

## The effect of recrystallization in metallurgical silicon refining using an electron-beam plasma

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*A method for plasma-chemical refining of metallurgical silicon is proposed. The method is based, firstly, on the evaporation of volatile impurities due to the rapid heating of metallurgical silicon using an electron beam. Secondly, on the conversion of non-volatile impurities into their highly volatile compounds in a chemically active electron-beam plasma. And thirdly, on the recrystallization of the obtained silicon under the action of an electron beam. Metallurgical silicon refining was carried out using the indicated method on laboratory equipment. It is shown that due to the use of silicon recrystallization under the action of an electron beam, the refining efficiency is significantly increased.*

*Keywords:* plasma-chemical refining of metallurgical silicon, recrystallization, electron-beam plasma, supersonic jet, mass spectrometry.

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