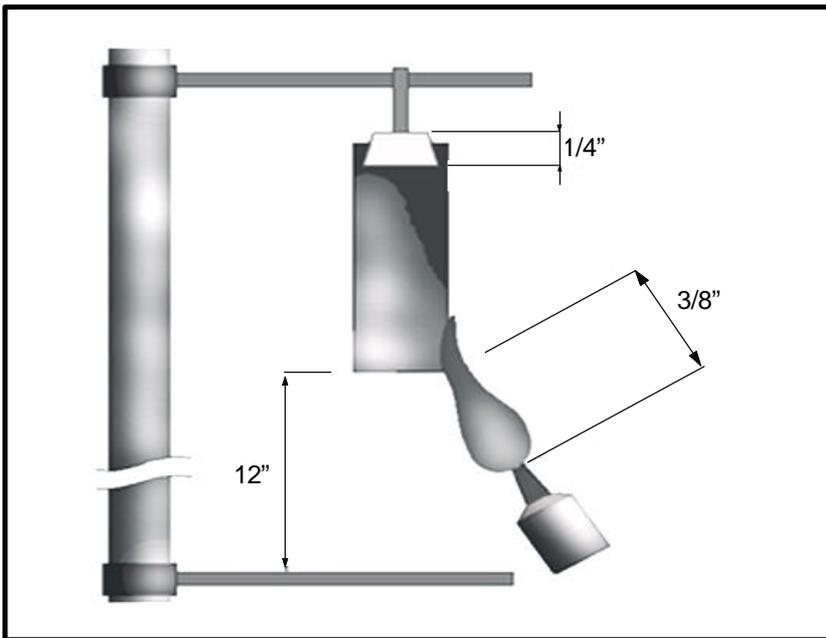


**5. UL 94 FLAMMABILITY CLASSIFICATION TESTS FOR PLASTIC MATERIALS**

UL 94 is the standard applied by the American Underwriters' Laboratories for the testing of the flammability and fire safety of plastic materials used in devices and appliances. In the UL 94 HB (Horizontal Burning) test the burning of a horizontal test specimen is tested and in the most demanding UL 94V (Vertical Burning) tests the burning of a vertical test specimen. Precise details of the equipment, conditions and test systems to be used can be found in the UL 94 standard.

**VERTICAL BURNING TEST FOR FLAMMABILITY CLASSIFICATION UL 94 V-0 / V-1 / V-2.**

The test specimen length is 5" (127 mm) and width 0.5" (12.7 mm). The sheet to be tested can not be more than 0.5" (12.7 mm) thick. The sheet is fixed 1/4" from the upper end in the vertical position. A metal mesh covered with surgical cotton is positioned 12" (305 mm) beneath the test sheet. The flame of the burner used is adjusted so that it forms a 3/4 blue flame. The flame is directed from below at the lower edge of the plastic sheet at a distance of 3/8" (9.5 mm). The flame is applied for 10 seconds after which it is removed. The burning time of the test specimen is recorded. Immediately the burning stops the flame is reapplied for 10 seconds. After removal of the flame the burning time and afterglow time are again noted. The entire test is carried out on five different test specimens.



**UL 94 V. Test trial arrangement**

**The material is UL V-0 classified if**

- A) None of the five test specimens burn for over 10 seconds at any time when the burner flame is removed.
- B) The total burning time of the ignition test does not exceed 50 seconds.
- C) No test specimen burns either with a flame or afterglow to the clamp.
- D) No burning drops should fall which would cause the cotton underneath to ignite from any test specimen.
- E) The afterglow burning of no test specimen exceeds 30 seconds.

**Polyester used for DURO-BOX Enclosures are Certified for UL 94 V-0.**