

A process for creation of intermediate layer of corundum coatings comprises the preparation of slurry, application of the slurry to graphite body, drying of applied layers and burning in protective atmosphere. The slurry is produced of electrocorundum, which is modified with tetraethoxysilane, and sol-gel composition "1", obtained by means of hydrolysis of ethyl silicate with stoichiometric quantity of water, daubing is coated from slurry to the heated surface of graphite substrate, the second layer of the same content is coated on it, two layers of daubing after hardening on air at 10-15 °C under film for 20-24 hours are dried at temperature of 200-250 °C, cooled and immersed into cooled to 10-12 °C sol-gel composition "2", representing hydrolyzate from ethyl silicate, the hydrolysis of which has been carried out with distilled water with addition of 0.01-0.2 % of hydrolysis catalyst  $\text{HNO}_3$ , extracted and dried at 15-20 °C, and then it is thermally treated at 200-500 °C on air and in argon with 500-520 °C to 1350-1400 °C.