

Title (en)

METHOD FOR LINING METALLURGICAL UNITS, AND APPARATUS FOR CARRYING OUT SAME

Title (de)

VERFAHREN ZUM AUSKLEIDEN METALLURGISCHER EINHEITEN UND VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCÉDÉ DE FORMATION DE REVÊTEMENT INTERNE POUR ÉQUIPEMENTS MÉTALLURGIQUES ET DISPOSITIF DE MISE EN OEUVRE DE CE PROCÉDÉ

Publication

EP 3858491 A4 20220810 (EN)

Application

EP 19851363 A 20190816

Priority

- RU 2018130382 A 20180820
- RU 2019000580 W 20190816

Abstract (en)

[origin: EP3858491A1] The group of inventions relates to the field of metallurgy, and more specifically to methods of lining metallurgical units and other thermal units by gunning, and to gunning device design. The method for lining metallurgical units includes applying a stream of a prepared, saturated with air composition based on a refractory mixture moistened with water, on their internal surfaces by means of a nozzle, while the composition is prepared by wetting a dry refractory mixture with water in a turbulent flow of compressed air. The composition stream is then rarefied and impregnated with a hardener in an additional stream of compressed air. Before the prepared composition is applied to the internal surfaces of the units, the composition is condensed. The device for lining metallurgical units includes a nozzle with a housing. At the inlet end of the housing, there is a branch pipe for supplying a dry refractory mixture in a compressed air stream and a branch pipe for supplying water. A nozzle housing comprises a rarefaction chamber fitted with a branch pipe for a mixture of a hardener and compressed air. The outlet end of the nozzle is tapered. As a result, the quality of preparation, the homogeneity and stability of the composition of the lining mixture were improved, density, porosity and strength of which approached in properties to poured refractory concrete, the design of the lining device was simplified and its dimensions decreased, besides, the time for installation of the lining was significantly reduced. 2 primary claims and 7 subclaims, 4 figures, 6 examples.

IPC 8 full level

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CPC (source: EP RU)

B05B 7/10 (2013.01 - EP); **B05B 7/14** (2013.01 - RU); **B05B 7/1431** (2013.01 - EP); **B05B 7/149** (2013.01 - EP); **B05B 13/00** (2013.01 - RU); **B22D 41/02** (2013.01 - EP); **B22D 41/023** (2013.01 - EP); **C21C 5/441** (2013.01 - EP); **F27D 1/1636** (2013.01 - EP); **F27D 1/1642** (2013.01 - EP)

Citation (search report)

- [X] US 5976632 A 19991102 - GERBER JERRY [CA], et al
- [X] FR 2798092 A1 20010309 - LAFARGE REFRACTORIES [FR]
- [X] WO 2006106879 A1 20061012 - ASahi GLASS CERAMICS CO LTD [JP], et al
- [A] US 6004626 A 19991221 - NOONE KENNETH [US], et al
- See also references of WO 2020040665A1

Designated contracting state (EPC)

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EP 3858491 A1 20210804; **EP 3858491 A4 20220810**; RU 2692390 C1 20190624; WO 2020040665 A1 20200227

DOCDB simple family (application)

EP 19851363 A 20190816; RU 2018130382 A 20180820; RU 2019000580 W 20190816