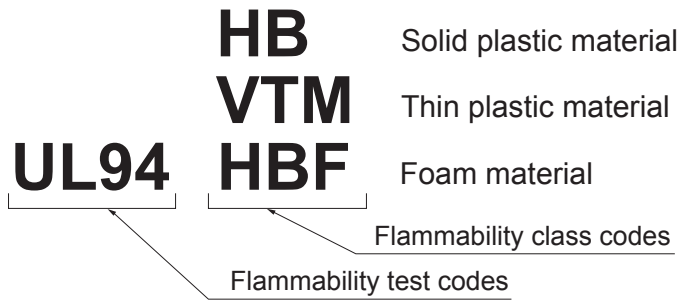


Flame Resistance UL94 Standard

UL 94, the Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances testing, is a plastics flammability standard released by Underwriters Laboratories of the United States and is widely regarded as a global standard. The standard determines the material's tendency to either extinguish or spread the flame once the specimen has been ignited through [1] Horizontal burning test, and [2] Vertical burning test.

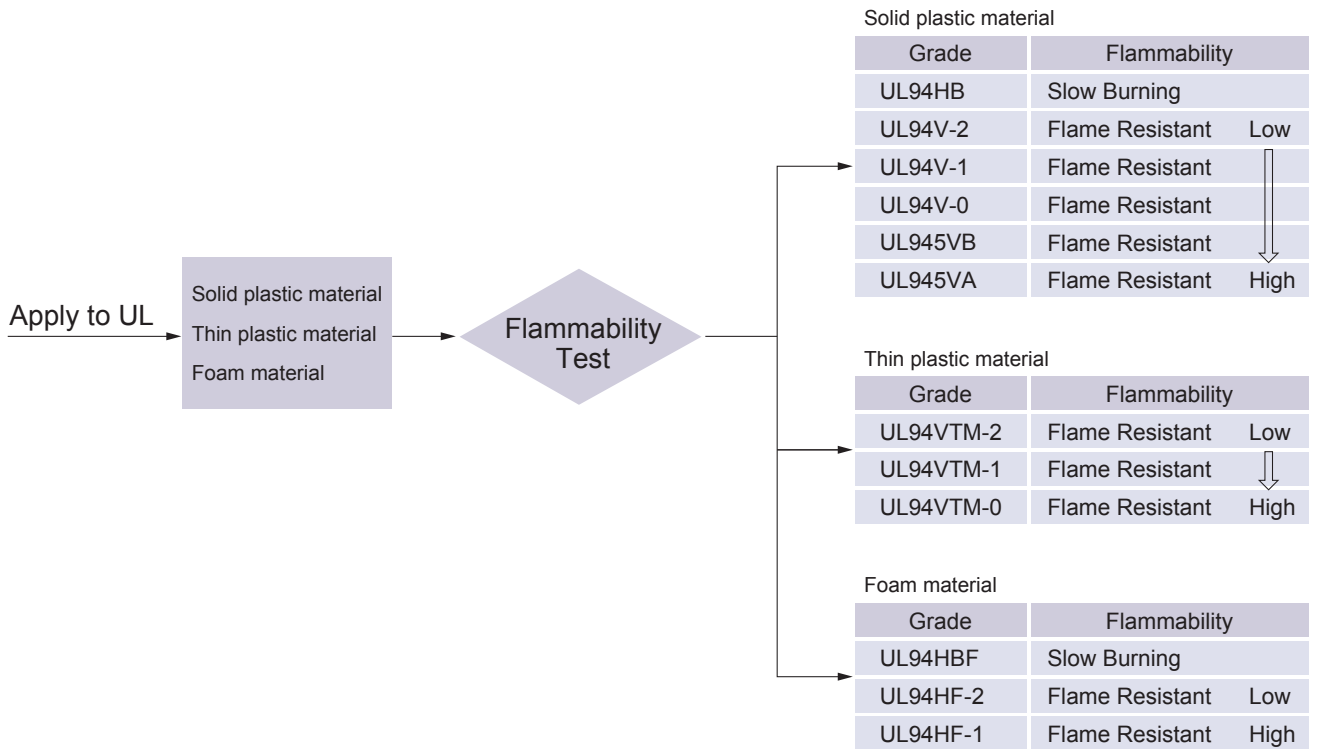
■ UL94 Definition



Testing Methods and Judge Standard for UL94HB and V Class (Solid Plastic Material)

| Grade | 94HB | 94V-2 | 94V-1 | 94V-0 | Test Specimen |
|-------------------------|---|--|------------------|------------------|--|
| Conditions | | | | | A1 : 5" x 1/2" x 0.125 ± 0.005" or minimum thickness thinner than 0.062" |
| Test Specimen | A1 | A | A | A | A : 6" x 1/2 x minimum thickness 5" x 1/2" x maximum thickness Must thinner than 0.125" |
| Pre-treatment | I | I & II | I & II | I & II | Pre-treatment I : 40 hours in 23 ± °C and 50 ± 5%RH II : 168 hours in 70 ± 1°C |
| Number of Test Specimen | 3 | 5 for Each Pre-treatment | | | Requirements |
| Flame Length | 1" Pale Flame | 3/4" Pale Flame | | | A : Not burning with flame combustion for more than 10 seconds after 1 flame application. B : Not burning with flame combustion for more than 30 seconds after 1 flame application. C : Not exceeding 50 seconds of the total flaming combustion time for the 10 flame applications for each set of 5 specimens D : Not exceeding 250 seconds of the total flaming combustion time for the 10 flame applications for each set of 5 specimens E : Not igniting the dry absorbent surgical cotton located 12" below by drip flaming particles from the specimens. F : Not having glowing combustion that persists for more than 30 seconds after the second removal of the test flame. G : Not having glowing combustion that persists for more than 60 seconds after the second removal of the test flame. H : Not burning with flaming or glowing combustion up to the holding clamp. |
| Testing Details | 1. Each specimen is marked with two gauge marks, at 1" and 4" from one end. 2. A flame is applied to the end of the specimen for 30 second and then removed. The time for the flame between the two gauge marks is measured. | A flame is applied over 10 times to the center of the lower edge of the specimen for 10 seconds and removed. If burning ceases within 20 seconds, the flame is reapplied for an additional 10 seconds. If the specimen drips, particles are allowed to fall onto a layer of dry absorbent surgical cotton placed 12" below the specimen. | | | |
| Requirements | 1 : Cease to burn before the flame reaches the 1" mark. 2 : Cease to burn before the flame reaches the 4" mark. 3 : Burn rate less than 115" per minute for the specimens thickness from 0.120" to 0.125". 4 : Burn rate less than 3.0" per minute for the specimen thinner than 0.120". | B, D, G and H | B, D, E, G and H | A, C, E, F and H | |

■ UL GRADE CHART for PLASTIC



- UL grades are shown on each plastic product pages.
If listed as "ABS UL94V-0", it would refer to UL94V-0 being the primary material used in the product.

Flame Resistant UL758VW Standard

- Standard for appliance wiring material examined by [1] Horizontal burning test, and [2] Vertical burning test on the burning speed, the time for burning with flame, and flame on the dripping from the test piece. This standard is applied to our lead wire material on MP battery holders and LDN battery holders.

Flame Resistant UL510FR Standard

- Standard for Polyvinyl Chloride, Polyethylene and Rubber Insulating Tape examined by Vertical burning test with a specimen wrapped around a stainless steel bar on the burning speed, the time for burning with flame, and flame on the dripping from the test piece. This standard is applied to our CUS and CUL copper tapes and ALS and ALL aluminum tapes.