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Electrotechnology for Silicon Refining: Plasma Generator and Arc Furnace Installations and Theoretical Base

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Abstract : The photovoltaic and the semiconductor industries are in growth and it is necessary to supply a large amount of silicon to maintain this growth. Since silicon is still the best material for the manufacturing of solar cells and semiconductor components so the pure silicon like solar grade and semiconductor grade materials are demanded. There are two main routes for silicon production: metallurgical and chemical. In this article, we reviewed the electrotecnological installations and systems for semiconductor manufacturing. The main task is to design the installation which can produce SOG Silicon from river sand by one work unit.

Keywords : metallurgical grade silicon, solar grade silicon, impurity, refining, plasma
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