

## **ELECTROCHEMICAL REGULATION OF SLAG MELT OXYGEN POTENTIALS**

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Processes of electrochemical oxidation and deoxidation of  $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$  melts were carried out by using direct current (1-5A) with electrolysis cell immersed into the slag. The cell consisted of  $\text{ZrO}_2(\text{Y}_2\text{O}_3)$  tube with Mo-MO<sub>2</sub> or copper-graphite electrodes. The oxygen potentials of melts ( $P_{\text{O}_2}$ ) were measured by special oxygen sensor. It was found that under the employed experimental conditions the values of  $P_{\text{O}_2}$  changed from  $10^{-19}$  to  $10^{-4}$  atm owing to non-stoichiometry of slags in respect to oxygen. The degree of nonstoichiometry of  $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$  melts was estimated roughly as 0.1-0.2 pct of oxygen depending on  $\text{SiO}_2$  content. The processes under study were reversible and could be used for effective regulation of slag refining properties.