

A Study on Oxidation Behaviors of IG and NBG Nuclear Graphites

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Abstract : In this work, the oxidation-induced characteristics of five nuclear graphites (NBG-17, NBG-18, NBG-25, IG-110, and IG-430) were studied. The oxidation characteristics of nuclear graphites were measured at the three temperature areas (300, 600, and 900°C). As experimental results, the pore size of oxidized graphite was increased with increasing of oxidation time. It was also found that the oxidation rate was proportional to the oxidation temperature and time. This was probably due to the oxidation was occurred on the surface and inner bulk phase of nuclear graphites at the same time by the so-called chemical regime.

Key words : oxidation, nuclear graphites, chemical regime