

THE FEATURES OF MARTENSITIC
NUCLEATION OF DIAMOND-LIKE
PHASES IN RHOMBOHEDRAL
GRAPHITE-LIKE BORON NITRIDE

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S u m m a r y

The early stages of martensitic transformations of rhombohedral boron nitride (rBN) into diamond-like phases (DLP) at a pressure of $(6 \div 8)$ GPa and temperatures $(300 \div 1300)$ K are investigated by transmission electron microscopy. It is shown that isolated DLP crystals formed at 300 K have the shape of ellipsoid with axes regularly oriented to the rBN matrix. With a temperature rise, the development of the martensitic transformation occurs mainly due to formation of new crystals. In this case, their shape somewhat changes, and dimensions increase slightly. The dislocation model of martensitic nucleation and growth is proposed with allowance for conservation of the coherent DLP-rBN boundary under conditions of the large volume effect of transformation.