



Number: CTSO-2C601

Date of approval: July 20, 2015

Approved by: Yang Zhenmei

China Civil Aviation Technical Standard Order

This China Civil Aviation Technical Standard Order (CTSO) is issued according to Part 37 of the China Civil Aviation Regulations (CCAR-37). Each CTSO is a criterion which the concerned aeronautical materials, parts or appliances used on civil aircraft must comply with when it is presented for airworthiness certification.

Aviation Carpet

1. Purpose.

This China Civil Aviation Technical Standard Order (CTSO) is for manufacturers of aviation carpets applying for a CTSO authorization (CTSOA). This CTSO prescribes the minimum performance standards (MPS) that aviation carpet must first meet for approval and identification with the applicable CTSO marking.

2. Applicability.

This CTSO affects new application submitted after its effective date. Major design changes to article approved under this CTSO will require a new authorization in accordance with section 21.310 of CCAR-21R3.

3. Requirements.

New models of aviation carpet identified and manufactured on or after the effective date of this CTSO must meet the minimum performance standards in the appendix of this document.

The edge of the aviation carpet should be fixed to prevent the edge loose.

4. Marking.

Parts manufactured under this CTSO must be permanently and legibly marked with the information required in section 21.312(d) of CCAR-21R3.

5. Application Data Requirements.

The applicant must furnish the responsible certification personnel with the related data to support design and production approval. The application data include a statement of conformance as specified in section 21.310(c)(3) of CCAR-21R3 and one copy each of the following technical data:

a. A Manual(s) containing the following:

(1) Operation instructions and article limitations, including storage conditions (if applicable), cleaning, etc.

(2) Describe in detail any deviations.

(3) Installation procedures and limitations. Provide installation procedures that are sufficient to ensure that the article, when installed in accordance with the installation procedures, continues to meet the requirements of this CTSO. The limitations must identify any unique aspects of the installation and include a note with the following statement:

“This article meets the minimum performance and quality control standards required by a CTSO. Installation of this article on an aircraft requires separate approval.”

b. Instructions for continued airworthiness. Provide instructions covering periodic maintenance, calibration and repair for the continued airworthiness of aviation carpet. Include recommended inspection intervals and service life, as appropriate.

c. The quality control system description required by section 21.143 and 21.310(c)(2) of CCAR-21R3, including functional test specifications. The quality control system should ensure that it will detect any change to the approved design that could adversely affect compliance with this CTSO MPS, and reject the article accordingly.

d. Marking with the information required in paragraph 4 of this CTSO.

e. Technical conditions, design specification and process documents, etc.

f. List of all drawings and processes (including revision level) that define the article's design.

g. Manufacturer's CTSO qualification test report showing results of testing accomplished according to paragraph 3 of this CTSO.

h. Provide any other appropriate documents required by the authorities.

6. Manufacturer Data Requirements.

Besides the data given directly to the authorities, have the following technical data available for review by the authorities:

- a. Functional qualification specifications for qualifying each production article to ensure compliance with this CTSO.
- b. Material and process specifications.

7. Furnished Data Requirements.

If furnishing one or more articles manufactured under this CTSO to one entity (such as an operator or repair station), provide one copy of the technical data in paragraph 5.a, 5.b and 5.g of this CTSO. Add any other data needed for the proper installation, certification, use, and continued airworthiness.

8. Availability of Referenced Documents.

- a. Order National Standards(GB) from:

China Zhijian Publishing House (Standards Press of China)

Hepingli West Street 2, Chaoyang District, Beijing, China.

You may also order them online from the GB Internet website at:

www.spc.net.cn .

- b. Order Light Industry Standards (QB) from:

China Light Industry Press

East of Chang'an Avenue 6, Beijing, China.

You may also order them online from the QB Internet website at:

www.chlip.com.cn .

c. Order Aviation Industry Standards (HB) from:

China Aero-Polytechnology Establishment

Jingshun Road No. 7, Chaoyang District, Beijing, China.

You may also order them online from the HB Internet website at:

www.cape.cn .

Appendix Minimum Performance Standards for Aviation Carpets

SN	PROPERTY	TECHNICAL REQUIREMENTS	TEST METHODS
1	Dimensional Change	Relaxation shrinkage + 0.4% ~ 0.8%	QB/T 1088-2010
2	Pile Pull Out Strength	Woven carpet $\geq 5.0N$ Tufted carpet Cut pile $\geq 10.0N$; Loop pile $\geq 20.0N$	QB/T 1090-2001
3	Appearance Retention	When viewed from a distance of 5 feet (1.5 meters), no voids in face pile caused by pile loops being pulled through the backing structure or severed from the carpet, after running the Hexapod at increment fatigued to 12000 revolutions.	GB/T 26844-2011
4	Electrostatic Propensity	No greater than 2500 volts	GB/T 18044-2008
5*	12 seconds vertical flammability	Self-Extinguishing Time $\leq 15s$ Average Burn Length ≤ 203 mm Average Drip Extinguishing Time $\leq 5s$	CCAR-25R4 APP.F Part I
6*	Smoke Density	The value of Ds after 4 minutes shall not exceed 200.	CCAR-25R4 APP.F Part V
7*	Toxic Gas Emission	The toxic gas emission shall not exceed the following limits: CO 3500×10^{-6} HCN 150×10^{-6} HF 100×10^{-6} HCl 150×10^{-6} SO ₂ 100×10^{-6} NOx 100×10^{-6}	HB 7066-1994

* In addition to the new carpet , the carpet cleaned according to manufacturer's instructions to life service cleaning should be included.