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(71) Applicant (for all designated States except US): **REC SCANWAFER AS** [NO/NO]; Tormod Gjestlands vei 41, N-3908 Porsgrunn (NO).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **JULSRUD, Stein** [NO/NO]; Gregorius Dagssonsgt. 190, N-3713 Skien (NO). **NAAS, Tyke, Laurence** [NO/NO]; Tårnfjellvn. 33, N-3910 Porsgrunn (NO).

(74) Agents: **ONSAGERS AS** et al.; P.O.Box 6963 St. Olavs plass, N-0130 Oslo (NO).

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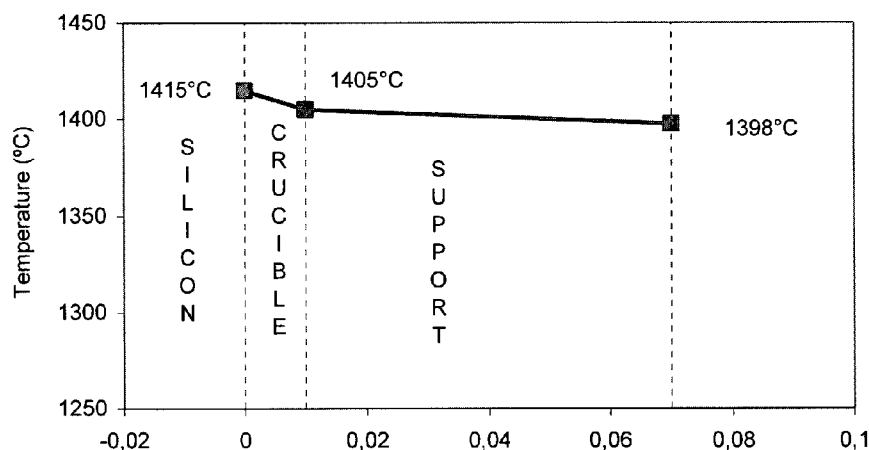
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(54) Title: METHOD AND CRUCIBLE FOR DIRECT SOLIDIFICATION OF SEMICONDUCTOR GRADE MULTI-CRYSTALLINE SILICON INGOTS



(57) Abstract: This invention relates to a method for direct solidification of semiconductor grade multi-crystalline silicon ingots allowing improved control with the solidification process and reduced levels of oxygen and carbon impurities in the ingot, by crystallizing the semiconductor grade silicon ingot, optionally also including the melting of the feed silicon material, in a crucible made of silicon nitride, or in a crucible made of a composite of silicon carbide and silicon nitride, and where the wall thickness of the bottom of the crucible is dimensioned such that the thermal resistance across the bottom is reduced to a level of at least the same order as thermal resistance across the support below carrying the crucible or lower. The invention also relates to crucibles which are made of silicon nitride, or of a composite of silicon carbide and silicon nitride, and where the wall thickness of the bottom of the crucible is dimensioned such that the thermal resistance across the bottom is reduced to a level of at least the same order as thermal resistance across the support below carrying the crucible or lower.

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