

Title (en)  
Boriding agent

Title (de)  
Boriermittel

Title (fr)  
Agent de boruration

Publication  
**EP 0971047 A1 20000112 (DE)**

Application  
**EP 99111057 A 19990615**

Priority  
DE 19830654 A 19980709

Abstract (en)  
A metal boriding agent, including a potassium fluoroborate activator containing calcium fluoride, is new. A metal boriding agent comprises, apart from a boron source and an inert refractory diluent, 1-5 wt. % potassium fluoroborate and 5-40 wt. % calcium fluoride as activator. An Independent claim is also included for production of single phase Fe<sub>2</sub>B-containing boride layers on ferrous metal workpieces by covering the workpiece surface with the above boriding agent and heat treating at 800-1100 degrees C. Preferred Features: The boriding agent comprises (by wt.) 3-5 (especially 4)% boron carbide, 2-4 (especially 2.5)% potassium fluoroborate, 10-30 (especially 25)% calcium fluoride and 61-85 (especially 68.5)% silicon carbide.

Abstract (de)  
Die Erfindung betrifft ein Boriermittel zur Erzeugung von Boridschichten auf metallischen Werkstücken, das im wesentlichen aus borabgebenden Substanzen, aktivierenden Substanzen und im Rest aus feuerfestem, inerten Streckmittel besteht und das dadurch gekennzeichnet, ist daß es als aktivierende Substanz eine Kombination aus, bezogen auf die Gesamtmenge des Boriermittels, 1 bis 5 Gew.% Kaliumtetrafluoroborat und 5 bis 40 Gew.% Calciumfluorid enthält. Mit diesem Boriermittel lassen sich auf Werkstücken aus Eisenwerkstoffen einphasige, Fe<sub>2</sub>B-enhaltende Boridschichten erzeugen. Das Mittel führt zu geringeren Fluor- bzw. Fluoridemissionen.

IPC 1-7  
**C23C 8/70**

IPC 8 full level  
**C23C 8/68** (2006.01); **C23C 8/70** (2006.01)

CPC (source: EP US)  
**C23C 8/70** (2013.01 - EP US)

Citation (search report)  
• [A] DE 2147755 A1 19730329 - KEMPTEN ELEKTROSCHMELZ GMBH  
• [A] GB 1436945 A 19760526 - BORAX CONS LTD  
• [A] CHEMICAL ABSTRACTS, vol. 90, no. 12, 19 March 1979, Columbus, Ohio, US; abstract no. 90930, SADOK, LUCJAN ET AL: "Agents in powder form for the boronizing of steel" XP002121000 & PL 90793 B1 19770131  
• [X] CHEMICAL ABSTRACTS, vol. 110, no. 4, 23 January 1989, Columbus, Ohio, US; abstract no. 27915, ZHANG, YIBIN: "Pasting sheet for boronizing" XP002121001 & CN 86107815 A 19880518  
• [A] CHEMICAL ABSTRACTS, vol. 102, no. 26, 1 July 1985, Columbus, Ohio, US; abstract no. 224093, RUS, J. ET AL: "Boronizing of 304 steel" XP002121002 & J. MATER. SCI. LETT. (1985), 4(5), 558-60, 1985  
• [X] CHEMICAL ABSTRACTS, vol. 95, no. 26, 28 December 1981, Columbus, Ohio, US; abstract no. 223836, KRUKOVICH, M. G. ET AL: "Composition for boronizing steel articles" XP002121003 & SU 834241 A1 19810530 - BRUSS POLT I [SU]

Designated contracting state (EPC)  
AT BE CH DE ES FR GB IT LI NL SE

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