



EASA

European Aviation Safety Agency

ETSO workshop 2018

Cargo pallets, nets and containers
Fire Containment Covers
Cargo Restraint Straps
Air Mode Active Containers
Living animals Containers

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Cargo pallets, nets and containers

- **EASA-ETSO C90dA1** in force since July 2012 (*CS-ETSO Amdt 10*, harmonized with FAA-TSO)
 - Rulemaking Task to introduce ETSO-C90^e is open:
 - EASA will be introducing ETSO-C90^e (or ETSO-2C90^e) after the release of FAA-TSO C90^e (tentative mid 2020)
 - Issue “e” of the TSO should incorporate:
 - *AS8992 Fire Resistant Container - Design, Performance and Testing Requirements*
 - *AS36100^B Air Cargo ULDs - Performance Requirements and Test Parameters* (June 2016)
 - *AS36102^B Air Cargo ULDs-Testing Methods* (March 2017)
 - *AS6163 Temperature Controlled Container - Performance Requirements and Test Parameters*
 - for the types of temperature controlled containers that interface with the cargo loading system
- and will include the following changes to Markings:
- *Weight marking will be removed*
 - *CFR 14 §45.15 requirements (TSO article must be marked legibly) will cover markings in lieu of specific size callouts currently used wherever applicable*



Cargo pallets, nets and containers

- *AS8992 Fire Resistant Container - Design, Performance and Testing Requirements – Draft Status*
 - Completely enclosed container with a demonstrated additional capability to contain a possible cargo fire within it for a rated period.
- *AS36100B Air Cargo ULDs - Performance Requirements and Test Parameters – Published June 2016*
- *AIR1490 Environmental Degradation of Textiles – Under Revision*
 - since the ULD device containing textiles should have a predictable service life, there should be data available so that predictions can be made. This document compiles available information on textiles of the types used in air cargo ULD devices and reviews the degradation characteristics of each.
- *ARP6287 Environmental Degradation of Composite Materials in ULD's – Draft Status*
 - per (E)TSO-C90, the applicant shall consider environmental degradation due to aging, ultra-violet (UV) exposure, weathering, etc. for any materials used in the construction of pallets, nets, and containers.” The purpose of this ARP is to provide guidelines for the basic requirements to be considered regarding environmental degradation effects when qualifying composite materials in the design to fulfill the (E)TSO-C90 Minimum Performance Standard.



Fire Containment Covers

- **EASA ETSO C203** is in force since December 2016 (*CS-ETSO Amdt 12*, harmonized with FAA-TSO on *CS-ETSO Amdt 13*)
- FAA TSO C90^e may (or may not) incorporate *TSO-C203 - Fire Containment Covers*
- EASA will be determining whether to incorporate or leave the two separate Technical Standard Orders
- *AS6453 – FCCs Design, Performance and Testing Requirements - Under Revision*
- EASA will be reviewing and reference for product certification:
 - FAA Advisory Circular for Fire Containment Covers, referencing ARP6905



Cargo Restraint Straps

- **EASA ETSO C172a** harmonized with FAA TSO C172a
- *AS5385 Cargo Restraint Straps - Design Criteria and Testing Methods*
 - *Revision D May 2017*
- *ARP5595 Cargo Restraint Straps – Utilization Guidelines*
 - *Revision B November 2017*



Air Mode Active Containers

- Cargo containers that include a self-contained temperature control system for the contents- an “active ULD”. Active ULD temperature control systems can heat, cool, (or both) the containers to maintain a specific temperature.
- When seeking design and production approval for an active ULD, § 21.8(d) may be used, as outlined in FAA Order 8150.4 and Policy Statement AIR-100-12-110-002:
 - FAA policy on non-TSO function(s) integrated with a TSO article shall be used to evaluate the active ULD temperature control system;
 - a system safety assessment shall be performed referring to practices in SAE ARP 4761 and furnish a Functional Hazard Assessment (FHA) and Failure Modes and Effects Analysis (FMEA) for the active ULD according to the latest revision of Advisory Circular (AC) 25.1309-1, System Design and Analysis.
- *ARP5741 Air Mode Active Containers Conditioning Performance - **Under Revision***
 - specifies the test procedures and requirements for the conditioning performance of air mode Temperature Controlled Containers (TCC's) to ensure that the appropriate TCC's are selected for the effective air transportation of temperature sensitive cargoes.



Air Mode Active Containers – EASA position

- Many of the requirements that are contained in Order 8150.4 and SAE AS 6163 (“Temperature Controlled Containers – Performance Requirements and Test Parameters”) are installation/airworthiness level requirements, and thus not suitable for an ETSO;
- The approval process i.a.w. FAA Order 8150.4 does not require an installation approval, and relies on operational regulations to approve the use/installation of the active containers. However, EASA have concerns that this approach is not allowing the proper engineering assessments to occur at aircraft level.
- EASA issue NTO (No Technical Objection) letters for Portable Electronic Devices (PED) installed under EU Ops rules (CAT.GEN.MPA.140). This covers data loggers or cargo trackers having transmitters and deactivating automatically the transmission function during flight. EASA NTO does not address the cooling function at all.



Living animals

- IATA's Live Animals Regulations (LAR) is the worldwide standard for transporting live animals by commercial airlines.
- The 44th edition of the regulations came into effect on 1 January 2018.
- EASA issued ETSO Authorisations EASA.21O.10060144 for containers designed to transportation of living animals



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Thank you for your attention!

Any questions?

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