

Title (en)  
Method of rolling steel shapes

Title (de)  
Verfahren zum Walzen von Stahlprofilen

Title (fr)  
Procédé pour laminier des profilés en acier

Publication  
**EP 0881004 A3 20001227 (DE)**

Application  
**EP 98109418 A 19980525**

Priority  
DE 19722732 A 19970530

Abstract (en)  
[origin: EP0881004A2] The method concerns rolling of steel sections in beam rolling mills with alternating X and H rolling and controlled cooling of the material during rolling. During preliminary rolling in an X roll stand, cooling water channels (8a, 8b) are formed in zones where the web and flange of the beam join one another.

IPC 1-7  
**B21B 1/08; B21B 45/02**

IPC 8 full level  
**B21B 1/088** (2006.01); **B21B 1/08** (2006.01); **B21B 13/12** (2006.01); **B21B 45/02** (2006.01); **B21B 1/14** (2006.01); **B21B 27/10** (2006.01)

CPC (source: EP KR US)  
**B21B 1/088** (2013.01 - EP KR US); **B21B 1/10** (2013.01 - KR); **B21B 45/0215** (2013.01 - EP US); **B21B 1/14** (2013.01 - EP US); **B21B 2013/003** (2013.01 - EP US); **B21B 2027/103** (2013.01 - EP US); **B21B 2045/0221** (2013.01 - KR)

Citation (search report)

- [XA] US 1143735 A 19150622 - SLICK EDWIN E [US]
- [A] EP 0760263 A1 19970305 - SUMITOMO METAL IND [JP]
- [A] EP 0734792 A2 19961002 - MANNESMANN AG [DE]
- [DA] EP 0256409 A2 19880224 - SCHLOEMANN SIEMAG AG [DE]
- [XA] PATENT ABSTRACTS OF JAPAN vol. 007, no. 240 (M - 251) 25 October 1983 (1983-10-25)
- [A] PANUNZI C ET AL: "QST-BEHANDLUNG VON SCHWEREN TRAEGERPROFILEN", STAHL UND EISEN,DE,VERLAG STAHL EISEN GMBH. DUSSELDORF, vol. 110, no. 6, 14 June 1990 (1990-06-14), pages 39 - 43,194, XP000140619, ISSN: 0340-4803
- [DA] FRANTZ A ET AL: "VERBESSERTE THERMOMRCHANISCHE WALZPROZESSE FUR SCHWERE TRAGERPROFILE", STAHL UND EISEN,DE,VERLAG STAHL EISEN GMBH. DUSSELDORF, no. 9/10, 16 May 1989 (1989-05-16), pages 497 - 502,302, XP000068362, ISSN: 0340-4803
- [A] PATENT ABSTRACTS OF JAPAN vol. 014, no. 428 (M - 1025) 14 September 1990 (1990-09-14)
- [A] PATENT ABSTRACTS OF JAPAN vol. 016, no. 132 (M - 1229) 3 April 1992 (1992-04-03)
- [A] PATENT ABSTRACTS OF JAPAN vol. 005, no. 189 (M - 099) 28 November 1981 (1981-11-28)
- [A] DATABASE WPI Section Ch Week 198851, Derwent World Patents Index; Class M21, AN 1988-366693 [51], XP002151677

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)  
**EP 0881004 A2 19981202; EP 0881004 A3 20001227**; DE 19722732 A1 19981203; JP H1177104 A 19990323; KR 19980087507 A 19981205; US 5966977 A 19991019

DOCDB simple family (application)  
**EP 98109418 A 19980525**; DE 19722732 A 19970530; JP 14998698 A 19980529; KR 19980019764 A 19980529; US 8288098 A 19980521