14:20

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Section 2: Digital twin of production (Big Data)

Practical aspects of low-temperatures oxidation of MgO-C refractories

Low-temperature oxidation resistance is one of the key factor influencing the lifetime of refractory (MgO-C type) lining in heat unit used in the steel industry. In this researches the Designing of Experiments Methodology (DoE) was used to asses the importance of different factors in modeling low-temperature oxidation resistance of refractory materials. Authors used the full factorial $3^{\wedge(3-0)}$ plan with 3 factors on 3 different levels. Factors selected for the experiment: type of graphite, open porosity of materials (modelled by the unit pressure during the forming process) and time of exposure for oxidation atmosphere. For statistical analysis, ANOVA tests were taken, forecast models were developed by the regression techniques implemented in DoE module in Statistica 13.3 Software. Factors associated with response function were divided into different groups by using CART Trees. For improving the forecast, Artificial Neural Network were applicated.

There may be changes in the time schedule.
See the current information on the website