

## Fire Properties Test Plan / Fire Properties Test Report Template

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<b>A/C APPLICABILITY</b>	All A/C
<b>ATA APPLICABILITY</b>	25
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**SUMMARY:**

This document shall

- Serve as a template for Fire Properties Test Plan / Fire Properties Test Report FPTP/FPTR
- Provide a basic and uniform framework including standardization approaches
- Show the minimum content of a certification and qualification document with regard to fire properties substantiation.

**KEYWORDS**
**RELATED DOCUMENTS**

	<b>NAME</b>	<b>FUNCTION</b>	<b>DATE</b>	<b>SIGNATURE</b>
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## RECORD OF REVISIONS

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## LIST OF ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
A/C	Aircraft
ABD	Airbus Directives
ABS	Airbus Material Standard
AC	Advisory Circular
AITM	Airbus Test Method
AP	Airbus Procedure
ARP	Aerospace Recommended Practices
ATA	Air Transport Association of America
CCL	Cargo Compartment Liner
CFR	Code of Federal Regulations
CRI	Certification Review Item
CS	Certification Specifications
EASA	European Aviation Safety Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBL	Fire Blocking Layer
FPE	Flame Penetration
FPTP	Fire Properties Test Plan
FPTR	Fire Properties Test Report
HLPTS	High Level Purchaser Technical Specification
HoV	Head of Version
HRSC	Heat Release Special Condition
IP	Issue Paper
JAR	Joint Aviation Requirements
MoC	Means of Compliance
PEI	Polyetherimide
POA	Production Organisation Approval
P/N	Part number
PS	Policy Statement
PTS	Purchaser Technical Specification
QA	Quality Assurance
QTML	Qualified Test Method List

## OBJECTIVE AND INSTRUCTION

The content of this document shall serve as a template for Fire Properties Test Plan/Fire Properties Test Report to be used within the cabin perimeter of Airbus. The document shows a basic, uniform framework plus approaches on specific topics/chapters with regard to standardization. Special attention shall be given towards the standardized approaches on test codes and detail design test matrix (ref. Chapter 2.1 and 3.3 of this document).

The document will present the minimum content of a FFTP/FPTR used for certification and qualification of cabin components with regard to fire properties. The document will also provide examples based on “best practices”.

This template purely serves as guidance material. It will not overrule any requirement and the content of the current ABD0031 remains valid.

When reading this document, you will find

- *Instructions represented in grey; these instructions will describe the reason and content of specific chapter*
- Examples indicated with the word **EXAMPLE** written in blue

The intention of this template is to give a good guidance and visibility of what is expected from Airbus side. It has not the intention to provide a word by word formal sample. The order of the specific chapter is not binding. Nevertheless, a reasonable order of chapter is necessary to create a self-explaining document, Airbus strongly recommends to follow the order to chapters as shown in this document.

Moreover, this template shall not be seen as “training” document as it purely focuses on formal/content aspects of FFTP/FPTR.

Airbus strongly recommends to focus on a comprehensive, self-explaining test plan. A well-established plan, providing basic and fundamental input, will simplify the further proceeding, i.e. creation of the report is just the addition of data sheets.

## GENERAL FPTP/FPTR ASPECTS

Document language is English. All pages should have a header and footer including information on document reference and Revision level. Clear numbering of all pages throughout the complete document is necessary.

The document in pdf format shall be searchable and all pages (including scanned pages) shall be readable.

Only released and signed documents shall be submitted to Airbus for review, if not otherwise defined.

### COVER PAGE

#### *Main/relevant information on cover page*

- *Supplier name and address*
- *Title of document (e.g. fire properties test plan/report)*
- *Document Number/reference and Revision level*
- *Equipment*
- *Part number*
- *A/C Program (A330, A320, ...)*
- *Additional Customer/Airline Information*

#### *Name/Date and Signatures for*

- *Prepared*
- *Checked*
- *Approved*

#### *In line with Signature Rules (company/internal and/or AP1020)*

### RECORD OF REVISIONS

*The Record of Revision shall include information on the revision date and reason for new revision. Detailed listing of all changes with reference to the revised pages is mandatory to allow clear visibility.*

