

# European Aviation Safety Agency

## European Technical Standard Order

**Subject:** Cargo Pallets, Nets and Containers (Unit Load Devices)

### 1 — Applicability

This ETSO provides the requirements which Cargo Unit Load Devices that are designed and manufactured on or after the date of this ETSO must meet in order to be identified with the applicable ETSO marking.

### 2 — Procedures

#### 2.1 — General

Applicable procedures are detailed in CS-ETSO, Subpart A.

#### 2.2 — Specific

None.

### 3 — Technical Conditions

#### 3.1 — Basic

##### 3.1.1 — Minimum Performance Standard

For new models of Type I ULDs standards set forth in standard of Aerospace Industries Association of America, Inc. (AIA), National Aerospace Standard, NAS 3610, 'Cargo Unit Load Devices.- Specification for', Revision 10, dated November 1, 1990

When using NAS 3610 Revision 10, the following errors must be corrected:

- in lieu of Figure 31, sheet 87, substitute Figure 31, sheet 88;
- for Figure 32 (missing from NAS 3610 Revision 10), use Figure 32 of NAS 3610 Revision 8 dated April 1987, or Revision 9 dated September 1987.

For new models of Type II ULDs standards set forth in the Society of Automotive Engineers, Inc. (SAE) Aerospace Standard (AS) 36100, 'Air Cargo Unit Load Devices - Performance Requirements and Test Parameters', Revision A, dated April 2006.

For Type I and II ULDs, the standards set forth in SAE AS36102, Air Cargo Unit Load Devices - Testing Methods, dated March 2005 are applicable.

##### 3.1.2 — Environmental Standard

See CS-ETSO, Subpart A, paragraph 2.1.

##### 3.1.3 — Computer Software

None.

### 3.1.4 — Electronic Hardware Qualification

None.

### 3.2 — Specific

Environmental degradation due to ageing, ultra-violet (UV)-exposure, weathering, etc. for any non-metallic materials used in the construction of pallets, nets and containers must be considered.

In lieu of NAS 3610 Rev. 10, paragraph 3.7 and SAE AS36100 Rev. A, paragraph 4.7 use the following paragraph which provides the fire protection requirements for ULDs:

The materials used in the construction of pallets, nets and containers must meet the appropriate provisions in CS-25, Appendix F, Part I, paragraph (a)(2)(iv).

Textile Performance: See SAE Aerospace Information Report (AIR) 1490B, Environmental Degradation of Textiles, dated December 2007, for available data for textile performance when exposed to environmental factors. These data shall be taken into account for consideration of the effects of environmental degradation on nets commensurate with the expected storage and service life to satisfy SAE AS36100 Rev. A, paragraph 4.11.

**Note:** Environmental degradation data other than that documented in AIR1490B may be used if substantiated by the applicant and approved by EASA.

#### 3.2.1 Failure Condition Classification

N/A

## 4 - Marking

### 4.1 - General

Marking is detailed in CS-ETSO Subpart A paragraph 1.2.

### 4.2 - Specific

In addition, the following information shall be legibly and permanently marked on the ULD:

1. The identification of the article in the code system explained in
  - a. NAS 3610, Revision 10, paragraph 1.2.1, for Type I ULDs.
  - b. SAE AS36100, Rev. A, paragraph 3.5 for Type II ULDs.
2. The nominal weight of the article in kilogram and pound in the format: Weight: ...kg (...lb)
3. If the article is not omni-directional, the words 'FORWARD', 'AFT', and 'SIDE' must be conspicuously and appropriately placed.
4. The manufacturer's serial number of the article, with the option to add the date of manufacture.
5. The burning rate determined for the article under paragraph 3.2 of this ETSO.
6. If applicable, the expiration date in the format 'EXP YYYY-MM' must be marked on the ULD.

## 5 — Availability of Referenced Document

See CS-ETSO, Subpart A, paragraph 3.