AIM ALTITUDE
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TEL: +44(0)1223 441000 FAX: +44 (0)1223 862336

UKAS TESTING 2795

Accredited Nadcap™ 6495177049

FIRE TEST REPORT

Lab. Ref. No.:	FST38861 Iss 1	S.O No.:	L19973	Page 1 of 2
Material:	VFR303			
Customer:	VIKING EXTRUSIONS LTD	P.O. No.:	PO24873	
Date of Test:	31/07/2018	Rel. Note No.:	N/A	
Specimen Conditioning:	24hr. min. at 22.5 +/- 1.5°C and 50 +/- 5% RH	Test Plan / Document	N/A	

TEST METHOD / SPECIFICATION		TEST RESULT 1	2	3	MEAN	CRITERIA (max. average)	PASS/FAIL
FLAMMABILITY							
F1 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(i) & (b)(4) **60s. Vert.**	Afterflame (sec)					15 sec.	
	Burn Length (in)					6 in.	
	Drip Exting Time (sec)					3 sec.	
F2 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(ii) & (b)(4) **12s. Vert.**	Afterflame (sec)					15 sec.	
	Burn Length (in)					8 in.	
	Drip Exting Time (sec)					5 sec.	
F3 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(iv) & (b)(5) **15s. Horiz.**	Burn Rate (in/min)	0.00	0.00	0.00	**0.00**	2.5 in/min.	PASS
F4 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(v) & (b)(5) **15s Horiz.**	Burn Rate (in/min)					4.0 in/min.	
F5 CS 25.855(d) Amdt.21 App.F Pt.I(a)(2)(ii) & (b)(6) **30sec/45°**	Afterflame (sec)					15 sec.	
	Afterglow (sec)					10 sec.	
	Flame Penetration					NONE	
F6 CS 25.1713(c) Amdt.21 App.F Pt.I(a)(3) (b)(7) **30sec/60°**	Afterflame (sec)					30 sec.	
	Burn Length (in)					3 in.	
	Drip Exting Time (sec)					3 sec.	
F7 HEAT RELEASE * CS 25.853(d) Amdt 21 App.F Pt.IV (e) & (g)	Peak HR (kW/m^2)					65(kW/m^2)	
	2 min THR ($kWmin/m^2$)					65($kWmin/m^2$)	
F8 SMOKE EMISSION * CS 25.853(d) Amdt 21 App.F Pt.V(a) & (b)	Ds Max in 4 min. (Flaming)					200	
F9 SMOKE EMISSION * ABD0031 IssF ABD0031 IssF	Ds Max in 4 min. (Flaming)	42.81	39.11	50.49	**44.14**	200	PASS
	(Non Flaming)						
F10 TOXIC GAS EMISSION (ppm) ABD0031 IssF	CO (Flaming)	380.00	376.00		**378**	1000	PASS
	CO (Non-Flaming)						
	HCN (Flaming)	<1	<1			150	PASS
	HCN (Non-Flaming)						
	HF (Flaming)	<1	<1			100	PASS
	HF (Non-Flaming)						
	HCL (Flaming)	<1	<1			150	PASS
	HCL (Non-Flaming)						
	SO_2 (Flaming)	<1	<1			100	PASS
	SO_2 (Non-Flaming)						
	NO_x (Flaming)	<1	<1			100	PASS
	NO_x (Non-Flaming)						

* SEE ATTACHED GRAPHS **FILENAMES:** FST38861F.REP

The results detailed above relate only to the items tested.

COMMENTS; Samples Extinguished and Failed to Reach Timing Marker (F3)

Flammability: Flame Temp. (Min. 843C (1550F)): 861°C Heat Release: Calibration Factor: 0.3185 kW/mV

Smoke Emission: Heat Flux (25 +/- 0.5kW/m^2) : 25.1 Heat Flux (35 +/- 0.5kW/m^2) :

TESTED BY:
NAME: S. ELLIS
TITLE: Test Laboratory Engineer
DATE: 02/08/2018

LABS AIM 3

AUTHORISED BY:
NAME: D. Heyes-Fisher
TITLE: Test Laboratory Team Leader
DATE: 02/08/2018

LABS AIM 5

UNCERTAINTY OF MEASUREMENT **Flammability** - Afterflame/Drip Exiting Time +/- 0.7sec, Burnlength +/- 0.1in, Burn Rate +/- 0.1in/min **Heat Release** - +/- 1.5% **Smoke Emission** - +/- 4% **Toxic Gas Emission** - +/- 15%

