

NASA Composite Cryotank Technology Demonstrator Overview and Sump Door Fabrication Report

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The Composite Cryotank Technology Demonstrator project is a part of NASA's Game Changing Technologies program. This project's objective is to advance the manufacturability of 'Out of Autoclave' carbon fiber composites in order to produce large diameter liquid propellant tanks with up to 40% mass reduction compared to traditional metallic tank design. The Marshall Space Flight Center, with the prime contractor, Boeing Research & Technology, has completed testing on a 2.4m diameter tank. The tank performed as expected. A 5.5m diameter tank is being prepared for a series of pressure and structural tests. This paper briefly summarizes composite cryotank history, provides an overview of the Composite Cryotank Technology Demonstrator Project, and describes efforts to fabricate the Sump Door for the 5.5m tank.

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