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MINISTÈRE DE LA DÉFENSE

DGA

DIRECTION DES CENTRES D'EXPERTISE ET D'ESSAIS

CENTRE D'ESSAIS AÉRONAUTIQUE DE TOULOUSE

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N° CEAT/SP3

Monsieur le Directeur du Centre d'Essais Aéronautique de Toulouse
à
US Departement of Transportation Dockets
Docket n°FAA-2000-7909 – 11
400, Seventh Street SW
Room Plaza 401
Washington DC 20590
United States of America

Subject : comments on Improved Flammability Standards for Thermal/Acoustic Insulation Materials Used in Transport Category Airplanes proposed rule.

Dear sirs,

Please find hereafter the comments of the CEAT on the Notice N° 00-09 Improved Flammability Standards for Thermal/Acoustic Insulation Materials Used in Transport Categoriy Airplanes proposed rule.

The comments are listed according to the page numbers of the document.

PART VI test method to determine the flammability and flame propagation characteristics of thermal/acoustic Insulations materials.

Comment 1 : page 56995

The NPRM indicates that the flamme propagation concerns thermal/acoustic insulation « regardless of where it is installed in airplane » There are areas in the plane with small parts of insulation whose the size is smaller than the specimen tested : are these concerned with this test ? if yes, wich dimensions of the specimen should be used ?

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Comment 2 : pages 57002 and 57003

Radiant test pannel chamber :read 1397 by 495mm instead of 1400 by 500mm

Comment 3 : page 57003

External dimensions of the chimney : read 130 by 412mm instead of 129 by 411mm

Internal dimensions : read 114 by 396mm instead of 114 by 395mm

Comment 4 : page 57004 :

About equivalent test panel : it is necessary to remove « an equivalent panel must produce test results equivalent to the air-gas panel for any material tested » otherwise every lab equipped with electric panel must throw it away ! During the meeting of the working group held in Vitoria (july 99), FAA said that the use of electric panel would be useful and easier than air-gas panel. Consequently, before the publication of the NPRM, round robin tests between users of air -gas and electric panel must be realized.

Comment 5 : page 57005

(ii) Radiant panel placement : read 30° instead of 30§

Figure 4 : sliding platform bolts : read 11,1mm instead of 0,43mm and 1112mm instead of 1111mm

Comment 6 : page 57006

Figure 5 : retaining frame : read 324mm instead of 320mm and 200mm instead of 140mm

Comment 7 : page 57007

Figure 6 : securing frame read 191 instead of 190mm

(iv) read the exposed area of test specimen is 1003 x 184mm instead of 996 x 184mm.

Comment 8 : page 57008

(4) Pilot burner lengh of the burner read 73mm instead of 71mm and 51mm insted of 50mm for the distance of the flame above the specimen.

(7) (i) Calorimeter specification :

Is it necessary every time we will get a new transducer to ask for the supplier an evidence about the calibration of the standardized transducer reliable to NIST ?

The supplier Vatell informed us that they have developped thein own procedure of calibration since mars 2000 due to disagreement about the method used by NIST to calibrate the standardized transducer.

(6) Calorimeter : read 5,7 W/cm² instead of 5,6 W/cm²

(6) (H) read 0-4 W/cm² instead of 0-3,9 W/cm² and 0-6,4 W/cm² instead of 0-5W/cm²

(8) The distance from the outside frame to the centerline of the first hole : instead of read 48mm instead of 47mm

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Comment 9 : page 57009

figure 8 : read 48mm instead of 45,7mm and 337 instead of 335mm.

Comment 10 : page 57010

(e) calibration : read 1,7 W/cm² instead of 1,8 W/cm²

(f)(6) the pilot burner shall beat least read :13mm instead of 12mm above the test specimen.

Comment 11 :

The way to place the test specimen in the sliding platform is not enough described. We observed differences of duration between the positionning of the specimen and the ignition with burner pilot.

The gas pressure to set the flamme height is very high (around 6bars). It supplies a flamme with a great pressure on the sample at the contact point. In some cases a great hole appears both on the film and insulation materials ; This fire scenario is too aggressive to be representative of an hidden fire.

PART VII test method to determine the burnthrough resistance of thermal/acoustic insulation materials

Comment 1 : Page 57001

In §25.856 it is written that the means of fastening the materials to the fuselage must meet the flame penetration resistance but the test method describes a standard methodology for fastening. These purposes are in contradiction.

Comment 2 : page 57013

(2) (ii) burner cone : read 305 + 3 mm instead of 305 ±6 mm and 152±3 mm instead of 152 ± 6mm

Comment 3 : page 57019

(iv) test specimen. The specimen must be attached with 12 clamps and in the test procedure only 4 clamps on the vertical

former are noticed.

Comment 4 : pages 57020 and 57021

(e) calibration and

(f) procedure :

give all the test parameters in international units :

heat flux : 16 ± 0,8 btu/ft² sec equivalent to 18,2 ± 1 W/cm²

temperatures : 1900 + 100 °F equivalent to 1038 ± 56°C

air velocity : 2150ft/min equivalent to 10,9 ± 0,25m/s

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Comment 5 :

Specimen construction in the two test methods are not described in the same way particulary for the insulation materials wich must be tested both for burnthrough test and flame propagation.

We remain at your disposal for further information

The Head of the
materials and structures division

J.C. SAGNOL