

The invention relates to the field of producing monocrystals of semiconductor materials, in particular to preparation of crucibles for growing monocrystals of silicon from the melt by Czochralski method. The proposed process comprises forming barium-containing coating from barium hydroxide on inner and/or external surface of heated to the temperature of 100-150 °C of quartz crucible. The invention allows to improve uniformity and homogeneity of coating which causes increase of yield of suitable product and reduction of shortage in obtaining silicon ingots of monocrystals.