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## Production of MgO-X Refractory Material with Cellular Matrix by Colloidal Processing

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### ABSTRACT

The production in the siderurgy and foundry industry has changed considerably in the past years. Despite the new technologies and process, the use of magnesia carbon refractory remains constant. Namely the magnesia carbon refractory is widely used due low-priced cost, high refractivity, excellent corrosion resistance, thermal shock resistance, low thermal expansion, high slag penetration resistance and low wettability. The main disadvantages of use magnesia carbon refractories are the high carbon oxidation susceptibility and the formation CO and CO<sub>2</sub> gases. As a result, tonne of CO and CO<sub>2</sub> are expelled to the atmosphere. The use of open cell carbon-foam magnesia composite for refractory application can offer a substitute for the traditional refractory material since the high carbon content can be minored and the low mechanical strength and poor oxidation resistance of these materials can be improved.

### KEYWORDS

Carbon; Refractory; MgO; Oxidation

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