

Title (en)

Process and installation for remelting of metals to a strand

Title (de)

Verfahren zum Umschmelzen von Metallen zu einem Strang sowie Vorrichtung dafür

Title (fr)

Procédé et dispositif pour la refusion de métaux sous forme de barres

Publication

EP 0786531 B2 20060802 (DE)

Application

EP 96120752 A 19961221

Priority

AT 15196 A 19960129

Abstract (en)

[origin: EP0786531A1] The method concerns melting of metals (in particular, steels and alloys based on nickel and cobalt) to produce a continuous bar, by gradual melting of at least one consumable electrode (16) in an electrically conductive slag bath (18) held in a short casting die (20). The electrode melting rate in kg/hr is set to a value equal to 1.5 to 30 times the bar diameter in mm, with the ratio of the cross-sectional area of one or more electrodes to the cross-sectional area of the bar chosen greater than 0.5. The apparatus used for implementation of the method includes at least one consumable electrode (16) and a continuous casting die (20) joined to a current source (10). The die is provided with an exit section determining the bar cross-section, and a broadened upper section (22) for a slag bath (18). At least one current-carrying element (42) is built into the die wall (28).

IPC 8 full level

B22D 11/04 (2006.01); **B22D 11/041** (2006.01); **B22D 23/10** (2006.01); **C22B 9/18** (2006.01); **C22B 9/187** (2006.01)

CPC (source: EP US)

B22D 23/10 (2013.01 - EP US); **C22B 9/18** (2013.01 - EP US)

Citation (opposition)

Opponent :

- DE 3734339 A1 19880915 - INTECO INT TECHN BERATUNG [AT]
- DE 2632863 B1 19770929 - INST ELEKTROSWARKI PATONA
- DE 2018065 A1 19710225 - INST ELEKTROSWARKI PATONA
- DE 2340525 A1 19750220 - LEYBOLD HERACUS GMBH & CO KG
- DE 2942485 A1 19810430 - LEYBOLD HERAEUS GMBH & CO KG [DE]
- DE 3230784 A1 19830317 - CABOT CORP [US]
- US 5300781 A 19940405 - DIMARTINO JOHN M [US]
- DE 3721945 A1 19880519 - INTECO INT TECHN BERATUNG [AT]
- Konferenzpapier des 3. Internationalen Symposions zu Elektroschlacke- und anderer spezieller Schmelztechnologie vom 8.-10.6.71, Teil III, s. 221-239; Holzgruber et al. "Metallurgical and Economical Considerations for the Lay Out of Modern ESR Plants based on Results obtained in Böhler ESR Units"

Cited by

AT410413B; AT410412B; EP0800879A3; AT408528B; CN108136493A; WO0238820A3; WO2021135223A1; WO0240726A1; EP1339885B2

Designated contracting state (EPC)

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EP 0786531 A1 19970730; EP 0786531 B1 20000719; EP 0786531 B2 20060802; AT 406384 B 20000425; AT A15196 A 19990915; DE 19654021 A1 19970731; DE 19654021 C2 20010531; JP 3949208 B2 20070725; JP H09206890 A 19970812; US 5799721 A 19980901

DOCDB simple family (application)

EP 96120752 A 19961221; AT 15196 A 19960129; DE 19654021 A 19961221; JP 2955097 A 19970128; US 78768797 A 19970123