*Changed pages and sections shall be marked with a change bar at the side.*

### TABLE OF CONTENTS

#### *Listing of all chapters including page numbers*

## TABLE OF FIGURES

*Table of figures can be included, not a must.*

## TABLE OF TABLES

*Table of tables can be included, not a must.*

## ABBREVIATIONS

*Listing of all abbreviations and applicable description shall be part of the document.*

### EXAMPLE:

ABBREVIATION	DESCRIPTION
A/C	Aircraft
AC	advisory circular
B/C	Business Class
CTR	CENTRE
CTS	Customized Technical Specification
FBL	Fire Blocking Layer
F/C	First Class
FPTP	Fire Properties Test Plan
FPTR	Fire Properties Test Report
HoV	Head of Version
CS / FAR	European Aviation Safety Agency / Federal Aviation Regulations
LR	Long Range
P/N	PART NUMBER
PTS	Purchaser Technical Specification
PY/C	Premium Economy Class
SC / CRI	Special Condition / Certification Review Item
STD	Standard
TN	Technical Note
TTL	Taxi, Take off and Landing
Y/C	Economy or Tourist Class



# 1 Introduction

## 1.1 Scope

*Hereunder the Listing/description of the component/modules to be certified. All P/N to be installed shall be listed.*

### EXAMPLE

This document determines the necessary proceeding to substantiate compliance to the applicable fire worthiness qualification and certification requirements for the following equipment:

EQUIPMENT	P/N
ABC	12345600
ABE	12345601

**Table 1: List of P/N to be installed**

as installed on <A/C programme>, <customer>, <HoV>,

< .... sketch .... >

This test plan/report is applicable to modules manufactured by <SUPPLIER> in <PLACE>.

## 1.2 Purpose

*Hereunder the short description of the purpose of the document.*

### EXAMPLE

This document

- identifies all relevant details of the components, sub-components, materials and material combinations used in the construction of the items defined in para. 1.1
- assigns the applicable airworthiness requirements, test methods and procedures
- describes test specimen configurations
- proposes the means of compliance (MoC)
- provides the test report sheets which substantiate compliance with the airworthiness and Airbus requirements

## 1.3 Referenced and supporting Documents

### 1.3.1 General Documents

List all applicable CS/JAR/FAR airworthiness regulation references for which this test plan/report should show compliance with. The airworthiness references shall be in line with the type certification basis of the relevant A/C type the module/equipment will be installed in. Information on A/C type certification basis can be found in the applicable Airbus Frame Specification of the part to be installed (e.g. Galley Frame Specification).

#### EXAMPLE

document reference	amendment/ issue	document title	source
CS part 25	amdt. 5	Certification specification for large aeroplanes	EASA
14 CFR part 25	amdt. 1 up to 128	Certification specification for large aeroplanes	FAA
CRI D-xx	xx	Certification Review Item A3XX Special Conditions	EASA
IP-xx	xx	Issue Paper A3XX Special Conditions	FAA

**Table 2: General Documents**

### 1.3.2 Airbus Documents

List all applicable and relevant Airbus documents like Frame Specification, Purchser Technical Specification, ABD references

#### EXAMPLE

document reference	amendment/ issue	document title	source
V2530 PTSKxx xxx	iss. 2	A350XWB item/module HLPTS	Airbus
ABD 0100	iss. I	Equipment – Design – General Requirements for suppliers	Airbus
ABD 0031	iss. F	Fireworthiness requirements pressurized section of Fuselage	Airbus

**Table 3: Airbus Documents**

Ta

### 1.3.3 Supplier Documents

List all applicable and relevant Supplier Documents like specifications, process descriptions, drawings, etc.

#### EXAMPLE

document reference	amendment/ issue	document title	source
XX	X	X	X
XX	X	X	X

**Table 4: Supplier Documents**

### 1.3.4 Other Documents

List all additional documents used for creation of the plan/ report like guidance material, Advisory circular, etc.

#### EXAMPLE

document reference	amendment/ issue	document title	source
PS-ANM-25.853-01-R2	Jul 03, 2013	Policy statement on flammability testing of interior materials	FAA
DOT/FAA/AR-00/12	latest	Aircraft Materials Fire Test Handbook	FAA

**Table 5: Other Documents**

## 2 Test Methods and Requirements

### 2.1 Regulations, Testmethods and Requirements

**NOTE:** For a standardized approach throughout all Airbus Suppliers and commodities the nomenclature of the test codes as displayed in the table 6 shall be used.

