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UL 94 HORIZONTAL/VERTICAL FLAME CHAMBER DETAILED SPECIFICATION

UL 94 Test Chamber

Overview	Bench mounted draft free stainless steel combustion chamber with large door and window made from toughened glass giving a generous view of the specimen during a test. Two access ports enable easy entry to the chamber for movement of the burner and specimen.
External dimensions (m)	1.27 (L) x 0.6 (D) x 1.3 (H)
Internal dimensions (m)	1.2 (L) x 0.6 (D) x 1.2 (H)
Internal volume (m ³)	0.864
Exhaust	Self-starting industrial frame size extraction fan with over temperature/current protection. Low noise metal frame and metal impeller meet UL94V-0. Outer diameter of exhaust chimney = 100mm
Exhaust flow rate (l/s)	19.3
Interior light	2 Ft fluorescent, 240V 50/60Hz or 110V 50/60Hz
3 x digital timers	8 digit battery powered panel mount programmable timer with 10 timer ranges and 9mm high reflective LCD display. Replaceable internal battery lithium battery provides up to 7 years unit uninterrupted operation.

Burner, Gas Control System

Burner	A burner in compliance with ASTM D 5025,
Burner wing tip	Dimensions of slit 48 ± 1 mm in length by 1.3 ± 0.05 mm in width. Used for the test procedure in Horizontal Burning Foamed Material Test.
Burner mounting fixtures	Simple angle adjustment (0° , 20° , 45° available) from the vertical
Gas flow meter	Ultra fine flow adjustment valve and flowmeter, 0.1-1.7l/min or 10-150cm ³ /min CH ₄
Manometer	0-200mmH ₂ O
Flash back arrestor	Safety precaution

Specimen Holders and Support

2 x Retort stand tripod bases	180mm from rod to centre of foot. Cast iron with central hole tapped for retort rod. Blue acrylic gloss finish with rubber feet
2 x Retort rod	600mm stainless steel retort rod
1 x Swivel post holder	Two Q-clamp rod holders with centre swivel allows tilting of clamp at any angle in parallel planes. Outside adjustment screw allows close proximity between items.
2 x Three prong clamp (medium)	Three-prong clamps for holding circular or irregular objects. Dual adjustment allows both jaws to be moved to the object without having to move the entire clamp and enables even weight distribution around the rod axis. Non-corrosive nickel finish with slip on vinyl and fibreglass finger covers. Maximum jaw capacity = 57mm

Specimen Holders and Support (Continued)

2 x Three prong clamp (small)	As per three prong clamp (medium) but maximum jaw capacity = 25mm
3 x Boss head	Diecast, nickel-plated with heavy nickel-plated brass thumb head clamping screws.
1 x Flexible specimen support	Used in the Horizontal Burning Test; HB
1 x Specimen mandrel form	12.7 ± 0.5mm diameter rod
1 x Sample support gauze	Stainless steel, 215mm long x 75mm wide with 13mm of its length bent to form a right angle at one end
1 x Foam support stand	Used in the Horizontal Burning Famed Material Test: HBF, HF-1, or HF-2
1 x Wire gauze	125mm x 125mm, having 20 openings per 25mm, made with 0.43 ± 0.03 diameter iron wire.

Summary

The FTT UL 94 tests the flammability of plastic materials for parts in devices and appliances. The apparatus is supplied as a complete system incorporating all the features necessary for ease of use and safety. It conforms to all five UL 94 horizontal and vertical burner tests and associated ASTM and international standards.

Conformance to UL 94, Test for Flammability of Plastic Materials for Parts in Devices and Appliances

Clause	Standard	FTT
Laboratory fume hood volume	At least 0.5m ³	0.864m ³
	Permit observation	Large viewing window
	Draft free	Yes
	Isolated exhaust fan	Yes
Laboratory burner	Length 100mm ± 10mm	Yes
	Diameter 9.5mm ± 0.3mm	Yes
	In compliance with ASTM D5025	Yes
Burner wing tip	Slit length 48mm ± 1mm	Yes
	Slit width 1.3mm ± 0.05mm	Yes
Burner mounting fixture	20° support	Yes
Ring stands	Ring stands, clamps, wire gauze	Yes
Timing Device	Accurate to 0.5s	3 off
Wire gauze	20 openings / 25mm	Yes
	0.43mm ± 0.03mm diameter iron wire cut to 125mm squares	Yes
Support fixture	HB	Yes
Specimen mandrel form	12.7mm ± 0.03mm	Yes
Support gauze	215mm x 75mm, 13mm of length bent	Yes
	6.4mm mesh gauze, 0.88 ± 0.05mm	Yes
Foam support fixture	Metal, holds support gauze	Yes
Manometer	0 – 200mm H ₂ O, 5mm increments	Yes
Flow meter	± 2% accuracy	2 off
Burner Calibration	In compliance with ASTM D5025	Optional

Please visit our web-site (www.fire-testing.com) or contact us directly for any further information on our range of fire testing instrumentation.