

OVERVIEW OF THE PAMS/GDP PROCESS TO PRODUCE SHELLS*

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ABSTRACT

Since the Taos Target Fab meeting, General Atomics has been the developing manufacturer of GDP mandrels as the innermost layer of a complete target. To produce these GDP shells requires the initial production of a polyalphanmethylstyrene (PAMS) shell, currently made in a droplet generator. The PAMS shell is then bounce coated with GDP, and the PAMS is then removed by pyrolysis at 300°C.

This process has a unique combination of several advantages over past processes. First, the GDP mandrel has no vacuoles. Second, the GDP mandrel is more spherical than drop tower shells. Third (in principle), dopants can be added during the GDP deposition to a defined depth and concentration. Fourth, the use of the droplet generator to produce the PAMS shell permits a narrow size distribution of shells, which can be tuned over a wide range of diameters. This unique combination of flexible process control and final shell characteristics ought to find broad application in the ICF program.

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Oral

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