

SAE Fire Containment Covers and Fire Resistant Containers

Presented to: IASFPWG

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Federal Aviation
Administration



FAA requested that SAE develop these standards as a result of CAST Safety Enhancement SE 127.

**SAE AS 6453 Fire Containment Covers
(ISO 14186)**

**SAE AS 6278 Fire Resistant Containers
(ISO 19281)**

Fire Containment Covers

AS 6453 Fire Containment Covers was published In August 2013.

TSO 203 (published in July 2014) references SAE AS6453 standard with modifications.

Modifications are mostly for removal of references to non FAA requirements, maintenance, and pallet and net requirements.



Cargo liner oil burner test



Full scale mockup fire test

A new project was approved to revise SAE AS6453 Fire Containment Covers in October 2015. The current version allows unlimited external flaming on the FCC if either:

- 1. The external flame is not in close proximity to a thermocouple, or**
- 2. The fire load had shifted and measured temperatures from thermocouples that are no longer within 4 +/- ½ inch from the FCC are no longer valid.**

It was previously agreed that this was not acceptable. The concern was that external flames could ignite adjacent unprotected cargo or aircraft structure or systems.

Subsequent SAE AGE-2A Cargo Handling Committee meetings were held in:

Geneva April 2016, San Antonio October 2016, Memphis April 2017

Working group meetings to discuss changes to external flaming requirements were not held during any of these meetings.

Fire Resistant Containers (FRC)

- ISO/CD 19281 was published on Feb. 1, 2016.
- SAE standard AS 6278 Fire Resistant Containers is under development. Differences exist between the two standards. The ISO standard requires all materials used in the construction of the FRC be subjected to the cargo liner oil burner test (CFR Part 25 Appendix F, Part III). During the April 2017 SAE meeting, the general consensus of the working group was that the standard would now include two levels of fire resistance. One level would only require the full scale mock-up test and the other would require the same full scale test and the cargo liner oil burner test applied only to the main panels of the FRC (structural members of the FRC not subjected to cargo liner test).
- ISO/SAE harmonization is desired.

- **FAA unofficial current position is that cargo liner test method should be included in standard.**
- **Original goal of the FAA was to reference the SAE standard in a TSO. Difficulty now arises if the standard has more than one criteria for FRCs**



FAA Update – TSO-C90

- **TSO-C90 Revision e**
 - Scheduled for release in December 2017
 - Incorporates TSO-C203 Fire Containment Cover (FCC) and Pallet/Assembly Test requirements from SAE AS6453
 - Applicable performance and testing requirements for Temperature Controlled Containers from SAE AS6163 will be included once smoke detection, penetration and evaluation testing requirements documentation is resolved. Expected in Revision e or f.
 - Incorporates AS36100B Air Cargo ULDs and AS36102B Air Cargo ULDs-Testing Methods
- **TSO-C90 Revision f**
 - Will be scheduled for release with a year of SAE AS6278 (FRC)
 - Will include minimum performance requirements for FRC



Next SAE AGE-2A Cargo Handling Committee meeting is October 24-25, 2017 in Orlando, Florida.

