

Title (en)
HOT-ROLLING PROCESS AND HOT-ROLLING MILL FOR METAL STRIP

Title (de)
WARMWALZVERFAHREN UND WARMWALZWERK FÜR METALLBAND

Title (fr)
PROCEDE DE LAMINAGE A CHAUD ET LAMINOIR POUR FEUILLARD METALLIQUE

Publication
EP 0608286 B1 19951220 (DE)

Application
EP 92921087 A 19921008

Priority
• DE 4134599 A 19911018
• EP 9202314 W 19921008

Abstract (en)
[origin: US5694799A] PCT No. PCT/EP92/02314 Sec. 371 Date May 10, 1994 Sec. 102(e) Date May 10, 1994 PCT Filed Oct. 8, 1992 PCT Pub. No. WO93/07974 PCT Pub. Date Apr. 29, 1993The invention is directed to a hot-rolling process and a hot-rolling mill for metal strips (5) having one or more roll stands with work rolls (1, 2). In order to prevent surface defects on the work rolls (1, 2), a coolant liquid is sprayed on the entry side in a narrow region extending immediately in front of the roll gap exclusively by a series of flat jet nozzles in such a way that their core jets primarily strike the surface of the work rolls or are directed into the roll gap for direct cooling and in that the entering metal strip is acted upon at the same time by the same coolant liquid for protecting the surfaces of the rolls from the radiated heat of the metal strip. The spraying of the coolant liquid is regulated in such a way that the metal strip is cooled only in a very narrow outer zone. In so doing, the temperature at the surface of the work rolls (1, 2) is adjusted in such a way that it lies below the boiling point of the coolant liquid at least immediately in front of the roll gap.

IPC 1-7
B21B 27/10; **B21B 45/02**

IPC 8 full level
B21B 27/10 (2006.01); **B21B 45/02** (2006.01)

CPC (source: EP US)
B21B 27/10 (2013.01 - EP US); **B21B 45/0218** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE ES FR GB IT LU NL SE

DOCDB simple family (publication)
US 5694799 A 19971209; AT E131754 T1 19960115; CA 2121341 A1 19930429; CA 2121341 C 20040427; CN 1039102 C 19980715; CN 1072620 A 19930602; DE 4134599 C1 19930225; EP 0608286 A1 19940803; EP 0608286 B1 19951220; ES 2082510 T3 19960316; KR 100187334 B1 19990401; MX 9205952 A 19930601; TW 207968 B 19930621; WO 9307974 A1 19930429

DOCDB simple family (application)
US 21184694 A 19940510; AT 92921087 T 19921008; CA 2121341 A 19921008; CN 92112841 A 19921017; DE 4134599 A 19911018; EP 9202314 W 19921008; EP 92921087 A 19921008; ES 92921087 T 19921008; KR 19940701250 A 19940416; MX 9205952 A 19921016; TW 81108706 A 19921102