

Title (en)
METHOD FOR MANUFACTURING CLOSED-END CYLINDRICAL BODY

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES ZYLINDRISCHEN KÖRPERS MIT GESCHLOSSENEM ENDE

Title (fr)
PROCÉDÉ POUR LA FABRICATION D'UN CORPS CYLINDRIQUE POURVU D'UNE EXTRÉMITÉ FERMÉE

Publication
EP 4129515 A4 20240410 (EN)

Application
EP 21775884 A 20210309

Priority
• JP 2020058148 A 20200327
• JP 2021009204 W 20210309

Abstract (en)
[origin: EP4129515A1] There is provided a method for manufacturing a bottomed cylindrical body, the method being capable of achieving both a conventional hard can manufacturing process such as drawing and ironing and reduction in the cost and the environmental load in a degreasing step. The method for manufacturing a bottomed cylindrical body includes a lubricant application step of applying liquid (lubricant) having a viscosity of lower than 200 mPa·s to a surface of a metal plate, a drawing step of drawing the metal plate to which the lubricant has been applied, with use of a forming member having a processing surface having a hardness of Hv 1000 to 12000, an ironing step of ironing, with use of another forming member having a processing surface having a hardness of Hv 1500 to 12000, a workpiece with a coolant interposed between the workpiece and the another forming member, to form a bottomed cylindrical body, and a degreasing step of degreasing oil on a surface of the bottomed cylindrical body with use of a cleaning agent. The concentration of oil contained in the coolant is lower than 4.0 percent by volume. The cleaning agent contains any one of sulfuric acid, hydrofluoric acid, potassium carbonate, sodium hydroxide, and potassium hydroxide. The temperature of the cleaning agent in the degreasing step is lower than 75°C.

IPC 8 full level
B21D 22/28 (2006.01); **B21D 22/30** (2006.01); **B21D 24/16** (2006.01); **B21D 35/00** (2006.01); **B21D 37/18** (2006.01); **B21D 51/26** (2006.01); **C23G 1/12** (2006.01); **C23G 1/22** (2006.01)

CPC (source: EP US)
B21D 22/28 (2013.01 - US); **B21D 22/286** (2013.01 - EP); **B21D 22/30** (2013.01 - US); **B21D 24/16** (2013.01 - EP US); **B21D 35/005** (2013.01 - EP); **B21D 35/007** (2013.01 - EP); **B21D 37/18** (2013.01 - EP); **B21D 51/26** (2013.01 - US); **B21D 51/2669** (2013.01 - EP); **C23G 1/125** (2013.01 - EP US); **C23G 1/22** (2013.01 - EP); **C23G 1/36** (2013.01 - EP)

Citation (search report)
• [I] WO 2009123295 A1 20091008 - JFE STEEL CORP [JP], et al
• [I] US 3774426 A 19731127 - JEZIK J
• [A] JP 4418206 B2 20100217
• [A] WO 0056845 A1 20000928 - YOSHITOMI FINE CHEMICALS LTD [JP], et al
• [A] JP H0774458 B2 19950809
• See also references of WO 2021193003A1

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

DOCDB simple family (publication)
EP 4129515 A1 20230208; **EP 4129515 A4 20240410**; BR 112022018962 A2 20221116; CN 115335160 A 20221111; JP 2021154353 A 20211007; TW 202140163 A 20211101; US 2023119966 A1 20230420; WO 2021193003 A1 20210930

DOCDB simple family (application)
EP 21775884 A 20210309; BR 112022018962 A 20210309; CN 202180024382 A 20210309; JP 2020058148 A 20200327; JP 2021009204 W 20210309; TW 110109352 A 20210316; US 202117907453 A 20210309