

Title (en)
SWAGING METHOD AND SWAGING APPARATUS

Title (de)
TIEFZIEHVERFAHREN UND TIEFZIEHVORRICHTUNG

Title (fr)
PROCEDE DE MATRIÇAGE ET APPAREIL DE MATRIÇAGE

Publication
EP 1964624 A1 20080903 (EN)

Application
EP 06832569 A 20061114

Priority
• JP 2006322607 W 20061114
• JP 2005330528 A 20051115

Abstract (en)
An upsetting method capable of reducing a molding pressure is provided. The upsetting method uses a receiving die 11 and a guide 20 having an insertion hole 23 for inserting and holding a diameter expansion scheduled portion 2 of the raw material 1 in a buckling prevented state and in an axially slidable manner, the insertion hole being penetrated from the basal end to the tip end of the guide 20. The method includes a step of receiving the diameter expansion scheduled portion 2 of the raw material 1 by the receiving portion 13 of the receiving die 11 and disposing the diameter expansion scheduled portion 2 of the raw material 1 in the insertion hole 23 of the guide 20, and a step of expanding a diameter of the diameter expansion scheduled portion 2 of the raw material 1 exposed between the tip end face 21a of the guide 20 and the receiving portion 13 of the receiving die 11 by moving the guide 20 in a direction opposite to a pressurizing direction of the diameter expansion scheduled portion 2 of the raw material 1 while pressurizing the diameter expansionscheduledportion2 of the rawmaterial 1 withapressurizing means 30 in an axial direction, after the step of disposing the diameter expansion scheduled portion 2 of the raw material 1. At the diameter expanding step, the diameter expansion is performed in a state in which a portion 2a of the diameter expansion scheduled portion 2 of the raw material 1 corresponding to a tip end portion 21 of the guide 20 is locally heated by the heating means 40.

IPC 8 full level
B21J 5/08 (2006.01); **B21J 1/06** (2006.01)

CPC (source: EP KR US)
B21J 1/06 (2013.01 - EP KR US); **B21J 5/08** (2013.01 - EP KR US); **B21J 9/08** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1964624 A1 20080903; **EP 1964624 A4 20100804**; JP 2007136472 A 20070607; KR 20080068704 A 20080723;
US 2009223271 A1 20090910; WO 2007058155 A1 20070524

DOCDB simple family (application)
EP 06832569 A 20061114; JP 2005330528 A 20051115; JP 2006322607 W 20061114; KR 20087011455 A 20080514; US 9386606 A 20061114