

Title (en)

MICROPYRETICALLY-PRODUCED COMPONENTS OF ALUMINIUM PRODUCTION CELLS

Title (de)

MIKRO-PYROTECHNISCH-ERZEUGTE BAUTEILE VON ZELLEN FUER DIE ALUMINIUMHERSTELLUNG

Title (fr)

COMPOSANTS, PRODUITS PAR REACTION MICROPYRITIQUE, DE CELLULES DE PRODUCTION D'ALUMINIUM

Publication

EP 0695371 B1 19991020 (EN)

Application

EP 93910631 A 19930419

Priority

US 9303605 W 19930419

Abstract (en)

[origin: WO9424321A1] Components of aluminium production cells made of composite materials comprising ordered aluminide compounds of at least one of nickel, iron and titanium, for use in particular as anodes and cathodes and cell linings in aluminium production cells containing a fluoride-based molten electrolyte containing dissolved alumina and cerium species, are produced by micropyretric reaction of a reaction mixture comprising compacted particulate reactants which react to produce the composite material. The reaction mixture is mixed with a cerium-based colloidal carrier, dried and compacted into a reaction body bonded by the cerium-based colloidal carrier, and the colloid-bonded reaction body is ignited to initiate the micropyretric reaction. One preferred reaction mixture comprises 50 to 90 parts by weight of particulate nickel, 5 to 30 parts by weight of particulate aluminium, 5 to 25 parts by weight of particulate copper and 0 to 15 parts by weight of additives selected from chromium, manganese, vanadium, molybdenum, zirconium, niobium and cerium anmd compounds thereof, as well as compounds of aluminium, nickel, iron, titanium and copper.

IPC 1-7

C22C 1/05; **C25C 3/12**; **C25C 3/08**

IPC 8 full level

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