

Title (en)

STRUCTURE WITH EMBEDDED PIPE AND MANUFACTURING METHOD THEREFOR

Title (de)

STRUKTUR MIT EINGEBETTETEM ROHR UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

STRUCTURE DANS LAQUELLE EST INTÉGRÉ UN TUYAU, ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2871262 A1 20150513 (EN)

Application

EP 13813481 A 20130701

Priority

- JP 2012149972 A 20120703
- JP 2013068077 W 20130701

Abstract (en)

To provide a pipe embedded structure that improves adhesive properties between a pipe that forms a passage and a metal member, and a method of manufacturing the pipe embedded structure. A pipe embedded structure 1 includes a pipe 10, a base material 11, and a deposited layer 12. The pipe 10 is made of a metal or an alloy, and has a periphery that forms a circular shape in a transverse section. The base material 11 is made of a metal or an alloy, in which a recessed portion 11a is formed. The recessed portion 11a allows the pipe 10 to be fitted therein, and has an inner wall on which a part of the periphery abuts, and a ratio h/R of a protruding amount h by which the pipe 10 protrudes from the upper surface 11b and a curvature R of the periphery is not smaller than 0.3 and not greater than 0.7. The deposited layer 12 is formed such that powder formed of a metal or an alloy is accelerated together with a gas in a state where the pipe 10 is fitted into the recessed portion 11a, and the powder is sprayed and deposited on surfaces of the pipe 10 and the base material 11 while remaining in a solid phase state.

IPC 8 full level

C23C 24/04 (2006.01); **F16L 1/00** (2006.01)

CPC (source: CN EP KR US)

C23C 24/04 (2013.01 - CN EP KR US); **C23C 24/087** (2013.01 - KR); **F28F 1/00** (2013.01 - CN EP US); **F28F 1/20** (2013.01 - CN); **F28F 3/12** (2013.01 - CN US); **F28F 7/02** (2013.01 - CN); **F28D 2021/0029** (2013.01 - CN EP US); **F28F 1/20** (2013.01 - EP US); **F28F 2255/146** (2013.01 - CN EP US); **F28F 2275/02** (2013.01 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2871262 A1 20150513; **EP 2871262 A4 20160323**; CN 104395501 A 20150304; JP 2014012865 A 20140123; JP 5386615 B1 20140115; KR 20150015533 A 20150210; US 2015198387 A1 20150716; WO 2014007226 A1 20140109

DOCDB simple family (application)

EP 13813481 A 20130701; CN 201380033889 A 20130701; JP 2012149972 A 20120703; JP 2013068077 W 20130701; KR 20147036856 A 20130701; US 201314409725 A 20130701