

Battery Cases and Lids

The material used in our battery cases and lids is ABS (Acrylonitrile Butadiene Styrene) and it is supplied in two standards. For our standard range we use UL 94-HB grade and for our flame retardant batteries the cases and lids are made from UL 94 V-O grade.

The UL rating applies to the plastic itself and the plastic material manufacturer has to apply for the UL rating. For the interest of our customers, we are repeating verbatim the information from the UL website relevant to the testing. For any further information please visit the UL site: <http://www.ul.com/plastics>.

UL94 Flammability Testing

There are two types of pre-selection test programs conducted on plastic materials to measure flammability characteristics. The first determines the material's tendency either to extinguish or to spread the flame once the specimen has been ignited. The first program is described in UL 94, The Standard for Flammability of Plastic Materials for Parts in Devices and Appliances, which is now harmonized with IEC 60707, 60695-11-10 and 60695-11-20 and ISO 9772 and 9773.

The second test program measures the ignition resistance of the plastic to electrical ignition sources. The material's resistance to ignition and surface tracking characteristics is described in UL 746A, which is similar to the test procedures described in IEC 60112, 60695 and 60950.

UL94 Flame Classifications

There are 12 flame classifications specified in UL 94 that are assigned to materials based on the results of these small-scale flame tests. These classifications, listed in descending order for each of the following three groupings, are used to distinguish a material's burning characteristics after test specimens have been exposed to a specified test flame under controlled laboratory conditions.

- Six of the classifications relate to materials commonly used in manufacturing enclosures, structural parts and insulators found in consumer electronic products (5VA, 5VB, V-O, V-I, V-2, HB).
- Three of the remaining six classifications relate to low-density foam materials commonly used in fabricating speaker grills and sound-deadening material (HF-I, HF-2, HBF).
- The last three classifications are assigned to very thin films, generally not capable of supporting themselves in a horizontal position (VTM-O, VTM-I, VTM-2). These are usually assigned to substrates on flexible printed circuit boards.

