

Title (en)  
CONTINUOUS CASTING METHOD

Title (de)  
STRANGGIESSVERFAHREN

Title (fr)  
PROCÉDÉ DE COULÉE CONTINUE

Publication  
**EP 4170054 A4 20230621 (EN)**

Application  
**EP 21824759 A 20210601**

Priority  
• JP 2020105178 A 20200618  
• JP 2021020838 W 20210601

Abstract (en)  
[origin: EP4170054A1] A continuous casting method that manufactures a slab that is of high quality, particularly free of corner cracks, by reliably mitigating surface cracks of a cast slab is proposed. In this continuous casting method for steel, a mold having a chamfered shape meeting  $0.09 \leq C/L \leq 0.20$  (where C is an amount (mm) of chamfering at a corner, and L is a length (mm) of a short side of a cast slab) at each corner portion of the mold is used, and an average flow rate of secondary cooling water sprayed onto corner portions of the cast slab in a section from immediately below the mold to lower straightening part is set to 20 to 60 L/(min·m<sup>2</sup>). In particular, it is preferable that the steel has an element composition including, in mass%, C: 0.05 to 0.25% and Mn: 1.0 to 4.0%, and further optionally one or more elements selected from Nb: 0.01 to 0.1%, V: 0.01 to 0.1%, and Mo: 0.01 to 0.1%.

IPC 8 full level  
**B22D 11/04** (2006.01); **B22D 11/22** (2006.01); **C22C 38/04** (2006.01); **C22C 38/12** (2006.01)

CPC (source: EP KR)  
**B22D 11/04** (2013.01 - KR); **B22D 11/0406** (2013.01 - EP); **B22D 11/124** (2013.01 - KR); **B22D 11/225** (2013.01 - EP);  
**C22C 38/04** (2013.01 - EP KR); **C22C 38/12** (2013.01 - EP KR)

Citation (search report)  
• [I] JP 2007331000 A 20071227 - KOBE STEEL LTD  
• [I] EP 2799162 A1 20141105 - POSCO [KR]  
• [I] JP 2020066018 A 20200430 - NIPPON STEEL CORP  
• See references of WO 2021256243A1

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

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4170054 A1 20230426**; **EP 4170054 A4 20230621**; CN 115697587 A 20230203; JP 6954514 B1 20211027; JP WO2021256243 A1 20211223; KR 20230006903 A 20230111

DOCDB simple family (application)  
**EP 21824759 A 20210601**; CN 202180040196 A 20210601; JP 2021545426 A 20210601; KR 20227042643 A 20210601