

Title (en)

FLUIDIZED BED REACTOR AND METHOD FOR PRODUCING POLYCRYSTALLINE SILICON GRANULES

Title (de)

WIRBELSCHICHTREAKTOR UND VERFAHREN ZUR HERSTELLUNG VON POLYKRISTALLINEM SILICIUMGRANULAT

Title (fr)

RÉACTEUR À LIT FLUIDISÉ ET PROCÉDÉ DE PRODUCTION DE SILICIUM POLYCRISTALLIN GRANULAIRE

Publication

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Application

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Abstract (en)

[origin: WO2015197498A1] The invention relates to a fluidized bed reactor for producing polycrystalline silicon granules, comprising a reactor vessel (1), a reactor tube (2), and a reactor bottom (15) within the reactor vessel (1), wherein an intermediate jacket (3) is located between an outer wall of the reactor tube (2) and an inner wall of the reactor vessel (1), and comprising a heating device (5), at least one bottom gas nozzle (9) for feeding fluidizing gas, at least one secondary gas nozzle (10) for feeding reaction gas, a feeding apparatus (11) for feeding silicon nucleus particles, a removal line (14) for polycrystalline silicon granules, and an apparatus for leading away reactor exhaust gas (16), wherein a main body of the reactor tube (2) is composed of 60 wt% silicon carbide and comprises a CVD coating having a layer thickness of at least 5 µm, composed of at least 99.995 wt% SiC, or wherein a main body of the reactor tube (2) is composed of sapphire glass, containing at least 99.99 wt% α-Al₂O₃. The invention further relates to a method for producing polycrystalline silicon granules in such a fluidized bed reactor.

IPC 8 full level

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