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Status of the Development of Beryllium-Copper Alloy Ignition Capsules by Precision Machining ARTHUR NOBILE, JASON COOLEY, DAVID ALEXANDER, ROBERT HACKENBERG, ROBERT FIELD, ROBERT DAY, GERALD RIVERA, ANN KELLY, PALLAS PAPIN, Los Alamos National Laboratory — Cu-doped Be capsules are being developed for ignition on the National Ignition Facility (NIF). The fabrication approach being pursued at Los Alamos is based on bonding of cylindrical parts containing precision machined hemispherical cavities, followed by machining the external contour to produce a spherical capsule. While we have demonstrated this approach, there are several key issues that need to be resolved before a capsule meeting NIF specifications can be produced. These issues are synthesis of high purity small grain size Be-Cu alloy, formation of a hemishell bond strong enough to allow the capsule to be machined after the hemishells are bonded, precision machining and polishing of the capsule to meet stringent specifications for surface finish and spherical quality, and filling with DT. In this paper we report on the progress that has been made on these issues. *This work is performed at Los Alamos National Laboratory and supported by U.S. Department of Energy under contract number W7405-ENG36*

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