

# European Aviation Safety Agency

## European Technical Standard Order

**Subject:** AIRCRAFT FABRIC, GRADE A.

### 1 - Applicability

This ETSO gives the requirements which new models of aircraft fabric, grade A that is 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 Aerospace Material Specification (AMS) 3806d „Cloth Airplane Cotton Mercerized 80lb (355N) Breaking Strength“, [dated April 15, 1980] as amended and supplemented by this ETSO:

Exceptions:

- (i) Delete from paragraph 2 of SAE AMS 3806d the following: „the latest issue of Aerospace Material Specification (AMS) shall apply.“
- (ii) Compliance with paragraphs 4.2.2.1, 5.2.4, and 8.3 of SAEAMS 3806d is not required.

Additions:

- (i) Paragraph 1.1 of SAEAMS 3806d shall read as follows: Form:This specification covers one strength and one weave of mercerized cotton cloth known as „airplane cloth“. However, synthetic fabric material, in particular polyester in the greige condition, also may be identified and used as „airplane cloth“ if the fabric is shown to have certain equivalent properties as cotton cloth.
- (ii) Paragraph 1.2 of SAEAMS 3806d shall read as follows:Application. Aircraft with wing loading less than 9 pounds per square foot (psf) and never-exceed speeds 160 miles per hour (mph) or greater. Primarily for the external covering of aircraft surfaces, such as wings, fuselage, ailerons, elevators and other airfoil surfaces.
- (iii) Replace the word cotton with cotton cloth in paragraph 3.1.1 of SAE AMS 3806d.
- (iv) Paragraph 3.1.2 of SAEAMS 3806d shall read as follows:Yarn:The cloth shall be woven from 2-ply combed cotton yarn or synthetic continuous filament yarn.
- (v) Paragraph 3.1.4 of SAEAMS 3806d shall read as follows:Finishing:The cloth shall be uniformly finished in accordance with the best practice for high grade airplane cloth. Finishing of cotton cloth shall consist of washing, framing and calendaring. The calendaring shall be sufficient to lay any nap present and shall provide a smooth even surface. Nap may be removed by singeing. Synthetic cloth shall remain unfinished (greige).

- (vi) In addition to the requirements of paragraphs 3.2.1, 3.2.2 and 3.2.6 of SAEAMS 3806d, include the following after each title: (cotton cloth only).
- (vii) The first sentence of paragraphs 3.3 of SAEAMS 3806d, shall read as follows:  
Quality: The cotton fibers and synthetic filament shall be evenly spun into yarns of proper and uniform yarn count, twist and diameter to produce the texture and weight required.
- (viii) In addition to the requirements of paragraph 4.6.1, 4.6.2, 5.1 and 5.2.2 of SAEAMS 3806d, replace reference to AMS 3806d with ETSO-C15d.

3.2 - Specific  
None.

**4 - Marking**

4.1 - General

Requirements for marking are specified in paragraph 5.1 of SAE AMS 3806[d].

4.2 - Specific

None.

**5 - Availability of Referenced Document**

See CS-ETSO Subpart A paragraph 3.