



Fuel Cell Standards

XV. On-Board Hydrogen Storage

XV.c Hydrogen Storage Systems Pressure Vessels

Overview:

Classroom instruction on generic hydrogen storage vessels

Overview of types I, II, III and IV vessels their construction, manufacturing and certification/recertification requirements

- Review of applicable DOT and FVMSS specifications
- Manufacturing processes
- Inspection criteria
- Inspection techniques

Description:

Hydrogen Storage Systems are crucial to cost effective production and the pressure vessel(s) are the most expensive component. They are along with the on-board tank valve the most critical fuel cell vehicle safety components. A thorough understanding of the vessel characteristics and vulnerabilities is paramount for vehicle safety.

Outcome (Goal):

Student will be able to visually identify vessel type and determine certification status. They will be able to inspect for internal and external physical damage.

Objectives:

When provided with a hydrogen storage vessel the student will be able to:



1. Identify vessel type and operation limitation
 2. Identify vessel type recertification frequency and service life
 3. List possible defects and inspect for those defects
 4. Reference OEM service procedures to find critical dimensional information and service bulletins.
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Tasks:

Students will

1. Observe the differences between type I, II, III and IV vessels
 2. Identify location of vessel expiration information
 3. Inspect sample vessels for and identify defects
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