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FIRE TEST REPORT

Lab. Ref. No.:	FST38861 Iss 1	S.O No.:	L19973	Page 2 of 2
Material:	VFR303			
Customer:	VIKING EXTRUSIONS LTD	P.O. No.:	PO24873	
Date of Test:	31/07/2018	Rel. Note No.:	N/A	
Specimen Conditioning:	24hr. min. at 22.5 +/- 1.5°C and 50 +/- 5% RH	Test Plan / Document	N/A	

Test Laboratory Equipment Used

"H" Number	"P" Number	Instrument	Serial No.	Expiry Date	Item Used For Test
Flammability					
421	012	Vertical Flam Chamber	N/A	05 July 2019	
422	013	Horizontal Flam Chamber	N/A	05 July 2019	*
-	159	45/60° flamm chamber	N/A	20 October 2018	
-	204	RS Pro RS-1384 TEMP LOGGER	171201074	21 May 2019	*
-	194	STOP WATCH	39169-TM	13 November 2018	*
-	189	12" Steel rule	678-012	29 August 2018	*
Heat Release					
270	001	OSU Chamber	K11234	01 August 2018	
-	072	Vatell TG1000-1	9022	12 January 2019	
490	099	Data Acquisition/Switch Unit	MY41028196	16 October 2018	
586	146	16 Channel Reed Multiplexer	MY41017297	16 October 2018	
Smoke Emission & Toxic Gas					
524	121	FTT Smoke Box	1111527	05 October 2018	*
-	200	Radiometer	18338	03 April 2019	*
-	196	Testo 350 Flue Gas Anylizer	2293549	12 April 2019	*
-	157	Dräger X-act 500	ERHC-0041	04 April 2019	*
-	158	Dräger X-act 500	ERHC-0135	13 April 2019	*
Conditioning Chamber					
-	130	Conditioning Chamber SU700V	59987	08 February 2019	*
-	195	Conditioning Chamber TAS (4057)	26820712	15 July 2019	

COMMENTS

CALIBRATION/EQUIPMENT CHECKED BY:

NAME: S. ELLIS
TITLE: Test Laboratory Engineer
DATE: 02/08/2018

LABS AIM 3

AIM COMPOSITES

UKAS TESTING 2795

Smoke Density Chamber Test Report

Report filename	C:\SMOKEBOX\DATA\Astme662\FST38861F.rep
Standard	ASTM E 662
Laboratory	
Date of report	31 July 2018

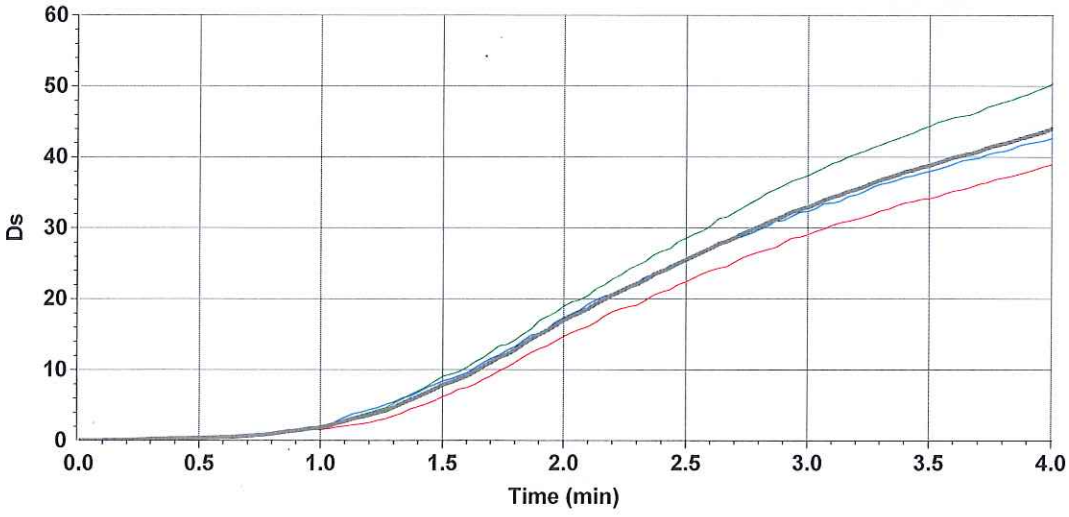
Specimen Information

Test name	FST38861 VFR303
Conditioned?	Yes
Conditioning temperature	23°C
Conditioning RH	50%

Test Results

Flaming tests

Test	Dm (-)	t(Dm) (s)	Duration (s)
Mean	**44.14**	**241**	**240**
F 1	42.81	241	240
F 2	39.11	241	240
F 3	50.49	241	240



The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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2795