This table shall allow an easy overview about applicable test methods to show compliance to the relevant regulations. Further, it shall provide a clear naming of the test codes.

Airbus is expecting that tests are performed according AITM (which are equivalent to respectively more stringent than EASA/FAA test methods). However, for formal reasons (i.e. to show compliance to certification requirements) test certificates shall (in addition to the AITM) confirm compliance to JAR/CS/FAR (incl. Appendix F or handbook) criteria.

test code	test	test requirements, test methods
F1	60 s vertical Bunsen Burner Test	Requirements and test methods: ABD0031, section 7.1.1, and AITM 2.0002 A or CS/FAR 25.853 (a) and appendix F, part I (a)(1)(i) or DOT/FAA/AR-00/12 chapter 1
F2	12 s vertical Bunsen Burner Test	Requirements and test methods: ABD0031, section 7.1.2, and AITM 2.0002 B or CS/FAR 25.853 (a) and appendix F, part I (a)(1)(ii) or DOT/FAA/AR-00/12 chapter 1
F3	15 s horizontal Bunsen Burner Test	Requirements and test methods: ABD0031, section 7.1.3, and AITM 2.0003 or CS/FAR 25.853 (a) and appendix F, part I (a)(1)(iv) or DOT/FAA/AR-00/12 chapter 3
F4	15 s horizontal Bunsen Burner Test	Requirements and test methods: ABD0031, section 7.1.4, and AITM 2.0003 or CS/FAR 25.853 (a) and appendix F, part I (a)(1)(v) or DOT/FAA/AR-00/12 chapter 3
F5	30 s 45° Bunsen Burner Test	Requirements and test methods: ABD0031, section 7.1.5, and AITM 2.0004 or CS/FAR 25.855 and appendix F, part I (a)(2)(ii) & (iii) or DOT/FAA/AR-00/12 chapter 2
F6	30 s 60° Bunsen Burner Test	Requirements and test methods: ABD0031, section 7.1.6, and AITM 2.0005 or CS/FAR 25.869 (a)(3) / 25.1713 (c) and appendix F, part I (a)(3) or DOT/FAA/AR-00/12 chapter 4
F7	Flammability of Heat Shrinkable Tubing	Requirements and test methods: ABD0031, section 7.1.7, and AITM 2.0038
HR	Heat Release	Requirements and test methods: ABD0031, section 7.2, and AITM 2.0006 or CS/FAR 25.853 (d) and appendix F, part IV or DOT/FAA/AR-00/12 chapter 5
SD	Smoke Density	Requirements and test methods: ABD0031, section 7.3.1, and AITM 2.0007 A CS/FAR 25.853 (d) and appendix F, part V DOT/FAA/AR-00/12 chapter 6

sd1	Smoke Density	Requirements and test methods: ABD0031, section 7.3.2, and AITM 2.0007 B
sd2	Smoke Density of elect. wire/cable	Requirements and test methods: ABD0031, section 7.3.3, and AITM 2.0008 A/B
sd3	Smoke Density of non-elect. Cable used for optical signal transmission	Requirements and test methods: ABD0031, section 7.3.4, and AITM 2.0008 A/B
sd4	Smoke Density of elect. wire/cable used for data & RF transmission	Requirements and test methods: ABD0031, section 7.3.5, and AITM 2.0008 A/B
tx	Toxicity	Requirements and test methods: ABD0031, section 7.4, and AITM 3.0005
OB	Flammability of Seat Cushions	Requirements and test methods: ABD0031, section 7.5, and AITM 2.0009 or CS/FAR 25.853 (c) and appendix F, part II or DOT/FAA/AR-00/12 chapter 7
CCL	Flame Penetration Resistance of Cargo Compartment Liners	Requirements and test methods: ABD0031, section 7.6, and AITM 2.0010 or CS/FAR 25.855 (c) and appendix F, part III or DOT/FAA/AR-00/12 chapter 8
FC	Fire containment of Waste Stowage Compartments	Requirements and test methods: ABD0031, section 7.7 or CS/FAR 25.853 (h) or DOT/FAA/AR-00/12 chapter 10
FPR	Flame propagation of Thermal/Acoustic Insulation Materials	Requirements and test methods: ABD0031, section 7.8, and AITM 2.0053 or CS/FAR 25.856 (a) and appendix F, part VI or DOT/FAA/AR-00/12 chapter 23
FPE	Flame Penetration of Thermal/Acoustic Insulation	Requirements and test methods: ABD0031, section 7.9, and AITM 2.0056 or CS/FAR 25.856 (b) and appendix F, part VII or DOT/FAA/AR-00/12 chapter 24
SPE	Small parts, exempted from Bunsen burner testing. Size limitation (without bending or compressing of the part): <ul style="list-style-type: none"> <li>• Bulk items : max. 51mm x 51mm x 51mm (<math>\approx 2'' \times 2'' \times 2''</math>)</li> <li>• Flat shaped items: max. 76mm x 76mm x 13mm (<math>\approx 3'' \times 3'' \times 0.5''</math>)</li> </ul> Multiple presence of small parts and location close to each other shall be analysed with regard to the contribution to the propagation of a fire.	

