10** (2013.01); **F01N 13/102** (2013.01); **F01N 2450/22** (2013.01)

Citation (opposition)

Opponent :

- US 4873823 A 19891017 - CURTHS GARY [US]
- JP H0988581 A 19970331 - AISIN TAKAOKA LTD
- DE 19916943 A1 20000504 - VUKIC ROLAND [US]
- GB 873135 A 19610719 - MARC MARIE PAUL RENE DE LA FOU, et al
- US 5929262 A 19990727 - KIM HYUN K [US], et al
- DE 19819946 A1 19991111 - BOYSEN FRIEDRICH GMBH CO KG [DE]
- DE 3788681 T2 19940728 - SHOWA ALUMINUM CORP [JP]
- DE 29518189 U1 19960118 - LOUP RUDOLF [DE]
- DE 10031903 C1 20011122 - DAIMLER CHRYSLER AG [DE]

Cited by

DE102008047076A1; DE102014103809A1; CN103306796A; EP2025441A1; US10352484B2; US7975473B2; EP2921670A2; US9677453B2

Designated contracting state (EPC)

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DOCDB simple family (publication)

**EP 1365121 A1 20031126; EP 1365121 B1 20050803; EP 1365121 B2 20101103**; AT E301240 T1 20050815; DE 10218103 A1 20031120; DE 50300895 D1 20050908; ES 2243819 T3 20051201

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