

Title (en)

CHARGE FOR MANUFACTURING FERROSILICON

Title (de)

CHARGE ZUR HERSTELLUNG VON FERROSILICIUM

Title (fr)

CHARGE POUR LA PRODUCTION DE FERROSILICIUM

Publication

EP 3865599 A1 20210818 (EN)

Application

EP 19921060 A 20191125

Priority

- RU 2019106088 A 20190325
- RU 2019000850 W 20191125

Abstract (en)

The present invention relates to metallurgy, manufacturing ferroalloys, in particular, to manufacturing ferrosilicon. The invention describes the charge composition for manufacturing ferrosilicon, which includes quartzite, a carbonaceous reducing agent and the ferruginous material, the ferruginous material being the pyrite cinder pellets with the following ratio of components, wt%: the quartzite - 34-50, the carbonaceous reducing agent - 30-34, the pyrite cinder pellets - the rest. The shavings of carbonaceous steels as a component of the charge are absent. At the same time, the carbonaceous reducing agent contains in wt%: the nut coke - 40-67 and the wood wastes -33-60, the wood wastes being the pellets or the chips. At the same time, the pellets contain the pyrite cinder and the liquid glass as a binder with the following ratio of components, wt.%: the pyrite cinder - 85-93, the liquid glass - 7-15, on a dry basis. The technical result is in expanding the charge compositions range, using the cheap and non-scarce raw materials and improving the operating performance of a furnace device by using in the process of the ferrosilicon manufacture the charge composition having low electrical conductivity, which leads to an increase in silica recovery, while increasing the charge filter layer and to a decrease in the formation of the non-technological slag and, as a result, to a possibility of the furnace transformer operation at a higher voltage level, which increases the electrical efficiency of the furnace device.

IPC 8 full level

C22C 33/04 (2006.01)

CPC (source: EP)

C22C 1/06 (2013.01); **C22C 33/006** (2013.01); **C22C 33/04** (2013.01); **C22C 35/005** (2013.01); **C22C 38/02** (2013.01)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3865599 A1 20210818; **EP 3865599 A4 20220713**; CN 113166863 A 20210723; RU 2704872 C1 20191031; WO 2020197437 A1 20201001

DOCDB simple family (application)

EP 19921060 A 20191125; CN 201980080310 A 20191125; RU 2019000850 W 20191125; RU 2019106088 A 20190325