

Title (en)

Method for reducing the consumption of graphite electrodes.

Title (de)

Verfahren zur Verringerung des Abbrands von Graphitelektroden.

Title (fr)

Procédé pour diminuer l'usure d'électrodes en graphite.

Publication

**EP 0334007 A1 19890927 (DE)**

Application

**EP 89102063 A 19890207**

Priority

DE 3809361 A 19880319

Abstract (en)

Graphite electrodes are consumed when used in electric arc furnaces in contact with atmospheric oxygen. The consumption can be reduced by coating the electrodes with thermally resistant films which are not permeable to the oxidising agent. The new method is intended to reduce the cost of producing protective films. While they are being used in electric arc furnaces, the aqueous solution of a film-forming salt, in particular monoaluminium phosphate, is sprayed onto the lateral surface of the electrodes. <IMAGE>

Abstract (de)

Graphitelektroden verbrennen bei ihrer Verwendung in Lichtbogenöfen im Kontakt mit Luftsauerstoff. Der Abbrand kann durch Beschichten der Elektroden mit temperaturbeständigen, für das Oxidationsmittel undurchlässige Filme verringert werden. Das neue Verfahren soll den Aufwand für die Erzeugung schützender Filme mindern. Auf die Mantelfläche der Elektroden wird während ihres Einsatzes in Lichtbogenöfen die wässrige Lösung eines filmbildenden Salzes, besonders Monoaluminiumphosphat, gesprüht.

IPC 1-7

**H05B 7/12**; H05B 7/085

IPC 8 full level

**H05B 7/085** (2006.01); **H05B 7/12** (2006.01)

CPC (source: EP)

**H05B 7/085** (2013.01); **H05B 7/12** (2013.01)

Citation (search report)

- [AD] EP 0223205 A1 19870527 - UNION CARBIDE CORP [US]
- [A] JP S5951496 A 19840324 - MATSUSHITA ELECTRIC IND CO LTD
- [XP] WO 8807315 A1 19880922 - NIPPON CARBON CO LTD [JP]
- [A] FR 2531301 A1 19840203 - NALCO CHEMICAL CO [US]
- [A] DE 3315975 A1 19831208 - ELEKTROKOHLE LICHTENBERG VEB [DD]
- [A] GB 891273 A 19620314 - UNITED STEEL COMPANIES LTD

Cited by

EP4216672A1; WO2020081155A1; US5407290A; US2020196404A1; US10694592B1; EP3815465A4; US11979968B2; US11140755B2; US11653426B2

Designated contracting state (EPC)

BE DE FR GB IT SE

DOCDB simple family (publication)

**DE 3809361 A1 19890928**; DE 58900079 D1 19910516; EP 0334007 A1 19890927; EP 0334007 B1 19910410

DOCDB simple family (application)

**DE 3809361 A 19880319**; DE 58900079 T 19890207; EP 89102063 A 19890207