**Table 6: Test Methods and Requirements**

## 2.2 Test Articles

*This chapter shall provide information on test articles. Focus shall be on requirements, test article selection and manufacturing.*

### EXAMPLE

Test samples will be selected and made to the applicable requirements of CS/FAR 25.853, 25.856, 25.869, ABD0031 et al.

Materials will be tested either as a specimen from a fabricated part or as a specimen simulating a cut section. The samples used for testing shall be representative of the production items in all respects, including materials, finishes, fabrication and assembly methods. Any deviation from this shall be recorded in the Fire Properties Test Report. Test samples shall be built in full accordance with the design specifications applicable for the items installed.

### 2.2.1 Test Article Identification

*This chapter shall describe the process/details on test article identification for proper traceability throughout the process steps of Test article definition, material specifications, fabrication and submittal to the test laboratory. This is especially applicable for specimens with multiple components built-up and several fabrication steps. For single unit materials detailed identification may not be necessary if clear description and batch information is available. Proper Test article identification is mandatory for conformity inspection and testing at the laboratory.*

*Every test sample shall be marked unambiguously on the side opposite to the test side concerning top of specimen & reference number related to the test plan. All markings shall be clear and legibly applied characters. For CCL and FPE testing, labels have to be removable free of residue. It may occur that a company has different documents used during manufacturing process (e.g. route cards) and for submittal to the test laboratory.*

## 2.3 Conformity Inspection

*This chapter shall give a clear description of the conformity inspection and its relevant process steps in line with the company procedures.*

### EXAMPLE

Following the manufacture of test samples outlined in section 2.2 of this document, the-

- Conformity process will take place at the following location: <SUPPLIER> <PLACE>
- The contact details of the conformity inspector is as follows:  
QA engineer name, title, telephone number, etc.
- The following documentation must be made available to the conformity inspector for each sample requiring conformity but is not to be included in this FPTP / FPTR –  
EASA form 1, and / or,  
FAA form 8130-3, and / or  
Equivalent documentation (such as statement of conformity etc... allowed under the  
<SUPPLIER> POA authorization

## 2.4 Test Laboratories

All planned and used test laboratories including information Laboratory name, contact details and on the test codes shall be presented in this chapter. Clear identification of laboratories used for previously tested data as well as laboratories that will be used for new tests as outlined in the test plan.

Testing shall be conducted at Airbus accepted test laboratories in accordance with qualified test method.

For Airbus released test laboratory and test method couples, see Airbus Qualified Test Method List (QTML) <http://www.airbus.com/tools/airbusfor/suppliers/>

### EXAMPLE

List of Test Laboratories proposed for new tests

test method(s)	laboratory name and address	contact name:
F1...F6, HR, SD, tx, ...	ABC	Mr./Ms. __TBD__ phone: __TBD__
F1...F6, HR, SD, tx, ...	DEF	Mr./Ms. __TBD__ phone: __TBD__
...		

**Table 7: List of Test Laboratories for new tests**

List of Test Laboratories for previously tested data

test method(s)	laboratory name and address	contact name:
F1...F6, HR, SD, tx, ...	ABC	Mr./Ms. __TBD__ phone: __TBD__
F1...F6, HR, SD, tx, ...	DEF	Mr./Ms. __TBD__ phone: __TBD__
...		

