

Title (en)  
IMMERSION NOZZLE FOR CONTINUOUS CASTING OF STEEL

Title (de)  
TAUCHDÜSE FÜR DAS STRANGGIESSEN

Title (fr)  
TUYERE D'IMMERSION POUR COULEE EN CONTINU D'ACIER

Publication  
**EP 1053808 A4 20011219 (EN)**

Application  
**EP 99900164 A 19990112**

Priority  

- JP 9900058 W 19990112
- JP 614398 A 19980114
- JP 13223998 A 19980514

Abstract (en)  
[origin: WO9936213A1] An immersion nozzle for continuous casting of steel comprising, at the entire portion thereof, or at least a part of an inner hole portion thereof in contact with a molten steel, a spinel-periclase-C type refractory, particularly a spinel-periclase-graphite type refractory consisting of 50 to 95 wt% of spinel, 0 to 20 wt% of periclase, 5 to 30 wt% of graphite and not greater than 3 wt% of unavoidable impurities. The inner hole portion (1) and a portion (2) around its discharge port can be made of the spinel-periclase-graphite type refractory, a nozzle main body (10) can be made of an AG type refractory and a powder line portion (3) can be made of a ZrO<sub>2</sub>-C type refractory.

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**B22D 11/10**; **B22D 41/54**

IPC 8 full level  
**B22D 41/54** (2006.01)

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Citation (search report)  

- [X] DATABASE WPI Section Ch Week 198645, Derwent World Patents Index; Class L02, AN 1986-294412, XP002178497
- [A] DATABASE WPI Section Ch Week 197627, Derwent World Patents Index; Class L02, AN 1976-51331X, XP002178498
- See references of WO 9936213A1

Cited by  
US7575135B2

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