

A Replication Technique for Examining
Dynamic Changes in Graphite

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A replication procedure is described which allows the structure of graphite materials to be examined via electron microscopy over a wide range of temperatures.

The technique involves the formation of a primary silver replica over pre-selected areas while the sample is maintained at various temperatures over the range - 100°C to +800°C. The primary replica is then removed from the graphite and treated in a normal manner to produce a suitable carbon replica. In this manner structural changes, such as re-orientation of crystallites and dimensional changes occurring in non-crystalline areas, can be examined and related to the thermal history of the material.