# ADVANCES IN FABRICATION OF ICF TARGETS

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Inertial confinement fusion (ICF) targets fielded on NIF (National Ignition Facility) are complex assemblies that push the limits of materials, fabrication, and assembly. This presentation will review recent advances in capsule support, measurements of oxygen content in CH capsules, fabrication of depleted uranium (DU) hohlraums, and foam-filled capsules.

Ultra-thin polymer films, also known as tents, are the standard means of supporting capsules, but have shown to cause greater than expected perturbation to the implosion. Tent thickness has been reduced to 30 nm to decrease this perturbation, and further thickness reduction is in progress. Alternate methods, such as suspending the capsules in low density silica foams, have also been studied.

CH capsule have been known to take up oxygen from water under ambient conditions. However, it was recently demonstrated that exposure to light can also cause oxygen take up, which can cause introduction of lateral concentration differences of oxygen during capsule metrology.

Layers of polymer foam with densities of 35 mg/cc on the inside of capsules are assumed to be able to assist the layering process and allow the possibility of liquid $D_2$ and DT layers. The latest results synthesizing these foam layers and producing liquid $D_2$ and DT layers will be shown.

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