



TESTING CERT # 1136.03

# Chemitox

## TEST REPORT

Report Number: 170024

Date of Issue: October 29, 2019

Report to:

### HAKKO CORPORATION

591-2 Fujikubo, Miyoshimachi, Iruma-Gun, Saitama 354-0041, JAPAN

Prepared by:

### Chemitox, Inc., Yamanashi Testing Center

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- (1) Chemitox is accredited by the following agency to ISO/IEC 17025.  
American Association for Laboratory Accreditation (A2LA) — Certificated No: 1136.03
- (2) This TEST REPORT refers only to the sample tested, unless stated otherwise.

## HAKKO CORPORATION

591-2 Fujikubo, Miyoshimachi, Iruma-Gun, Saitama 354-0041, JAPAN

### UL94 HB Flame Test Report

#### 1. Objective

We conducted Horizontal Burning Test in accordance with UL 94 (6th 2016-03-21) "STANDARD FOR SAFETY –Tests for Flammability of Plastic Materials for Parts in Devices and Appliances-".

#### 2. Date of Test

January 19, 2017

#### 3. Description of Test Specimens

The description of the specimens given in Table 1 has been prepared from information provided by HAKKO CORPORATION. This information has not been independently verified by HAKKO CORPORATION. All values quoted are nominal, unless specified.

**Table 1** Description of Specimens

<b>Received on</b>	2017-01-11
<b>Material</b>	Polyurethane
<b>Sample Name</b>	Flexible Fluorine (ETFE) Resin SUS Spring Wire Hose (Dissipative Type)
<b>Lot No.</b>	60921 A
<b>Nominal Dimension (mm)</b>	125±5 × 13.0±0.5 × 4.0

## 4. Test Method and Conditioning

Test Method and Conditioning is indicated in Table 2.

**Table 2** Test Method and Conditioning

<b>Test name</b>	Horizontal Burning Test
<b>Test and Classification method</b>	UL94 Horizontal Burning Test (Refer to the Appendix)
<b>Test Flame</b>	20 mm Blue Flame
<b>Sample conditioning</b>	23±2°C and 50±10 % relative humidity for a minimum of 24 hours.

## 5. Test Results

The following Table 3 shows the summary of obtained test results.

**Table 3: Test Results**

Material	Sample Name	Lot No.	Color	Thickness (mm)	Desired Flame Class	Test Result*	Results
Polyurethane	Flexible Fluorine (ETFE) Resin SUS Spring Wire Hose (Dissipative Type)	60921 A	Silver	4.0	HB	HB	Pass

\*: According to instruction from HAKKO CORPORATION, this test was conducted with the silver side of the sample facing to the burner side (lower side).

## 6. Test Location

Chemitox, Inc., Yamanashi Testing Center  
18349 Egusa, Sutama-cho, Hokuto-shi, Yamanashi-ken 408-0103

## 7. Performed by



Takemaru Kunugi, Engineer (Level 2)

## 8. Reviewed by

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Hitoshi Watanabe, Implementation Project Manager (Level 3)

*Note: This report shall not be reproduced except with full approval of Chemitox, Inc.*

## Appendix

(2 Pages)

- UL94 HB Flame test data
- UL94 HB Flame test method



## APPENDIX

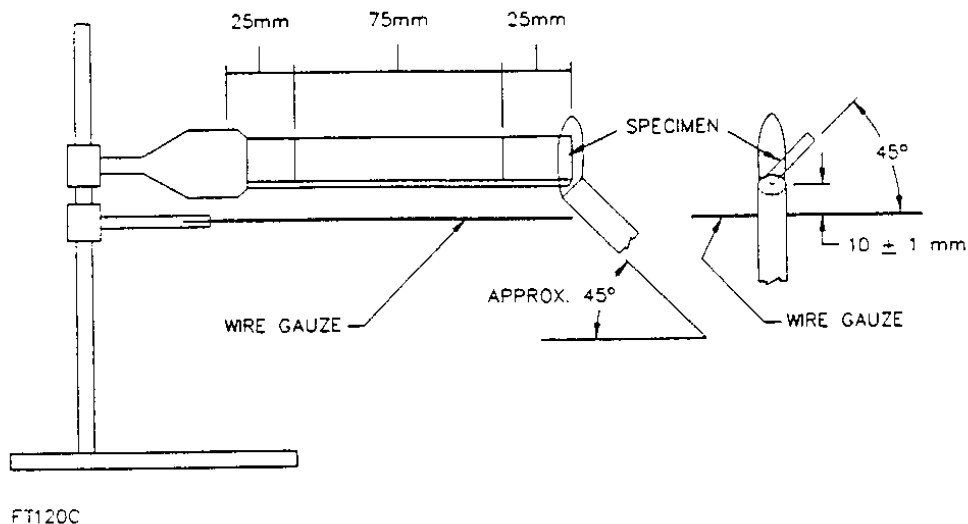
### Horizontal Burning Test

Referenced Standard:  UL94 (6<sup>th</sup> Ed. Sec.7)

CSA C22.2-92 No. 0.17-00 (Sec. 4.2.3)

GB 5169.16-2008 (IEC 60695-11-10 2003-08 Edition 1.1)

1. Sample size :  $125 \pm 5 \times 13.0 \pm 0.5$  mm  $\times$  thickness
2. Procedure (See figure) :
  - 1) Three specimens are to be tested.
  - 2) A blue flame of  $20 \pm 1$  mm is inclined toward the end of the specimen at an angle of  $45 \pm 2^\circ$  to the horizontal. Apply the flame for  $30 \pm 1$  seconds or until the combustion reaches the 25 mm mark.
  - 3) Record the time for the combustion front to travel from 25 mm mark up to the 100 mm mark.



#### Test Criteria

1. Not have a burning rate exceeding 40 mm per minute over a 75 mm span for specimens having a thickness of 3.0 to 13 mm, or
2. Not have a burning rate exceeding 75 mm per minute over a 75 mm span for specimens having a thickness less than 3.0 mm, or
3. Cease to burn before the 100 mm reference mark.
4. If only one specimen from a set of three specimens does not comply with the requirements, another set of three specimens is to be tested. All specimens from this second set shall comply with the requirements in order for the material in that thickness to be classified HB.