

Title (en)

METHOD FOR RECOVERING SOLAR GRADE SILICON

Title (de)

VERFAHREN ZUR RÜCKGEWINNUNG VON SOLARSILIZIUM

Title (fr)

PROCÉDÉ DE RÉCUPÉRATION DE SILICIUM DE QUALITÉ SOLAIRE

Publication

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Application

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Abstract (en)

[origin: GB2477782A] A method of refining particulate silicon is disclosed, where the method comprises mixing the particulate silicon with a slag forming compound in a weight ratio, particulate silicon: slag forming compound, from 1:10 to 3:1 in a crucible, wherein the slag forming compound will form a liquid slag at the operating temperature of the process that has a viscosity lower than 2 Ns/m² and a wetting angle towards silicon of at least 20°, heating the mixture of particulate silicon and slag forming component to a temperature above the liquidus temperature of the slag and the silicon, injecting a stream of gas through the bottom of the crucible and maintain the gas flushing for a period of time, solidifying and cooling the molten mixture, and separating formed silicon agglomerates/lumps from the slag. The slag forming compounds may be SiO₂, CaO, Li₂O, MgO, Na₂O, CaF₂, NaF, SrO, BaO, MgF₂, K₂O, CaCO₃, Na₂CO₃ or MgCO₃.

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