

Hydrogen Timeline

NASA Kennedy SC Cryo Test Lab begins evaluation of 3M™ Glass Bubbles K1 in cryostat testing.

NASA Stennis SC 218,000 liter liquid hydrogen tank refurbished with 3M Glass Bubbles K1; helps reduce boil-off rate by 44%-46%

3M becomes a member of the Hydrogen Council

NASA Kennedy SC chooses 3M Glass Bubbles K1 for insulation of liquid hydrogen tank for KSC LP 39b expansion, largest in the world at the time

Expected commercial launch of catalyst powder



1995

Development begins on nanostructured catalyst powder



2005

Pilot catalyst powder

2000



2008



2016

DOE launches project to develop thin film ORR electrocatalysts on 3M Nanostructured Thin Film (NSTF) supports

2018



2023

Launch 3M Forward, highlighting material science-based innovations to address global challenges such as climate change

2025