**Table 8: List of Laboratories for previously tested data**



## 2.5 Test Witnessing

*Test Witnessing is an important part in the process. Detailed description including nomination of persons who will witness the test is needed.*

*Test witness shall either be a member of the supplier certification team or a qualified representative of the test laboratory. The test operator shall not simultaneously act as a test witness.*

*Airbus reserves the right to witness any test. Thus a clear communication process on test dates and possible Airbus attendance is required.*

### EXAMPLE

One of the following members of the <SUPPLIER> certification team will witness the qualification/certification tests on behalf of <SUPPLIER>:

- Mr./Ms. \_\_TBD\_\_
- Mr./Ms. \_\_TBD\_\_

Alternatively, qualified laboratory personnel may be assigned as witness.

The test witness will validate that this test plan, conformity paperwork and supporting engineering drawings are completed and released prior to testing. The test witness will also verify that the tests are conducted in accordance with this test plan.

Airbus personnel will be informed of qualification/certification testing activities and invited to attend all qualification/certification tests. All parties will be given 4 week notice that a test activity is to take place.

## 2.6 Test Results/Conclusion

*There are two meanings of this chapter.*

*At test plan stage, this chapter gives a forecast towards content of the test report, display of test results and additional observations.*

*At report stage, this chapter shall present the conclusion, end of test program with applicable results. In case of any deviations to ABD0031 smoke and tox requirements, details on the deviations shall be given in this chapter.*

### EXAMPLE

#### FFTP

At the end of the qualification process a comprehensive qualification test report will be established. The report shall present in detail all results of the qualification tests, including any failures/ deviations from the requirements of the qualification test plan, as well as corrective actions taken.

- Conclusion of the qualification test program and a short summary of all qualification tests performed
- All detailed qualification test reports for the qualification test procedures with necessary information, data sheets and any other supplemental information (e.g. test certificates). (plots and conformity record sheets -- optional in a separate document, which will be presented upon demand)

- All other supplemental information which is necessary to prove the evidence of the qualification process (e.g. relevant observations impacting, influencing or changing the test methods, test procedures or result of the test itself).

## FPTR

All configurations as shown in chapter 3.3 used for equipment xxx as outlined in chapter 1.1 had been tested successfully.

## 2.7 Various

*This chapter can be used for other important aspects like similarity consideration, handling of test failures, definitions*

## 3 Detailed Fire Properties Substantiation

### 3.1 General Design Features

*Possibility to handle general design features independent from design specific features, possibility to state process descriptions (e.g. maximum allowed paint layer thickness); examples are:*

- *Bonded joints, construction specifics, used materials and their compliance*
- *Used adhesives (e.g. if one special adhesive is used for bonded details, make one representative test to have adequate data for further substantiation)*
- *Details on used paint systems or decor film materials including*
- *Handling of full metallic parts (e.g. only anodized)*

### 3.2 Sketches / Figures

*It is mandatory to have self-explaining figures of the affected modules/components. Flags shall indicate relevant design specifics which can be found in the test matrix chapter 3.3. If necessary, detailed figures may have to be added.*

### 3.3 Detailed Design Test Matrix

*For a standardized approach following table shall be used.*

*The test matrix below is based on all applicable drawings. It provides all details necessary for judgment of flammability classification of the respective parts.*

*Mandatory is a clear reference between the figures and flags/items from chapter 3.2 and this table. Suitable order of the ID listing shall be used (e.g. start with major panels, followed by non-panel items, and so on); listing of the matrix and order of the test certificates shall be linked.*

*For all parts not entirely manufactured from metal, the following information shall be nominated:*

- *Part number of the item*
- *Designation of the item*
- *Materials shall be named by their common name (e.g. PEI/ polyetherimide, polyester, PF prepreg, ...) and by their trade name. If applicable Airbus Specification (e.g. ABS) references shall be used in addition.*
- *Processes to manufacture the part (e.g. molding, thermoforming) shall be nominated. For metallic parts, no process information is provided.*
- *Shape of the part (e.g. block, plate, ring)*
- *If necessary, the thickness of the different layer in case of a multiple layer built-up shall be named*
- *If necessary, size (approximate length, width, height) and quantity (this is especially needed for small parts) shall be named*
- *If necessary, exposed surface area need to be named (especially needed for panel constructions to differentiate between HR relevant or not relevant)*

*In case of Similarity rationales for the proposed similarity in the column "comments" shall be added.*

*Certificates for materials already tested shall be included in the test plan. For other parts and materials, an appropriate means to substantiate compliance will be suggested.*

**EXAMPLE** (Please note, following pages show an example, the overall appearance of the table shall not be changed, but variances on nomenclature are allowed. Please consider bullet points in grey instruction above.)

