Title (en)

IMMERSED POUR TUBE HAVING AN EROSION -RESISTANT SLEEVE AND METHOD OF MANUFACTURING THE SAME

Title (de)

TAUCHGIESSROHR MIT EROSIONSBESTÄNDIGER HÜLSE UND DAZUGEHÖRIGES HERSTELLUNGSVERFAHREN

Title (fr)

TUBE DE COULEE IMMERGE PRESENTANT UN MANCHON RESISTANT A L'EROSION ET SON PROCEDE DE FABRICATION

Publication

EP 1144145 B1 20040102 (EN)

Application

EP 98953475 A 19981014

Priority

US 9821646 W 19981014

Abstract (en)

[origin: WO0021702A1] An article and processes are described for manufacturing a metallurgical pour tube for use in the continuous casting of steel. The article has an erosion-resistant sleeve within a body of the pour tube. An accommodation region allowing for thermal expansion of the sleeve is disposed between the sleeve and the body. The region comprises a gap or a compressible material. As the pour tube is brought to casting temperatures, the region permits the sleeve to expand without fracturing the body of the pour tube. The article may be formed by several processes. A first process describes placing a pre-formed sleeve coated with a spacer material in a body mix and firing the article to form an accommodation region. A second process comprises injecting an erosion-resistant refractory mix into a cavity within the body and firing the article. A third process secures a sleeve within an accommodation region formed by mechanically securing a third component to the body of the pour tube. A fourth process describes using a guide means to segregate a body mix, an erosion-resistant material, and a spacer material, whereby firing produces an erosion-resistant sleeve and an accommodation region within a pour tube body.

IPC 1-7

B22D 41/50; B22D 41/52

IPC 8 full level

B22D 41/50 (2006.01); **B22D 41/52** (2006.01)

CPC (source: EP)

B22D 41/505 (2013.01); **B22D 41/52** (2013.01)

Designated contracting state (EPC)

AT BE CH DE ES FI FR GB IT LI NL SE

DOCDB simple family (publication)

WO 0021702 A1 20000420; AT E257052 T1 20040115; AU 1084099 A 20000501; CA 2347254 A1 20000420; DE 69820913 D1 20040205; DE 69820913 T2 20041028; EP 1144145 A1 20011017; EP 1144145 B1 20040102; ES 2210838 T3 20040701; TW 418136 B 20010111; ZA 996440 B 20000412

DOCDB simple family (application)

US 9821646 W 19981014; AT 98953475 T 19981014; AU 1084099 A 19981014; CA 2347254 A 19981014; DE 69820913 T 19981014; EP 98953475 A 19981014; ES 98953475 T 19981014; TW 88117055 A 19991004; ZA 996440 A 19991012