UKAS IEC/ISO 17025:2017 **Nadcap** Non-Metallic Materials Testing

An Airbus Approved Test House
ARP-ID 135583

Fire Safety Test Report

Lab Reference No:	FST51255 Issue 1
Sales Order No:	SE16912
Customer:	VIKING EXTRUSIONS
Purchase Order No:	29192
Material/Part No:	JOB NO: 56465. SHORE HARDNESS: VFR303. BATCH NO: MS26584/MS28510. CURE DATE: 28-07-22
Date of Test:	20 October 2022
Conditioning:	EASA - 24hr. min. at 21 +/- 3ºC and 50 +/- 5% RH
Time In: 17/10/2022 10.00	**Time Out:** 20/10/2022 12.10
Release Note No:	N/A
Test Plan / Document:	N/A

Tests Results

Test Method/ Specification	F4 CS 25.853(a) Amdt.27 App.F Pt.I(a)(1)(v) & (b)(5) 15 second horizontal

	TEST RESULT					MEAN	CRITERIA (max average)	PASS/ FAIL
	1	2	3	4	5			
Burn Rate (in/min)	0.00	0.00	0.00			0.00	4.0 in/min.	PASS

Comments & Observations	Sample failed to ignite and reach timing marker

Compiled By:

I here by attest that this report has been generated in accordance with customer and regulatory requirements; recorded results reflect the test activity and test requirement.

Name	Steve Ellis	**Signed & Stamped**	LAB ACS 003
Title	Test Laboratory Engineer		
Date	21 October 2022		

Tested By:

I here by attest that test(s) have been conducted in accordance with customer and regulatory requirements, and all equipment is within calibration and fit for function; recorded results reflect the test activity and test requirement.

Name	Steve Ellis	**Signed & Stamped**	LAB ACS 003
Title	Test Laboratory Engineer		
Date	21 October 2022		

Approved By:

I here by attest that this report and stated results have been generated in accordance with customer and regulatory requirements; recorded results reflect the test activity and test requirement.

Name	Dominic Moore	**Signed & Stamped**	QUALITY ACS 001
Title	Head of Quality		
Date	21 October 2022		

Equipment Used

Unique "P" No.	Description	Next Calibration Date
P234	CONDITIONING CHAMBER	12 November 2022
P342	DIGITAL THERMOMETER	21 July 2023
P013	HORIZONTAL FLAM CHAMBER	22 June 2023
P333	STEEL RULE	26 October 2022
P337	STOPWATCH	03 March 2023
P331	THERMOCOUPLE	21 July 2023

Notes

Note 1 Results detailed in this report relate only to the item(s) tested, as submitted by the customer.

Note 2 This test report **will not** be reproduced, except in full, without written approval from the laboratory.

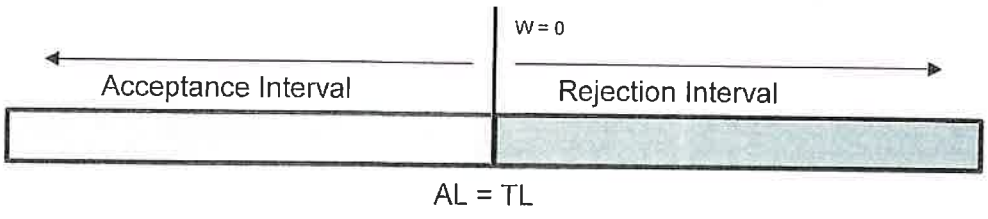
Note 3 Opinions and Interpretations are not accredited.

Note 4 The material identification and/or descriptions have been supplied by the customer and has not been verified by AVIC Cabin Systems (UK) Limited.

Note 5 The labporatory activities related to these results have been performed under our UKAS and Nadcap scopes of approval/accreditation. Results are reported as accredited, except in indicative instances.

Note 6 Decision Rule

The laboratory at AVIC Cabin Systems (UK) Limited employs the **"Simple Acceptance"** or **"Shared Risk"** decision rule as a default (unless otherwise specified by the customer).
This is a binary decision rule, the acceptance limit (AL) is considered equal to the tolerance limit (TL) and the guard band (w), equal to length 0.
Therefore, the **specific risk** can be up to 50% probability of false acceptance (PFA), as referenced in ILAC-G8:09/2019.
PASS - Result is below the acceptance limit, AL = TL
FAIL - Result is above the acceptance limit, AL = TL



Note 7 Uncertainty of measurement

Flammability - Afterflame/Drip Exiting Time +/- 0.7sec, Burnlength +/- 0.1in, Burn Rate +/- 0.1in/min
Smoke Emission - +/- 4%, Toxic Gas Emission - +/- 15%