عنوان مقاله:

Graphite Oxidation evaluation in Advanced composites via Artificial Neural Network Approach

نویسنده:

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خلاصه مقاله:

In this study, the mechanism and parameters of graphite oxidation in advanced composites were studied by applying Artificial Neural Network (ANN) model. The actual samples were made from MgO - C Composites, as an example. Artificial neural network (ANN) model was first developed, verified and then applied to predict the oxidation behavior of the system. After reliability control of the proposed model and evaluation at different conditions, the effect of antioxidant amount and temperature on the decarburized layer of the MgO-C composites from ANN predicted results atdifferent graphite content. The obtained parameters were compared with experimentally obtained data. First of all, the reliability of the model was checked with different available data. It was found that the prediction of model results was in good agreement with experimental data obtained from Shrinking Core Model. The results showed that the . The predicted model was in good agreement with experimental data and was able to predict the optimum formulation of the antioxidant. This model can be used for further deep analysis and thorough modeling of the role of metallic antioxidants in composites and the development of the microstructure of composite in the presence of antioxidants.

کلمات کلیدی:

ANN, Graphite Oxidation, Shrinking Core Model, antioxidant