Figure ID	Usage drawing reference specimen ID	installed built-up/material	Tested built-up / material	Test code	Results Remarks	test data sheet	page	comments
1-1	door panel  drw: D252-65748-xxx  Specimen ID's  RFT-3456-1 RFT-3567-1	L1 70F1 xxx color 2.49 Isovolt L2 Panel xxx 0.5" EC L3 filler xxx Mankiewicz L4 paint xxx color 2.49 Mankiewicz	Side 1 L1 70F1 xxx color 2.6 Isovolt L2 Panel xxx 0.5" EC L3 filler xxx Mankiewicz L4 paint xxx color 2.6 Mankiewicz	F1	pass	1111	23	color decor foil different
				HR	pass	1112	24	
				SD	pass	1113	26	
				tx	pass	1114	28	
			Side 2 L1 paint xxx color 2.6 Mankiewicz L2 filler xxx Mankiewicz L3 Panel xxx 0.5" EC L4 70F1 xxx color 2.6 Isovolt	F1	will be tested	pending		color paint different HR n/a not exposed
				HR	n/a	n/a		
				SD	will be tested	pending		
				tx	will be tested	pending		
1-2	partition drw: D252-35641-xxx Specimen ID RFT-3567-2	L1 S1234 Schneller L2 panel 1.0" Schütz L3 S1234 Schneller	exact cross section will be tested	F1	will be tested	pending		Side 2 substantiated through side 1
				HR	will be tested	pending		
				SD	will be tested	pending		
				tx	will be tested	pending		
1-3	cover	L1 PEI Ultem 9075 2mm grey Sabic	L1 PEI Ultem 9075 2mm yellow Sabic	F1	pass	1115	29	color PEI different
				HR	pass	1116	30	
				SD	pass	1117	32	
				tx	pass	1118	34	
1-4	cover	L1 PC Lexan 940 2,5mm grey Sabic	L1 PC Lexan 940 2,5mm blue Sabic	F2	pass	1119	35	color PC different 0.85 ft² HR not required
				sd1	pass	1120	36	
				tx	pass	1121	38	
1-5	seal	L1 ABSxxxx Saint Gobain L2 Adhesive ABC XY L3 70F1 xxx color 2.49 Isovolt L4 Panel xxx 0.5" EC L5 filler xxx Mankiewicz L6 paint xxx color 2.49 Mankiewicz	L1 ABSxxxx Saint Gobain	F3	pass	1122	39	bonded detail detail+adh+substrate tested separately
				sd1	n/a			
			L2 Adhesive ABC XY  L3 -L6 see ID 1-1	tx	n/a			sd1/tx n/a refer to ABSxxxx
				F2	pass	1123	40	

Table 9: Detailed Test matrix 1/2

Figure ID	Usage drawing reference specimen ID	installed built-up/material		Tested built-up / material		Test code	Results Remarks	test data sheet	page	comments
1-6	cushion	L1 Fabric 1234.01 L2 Foam 1 65% L3 Adhesive Simalfa L4 Foam 2 35%	Rohi Metzeler Alpha Adh Metzeler	L1 Fabric 1256.01 L2 Foam 1 50% L3 Adhesive Simalfa L4 Foam 1 50%	Rohi Metzeler Alpha Adh Metzeler	OB	will be tested	pending		critical fabric per AC 25.853-1 critical foam per AC 25.853-1
1-6-1	Fabric	L1 Fabric 1234.01	Rohi	identical material tested		F2 sd1 tx	pass pass pass	1124 1125 1126	41 42 44	
	Fabric Similarity	L1 Fabric 1256.01	Rohi	identical material tested		F2	pass	1127	45	
1-6-2	Foam	L1 Foam 1	Metzeler	identical material tested		F2 sd1 tx	pass	1128	46	
							pass	1129	47	
							pass	1139	49	
1-6-3	Adhesive	L1 Simalfa	Alpha Adh	identical material tested		F2	pass	1140	50	
1-6-4	Foam	L1 Foam 4	Metzeler	identical material tested		F2 sd1 tx	pass	1141	51	
							pass	1142	52	
							pass	1143	54	
1-7 not in figure	Spacer	L1 PA 6/6 FR 0.3"x0.6"x1.2"	XYZ			SPE				Quantity: 3 per Module
1-8	Placard	L1 micro print selfadhesiv EDC L2 divers		L1 micro print selfadhesiv EDC L2 Laminate 0.02"	Gurit	F2	pass	1144	55	tested on worst case substrate

