

Title (en)

PYROMETALLURGICAL REACTOR COOLING ELEMENT AND ITS MANUFACTURE

Title (de)

PYROMETALLURGISCHES REAKTORKÜHLELEMENT UND DESSEN HERSTELLUNG

Title (fr)

ELEMENT DE REFROIDISSEMENT DE REACTEUR PYROMETALLURGIQUE ET SA FABRICATION

Publication

EP 1153254 A1 20011114 (EN)

Application

EP 99961080 A 19991214

Priority

- FI 9901029 W 19991214
- FI 982771 A 19981222

Abstract (en)

[origin: WO0037870A1] This invention relates to a method of manufacturing by continuous casting a pyrometallurgical reactor cooling element with flow channels. In order to enhance heat transfer capability, the wall surface area of the flow channel, which is traditionally round or oval in cross-section, is increased without increasing the diameter or length of the flow channel. The invention also relates to the element fabricated by this method.

IPC 1-7

F27D 1/12; F28F 1/40; B22D 11/00

IPC 8 full level

C21B 7/10 (2006.01); **F27D 1/12** (2006.01); **F28F 1/40** (2006.01)

CPC (source: EP KR)

B22D 11/051 (2013.01 - KR); **F28F 1/40** (2013.01 - EP)

Citation (search report)

See references of WO 0037870A1

Cited by

US9869515B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 0037870 A1 20000629; AR 021961 A1 20020904; AT E274683 T1 20040915; AU 1781800 A 20000712; AU 768282 B2 20031204; BR 9916469 A 20010925; CA 2356138 A1 20000629; CA 2356138 C 20070814; CN 100449242 C 20090107; CN 1331791 A 20020116; DE 69919745 D1 20040930; DE 69919745 T2 20050120; EA 002584 B1 20020627; EA 200100690 A1 20011224; EP 1153254 A1 20011114; EP 1153254 B1 20040825; FI 108751 B 20020315; FI 982771 A0 19981222; FI 982771 A 20000623; ID 24579 A 20000727; JP 2002533649 A 20021008; KR 100640706 B1 20061031; KR 20010099863 A 20011109; PE 20001446 A1 20001228; PL 193460 B1 20070228; PL 349155 A1 20020701; PT 1153254 E 20041130; RS 49726 B 20080404; YU 44801 A 20031231; ZA 200104860 B 20011214

DOCDB simple family (application)

FI 9901029 W 19991214; AR P990106633 A 19991221; AT 99961080 T 19991214; AU 1781800 A 19991214; BR 9916469 A 19991214; CA 2356138 A 19991214; CN 99814955 A 19991214; DE 69919745 T 19991214; EA 200100690 A 19991214; EP 99961080 A 19991214; FI 982771 A 19981222; ID 991166 D 19981222; JP 2000589886 A 19991214; KR 20017007839 A 20010621; PE 00130899 A 19991222; PL 34915599 A 19991214; PT 99961080 T 19991214; YU 44801 A 19991214; ZA 200104860 A 20010614