

European Aviation Safety Agency

European Technical Standard Order

Subject: Cargo Restraint Strap Assemblies

1 - Applicability

This ETSO gives the requirements which Cargo Restraint Strap Assemblies 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

Standards set forth in the SAE AS 5385C, Cargo Restraint Straps - Design Criteria and Testing Methods, dated January 2007, as amended by Appendix 1 of this ETSO.

3.1.2 - Environmental Standard

Cargo restraint strap assemblies must meet the minimum performance requirements of this ETSO at any time during the service life.

- (1) The environmental degradation due to aging, ultra-violet (UV) exposure, weathering, etc. shall be determined, for any non-metallic materials used in the construction of cargo restraint strap assemblies.
- (2) For textile performance, refer to SAE Aerospace Information Report (AIR) 1490B, Environmental Degradation of Textiles, dated December 2007, for available data when exposed to environmental factors. It shall be determined when the environmental effects of degradation on cargo restraint strap assemblies commensurate with the expected storage and service life become unacceptable for the minimum performance requirements.

NOTE: Environmental degradation data other than that documented in AIR1490B may be used if it can be substantiated and considered acceptable for the ETSO authorisation.

3.1.3 – Computer Software

None.

3.1.4 - Electronic Hardware Qualification

None.

3.2 - Specific**3.2.1 Failure Condition Classification**

N/A

4 - Marking**4.1 - General**

Marking as detailed in CS-ETSO Subpart A paragraph 1.2. In addition, each Cargo Restraint Strap Assemblies shall be legibly and permanently marked in accordance with SAE AS 5385C, section 7.3 with the following:

(i) dates of manufacture and expiration per SAE AS 5385C, section 4.5.2. Format the dates per SAE AS 5385C, section 7.2.

(ii) the rated ultimate load in daN and lbf.

(iii) a unique identifier if required by SAE AS 5385C, section 4.5.2(b).

Also mark permanently and legibly, with at least the manufacturer's name, subassembly part number, and the ETSO number:

(1) each component that is easily removable (without hand tool), and

(2) each subassembly of the article that may be interchangeable.

NOTE 1: any extra information listed in SAE AS 5385C, section 7, not specifically required in this paragraph, may be marked.

NOTE 2: Compliance with this ETSO does not necessarily indicate compliance with SAE AS 5385C. To make the cargo strap assembly as complying with SAE AS 5385C, the cargo strap assembly must be shown to meet the requirements of SAE AS 5385C in conformance with SAE AS 5385C, Para 7.1 and Note 8.

4.2 - Specific

None.

5 - Availability of Referenced Document

See CS-ETSO Subpart A paragraph 3.

APPENDIX 1.
MINIMUM PERFORMANCE STANDARD FOR CARGO RESTRAINT STRAP ASSEMBLIES

This Appendix prescribes the MPS for cargo restraint strap assemblies. The applicable standard is SAE AS 5385C "Cargo Restraint Straps – Design Criteria and Testing Methods", dated January 2007 modified as follows:

AS5385C Section	Action
1	Disregard
2	Modify Paragraph 2. "REFERENCES" by disregarding the last sentence.
3	Modify Paragraph 3.6 to omit reference to D6 in the first sentence. Modify Figure 1. to disregard D6 end fitting Disregard 3.14
4	Modify 4.4 to read as follows: The webbing, as used in the restraint strap assembly, i.e., including sewing and any treatment, shall meet the flammability test criteria of CS-25 Appendix F, Part I, paragraph (a)(1)(iv): it may not have a burn rate greater than 63.5 mm (2.5 in) per minute when tested horizontally with the apparatus and test procedures required in Appendix F, Part I, paragraph (b)(5) (see 5.8). Disregard 4.5.4 and 4.9.1 Modify 4.5.1 by adding the following note: "NOTE: Environmental degradation data other than that documented in AIR490B may be used if substantiated by the Applicant and approved by the Agency."
5	Disregard 5.9, 5.10 and 5.11 Modify 5.1 by adding the following note: "NOTE: Equivalent alternate methods must be approved by the Agency".
6	Disregard
7	Apply per Paragraph 4 of this ETSO
8	Disregard
9	Disregard
10	Disregard