

Title (en)

METHOD FOR THE ENRICHMENT AND SEPARATION OF SILICON CRYSTALS FROM A MOLTEN METAL FOR THE PURIFICATION OF SILICON

Title (de)

VERFAHREN ZUR ANREICHERUNG UND ABTRENNUNG VON SILICIUMKRISTALLEN AUS EINER METALLSCHMELZE ZUR REINIGUNG VON SILICIUM

Title (fr)

PROCÉDÉ POUR L'ENRICHISSEMENT ET LA SÉPARATION DE CRISTAUX DE SILICIUM CONTENUS DANS UN MÉTAL EN FUSION DESTINÉ À LA PURIFICATION DU SILICIUM

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Application

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Abstract (en)

[origin: WO2017072655A1] The invention relates to a method for the enrichment and separation of silicon crystals from a molten metal for the purification of silicon, for which contaminated (metallurgical-grade) Si is dissolved in a suitable molten metal, preferably molten aluminium at a relatively high temperature, then the silicon crystals precipitated, recrystallized in a purer form upon cooling are in part or in full separated from the molten metal in a suitable manner. Finally, the surface of the purified Si crystals is cleaned mechanically and with a suitable solvent, while the remaining Al-Si alloy can be reused. From the purified and enriched silicon, by known post-treatment steps, solar grade silicon can be obtained at a lower cost.

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