

Title (en)
DESIGNING METHOD FOR PRESS-MOLDED ARTICLE, PRESS-MOLDING DIE, PRESS-MOLDED ARTICLE, AND PRODUCTION METHOD FOR PRESS-MOLDED ARTICLE

Title (de)
ENTWURFSVERFAHREN FÜR EINEN PRESSFORMGEGENSTAND, PRESSFORMWERKZEUG, PRESSFORMGEGENSTAND UND HERSTELLUNGSVERFAHREN FÜR EINEN PRESSFORMGEGENSTAND

Title (fr)
PROCÉDÉ DE CONCEPTION POUR ARTICLE MOULÉ À LA PRESSE, MATRICE DE MOULAGE À LA PRESSE, ARTICLE MOULÉ À LA PRESSE ET PROCÉDÉ DE PRODUCTION D'ARTICLE MOULÉ À LA PRESSE

Publication
EP 3778053 A4 20210519 (EN)

Application
EP 19778251 A 20190225

Priority
• JP 2018062784 A 20180328
• JP 2019006934 W 20190225

Abstract (en)
[origin: EP3778053A1] An object is to suppress falling or rising of an end of a press-formed product and twisting of the press-formed product due to springback so as to suppress a shape defect of the press-formed product due to the springback, and, in designing a shape of a press-formed product produced by press-forming a sheet material, a curvature radius (R1) of a concave curved portion and a curvature radius (R2) of a convex curved portion of a concave and convex curved shape of an additional shape arranged on the press-formed product where the concave curved portion and the convex curved portion are continuous are set to be the same.

IPC 8 full level
B21D 22/00 (2006.01); **B21D 17/02** (2006.01); **B21D 22/02** (2006.01); **B21D 22/04** (2006.01); **B21D 22/20** (2006.01); **B21D 22/26** (2006.01); **B21D 24/00** (2006.01)

CPC (source: EP KR US)
B21D 17/02 (2013.01 - EP); **B21D 22/02** (2013.01 - EP US); **B21D 22/04** (2013.01 - EP); **B21D 22/20** (2013.01 - EP); **B21D 22/26** (2013.01 - KR); **B21D 24/00** (2013.01 - KR); **B21D 53/88** (2013.01 - KR)

Citation (search report)
• [X] EP 3199256 A1 20170802 - KOBE STEEL LTD [JP]
• [X] EP 3296033 A1 20180321 - NIPPON STEEL & SUMITOMO METAL CORP [JP]
• [I] CN 105855342 A 20160817 - SHENGSHI CONTAINER MAN (SHANGHAI) CO LTD
• [I] JP 2013078987 A 20130502 - KINKI SHARYO KK
• [I] EP 2058062 A1 20090513 - NIPPON STEEL CORP [JP]
• See also references of WO 2019187863A1

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 3778053 A1 20210217; EP 3778053 A4 20210519; CN 111801175 A 20201020; CN 111801175 B 20230203; JP 6738055 B2 20200812; JP WO2019187863 A1 20200528; KR 102370794 B1 20220304; KR 20200112989 A 20201005; MX 2020010016 A 20201014; US 2021023601 A1 20210128; WO 2019187863 A1 20191003

DOCDB simple family (application)
EP 19778251 A 20190225; CN 201980016730 A 20190225; JP 2019006934 W 20190225; JP 2019562013 A 20190225; KR 20207025600 A 20190225; MX 2020010016 A 20190225; US 201917041845 A 20190225