Table 10: Detailed Test matrix 2/2

## 4 Previously Tested Data

*All previously tested data shall be added already at test plan stage.*

*This allows an early review of the data and in case of any comments/rejection the supplier has more time for additional planning of necessary test.*

*Order of the different test data sheet shall be in line with listing in detailed design matrix (chapter 3.3) to allow comfortable review.*

*See chapter 5 for minimum requirements on test data sheets.*

## 5 Test Data Sheets

*All data sheets tested as outlined in the test plan shall be included in this chapter.*

*Order of the different test data sheet shall be in line with listing in detailed design matrix (chapter 3.3) to allow comfortable review.*

*Minimum requirements in test data sheets (also applicable for chapter 4)*

- *Certification tests, no acceptance of engineering tests*
- *Clear designation of the tested material and its built-up*
- *Cross reference to information given in the detailed design matrix (chapter 3.3) shall be possible*
- *Right test method to be assigned on the data sheet (no acceptance of Boeing Test Method for tx)*
- *Appropriate signatures from test personnel and witness (4 eye principle)*
- *Information on tested batch (preferably on test data sheet; information needs to be available upon request)*
- *See as well FAA Fire Test Handbook for further guidance on test data sheets  
DOT/FAA/AR-00/12*
- *Heat release testing: graphs need to be included*
- *Smoke Density: graphs have to be available upon request, but not mandatory to be included*
- *Fire Containment Testing: Temperature graphs have to be added as well as color pictures in good quality*

## 6 Conformity Paperwork / Additional Information

*If necessary conformity paperwork, additional information, drawings, material data sheets shall be added to the document.*

*Conformity paperwork does not necessarily need to be included in the test report, but needs to be available upon request. This availability is mandatory. Airbus reserves the right to make sample checks. Finally, it is company decision if data will be added or not in FFTP/FPTR.*



## APPENDIX A – SEAT SPECIFICS

### GENERAL

- Airbus requests to receive 1 FFTP/FPTR, maximum 2 FFTP/FPTR in a seat certification/qualification process, separation between seat structure and seat cushion is possible. The seat structure document shall cover aspects like vertical burn, HRSC (Heat Release Special Condition and ABD0031 Smoke Density/Toxicity Testing
- As outlined per specification, Airbus requests a FFTP and FPTR; although a new seat certification/qualification program may not have new planned tests, the request for a test plan remains valid. In case of similarity considerations (e.g. on seat cushion configurations), the test plan shall present the proposed similarity including all necessary data. This allows an early review as well as early indication if similarity is acceptable or will be rejected.

### SEAT CUSHION

- Clear description and detailed figures of the cushion built-up and test configurations shall be part of the FFTP/FPTR
- In case of similarity proposals for oil burner testing per App. F part II, all relevant aspects need to be presented (vertical burn data of fabrics, weight, weave style, density of foams) and shall be in line with AC 25.853-1. Similarity on dress cover fabrics shall be restricted to the same manufacturer.
- Adhesives used to bond foam-to-foam, fabric-to-padding, FBL-to-cushion, etc. need to be clearly identified and definitely to be shown to pass 12s vertical Bunsen Burner Requirement.

### HEAT RELEASE SPECIAL CONDITION

- So far, recently released ARP6199 did not receive final and official acceptance from authority side (e.g. chapter 6.6). Nevertheless, the ARP provides a standardized approach with regard to applicability and the classification of traditional/non-traditional parts (threshold areas and calculation methods). In order to support this standardized approach Airbus has no objections to use the ARP document
- As soon as an official accepted guidance paper is available, this paper shall be used for future certification activities
- Detailed description of the analysis and classification of traditional/non-traditional parts and exempted areas shall be included prior chapter 3.3 of the FFTP/FPTR template. As stated before, HRSC analyse shall be in line with limits from industry discussion/ARP paper.
- Chapter 3.3 Detailed Design Test Matrix: column for comments shall be used to clearly identify traditional/non-traditional features (including necessary size information) to follow the proposed testing/substantiation path.