

Title (en)
Cooling plate

Title (de)
Kühlplatte

Title (fr)
Plaque de refroidissement

Publication
EP 1619461 A1 20060125 (DE)

Application
EP 05011168 A 20050524

Priority
DE 102004035963 A 20040723

Abstract (en)
Copper or copper alloy cooling plate for a shaft furnace in which several holes (6) for reception of the cooling agent are bored with connecting tubes (e.g. 9) welded onto the plate cold side (5) connected to a cooling agent inlet (12) and an outlet. The connecting tubes have flanges (15) at the plate side ends with the flanges located in recesses (17) on the plate cold side (5).

IPC 8 full level
F27D 1/12 (2006.01); **B22D 11/00** (2006.01); **C21B 7/10** (2006.01); **F27D 9/00** (2006.01)

CPC (source: EP KR US)
C21B 7/10 (2013.01 - EP US); **E02D 17/205** (2013.01 - KR); **F27D 1/12** (2013.01 - EP US); **F27D 9/00** (2013.01 - EP US);
E02D 2200/165 (2013.01 - KR); **E02D 2600/20** (2013.01 - KR); **F27D 2009/0048** (2013.01 - EP US); **F27D 2009/0062** (2013.01 - EP US)

Citation (search report)
• [X] EP 1391521 A1 20040225 - VOEST ALPINE IND ANLAGEN [AT]
• [A] FR 2775695 A1 19990910 - FORCAST INT [FR]

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

DOCDB simple family (publication)
EP 1619461 A1 20060125; EP 1619461 B1 20100113; AR 048160 A1 20060405; AT E455283 T1 20100115; BR PI0501008 A 20060307; BR PI0501008 B1 20140408; CN 100565064 C 20091202; CN 1724961 A 20060125; DE 102004035963 A1 20060216; DE 502005008857 D1 20100304; ES 2337906 T3 20100430; JP 2006037223 A 20060209; JP 4818643 B2 20111116; KR 20060044889 A 20060516; KR 20110139180 A 20111228; PL 1619461 T3 20100630; PT 1619461 E 20100301; RU 2005111505 A 20061027; RU 2353875 C2 20090427; TW 200604478 A 20060201; TW I338116 B 20110301; US 2006017202 A1 20060126; US 7204953 B2 20070417

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