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AVIATION TEST SYSTEMS



Aviation Flammability Test Chamber

Appendix F, Part I / FAA · EASA · CAAC

Testing Today for a Brighter Tomorrow.

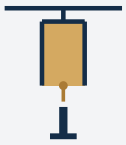
Test methods and specimen setups

Four Bunsen burner test configurations for cabin and cargo compartment materials and electrical wire and cable insulation.



One test chamber, four interchangeable specimen holders

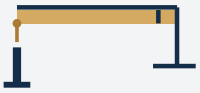
The chamber and specimen holders are separate order items. Each holder can be purchased individually.



Vertical Bunsen Burner Test

12 / 60 s / (b)(4) / TL-A016

The flame contacts the lower edge. Afterflame time, burn length and flaming drips are evaluated.



Horizontal Bunsen Burner Test

15 s / (b)(5) / TL-A017

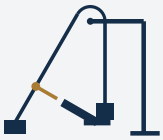
The installed face points down. Flame is applied at the specimen end and the burn rate is measured.



45° Bunsen Burner Test

30 s / (b)(6) / TL-A018

Flame is applied beneath the center of the panel. Flame penetration, flame time and glow time are evaluated.



60° Bunsen Burner Test for Electrical Wire and Cable

30 s / (b)(7) / TL-A019

A weight tensions the wire or cable. The chamber door stays open during the test.

Manual burner angle adjustment

The operator sets the burner angle for the selected method.

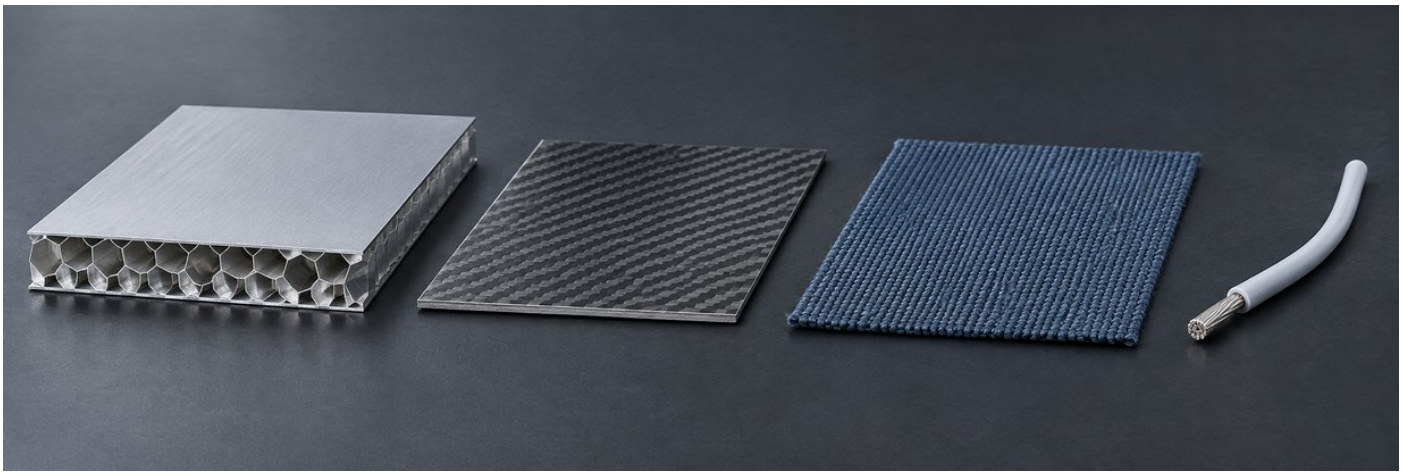
Automatic linear travel

The burner advances to the test position and retracts when the flame application time ends.

7-inch touchscreen PLC/HMI

Test program selection and flame application timing.

Specimens and chamber features



Example specimens · Sandwich panel, laminate, upholstery fabric and insulated cable

Instrument features

Test chamber	Stainless steel interior, tinted viewing window. Painted exterior in RAL 7035 and RAL 7016.
Specimen holders	Vertical, horizontal, 45° panel and 60° wire and cable holders are ordered separately.
Burner positioning	Manual angle adjustment and automatic linear advance and retraction.
Gas supply and flame adjustment	Methane line includes a regulator, pressure gauge, flowmeter and needle valve for flame adjustment. Burner inlet pressure is 17 ± 2 kPa.
Flame temperature verification	Type K thermocouple included, with PLC readout on the 7-inch HMI. FAA minimums are 1550 °F (≈843 °C) for vertical, horizontal and 45° tests and 1750 °F (≈954 °C) for the 60° wire and cable test.
Built-in exhaust fan	The fan stays off during testing and clears smoke from the chamber after the test.
Control panel	7-inch touchscreen PLC/HMI and emergency stop button.
Power supply	230 V AC / 50 Hz or 120 V AC / 60 Hz. Specify the power version when ordering.
Flame application programs	12 and 60 s vertical, 15 s horizontal, 30 s for 45° panel and 60° wire and cable.

Dimensions and technical specifications shown may vary with the production revision and order configuration of the unit supplied.

Supported standards and test methods

FAA 14 CFR Part 25 and EASA CS-25 • Appendix F, Part I

Cabin (25.853), cargo compartment (25.855) and wire insulation (25.1713(c)). FAA Aircraft Materials Fire Test Handbook, Chapters 1–4.

CAAC CCAR-25-R4 / Appendix F, Part I (b)(4)–(7)

Aviation test method cross-reference

Test configuration	FAA / EASA / CAAC	Airbus ABD0031	Boeing BSS
Vertical · 60 s	(b)(4)	AITM 2-0002 A	BSS 7230 F1
Vertical · 12 s	(b)(4)	AITM 2-0002 B	BSS 7230 F2
Horizontal · 15 s	(b)(5)	AITM 2-0003 A / B	BSS 7230 F3 / F4
45° panel · 30 s	(b)(6)	AITM 2-0004	BSS 7230 F5
60° wire/cable · 30 s	(b)(7)	AITM 2-0005	BSS 7230 F6 / BSS 7324

> In the 45° test, the exposed panel face is oriented as specified by the applicable standard.

Method references

FAA Appendix F
EASA CS-25
CAAC CCAR-25-R4
FAA Handbook

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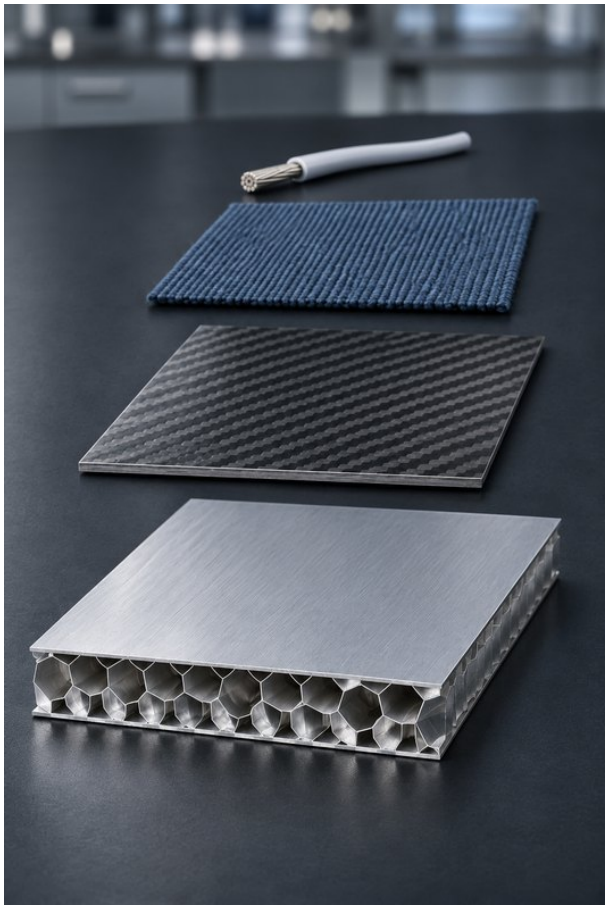
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