UL 94 Rating

UL Subject 94 is a small scale flammability test. This test is meant to measure and describe the flammability of plastic materials in response to heat and flame.

There are two separate tests and ratings for UL 94: V and 5V. These small-scale tests measure the propensity of a material to extinguish or spread flames once it becomes ignited. The following is not meant as a procedure for running the tests nor as a way of determining the acceptability of a material for a particular application.

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UL 94 Flammability Ratings Summary

UL 94 describes the 5V test method in which the test flame is applied for up to five applications for five seconds each time. After testing the 5V, a test rating for the test is given as a 5VA or 5VB classification. The following is a simple explanation of each rating of the UL 94 Test 5V:

KYDEX® 100 has a 94 5VA rating for \( \geq 2.00 \text{mm (0.078")} \) and 94 5VB for \(< 2.00 \text{mm (0.078")} \) thicknesses.

KYDEX® T has a 94 5VA rating for \( \geq 3.00 \text{mm (0.118")} \) and 94 5VB for \(< 3.00 \text{mm (0.118")} \) thicknesses.

<table>
<thead>
<tr>
<th>5VA Surface Burn</th>
<th>Burning stops within 60 seconds after five applications of five seconds each of a flame (larger than that used in Vertical Burn testing) to a test bar. Test specimens MAY NOT have a burn-through (no hole). This is the highest (most flame retardant) UL94 rating.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5VB Surface Burn</td>
<td>Burning stops within 60 seconds after five applications of five seconds each of a flame (larger than that used in Vertical Burn testing) to a test bar. Test specimens MAY HAVE a burn-through (a hole).</td>
</tr>
</tbody>
</table>

Doesn't Ignite Under Hotter Flame
UL 94 5VA
UL 94 5VB

Self Extinguishing
UL 94 V-0 (Best)
UL 94 V-1 (Good)
UL 94 V-2 (Drips)

Slow Burn Rating Takes more than 3 minutes to burn 102mm (4")
Explanation of UL 94 Rating for KYDEX® 100 and KYDEX® T

**UL 94 Test V**

The three vertical ratings, V2, V1 and V0 indicate that the material was tested in a vertical position and self-extinguished within a specified time after the ignition source was removed. The vertical ratings also indicate whether the test specimen dripped flaming particles that ignited a cotton indicator located below the sample. The following is a simple explanation of each rating of the UL 94 Test V:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>V-0</td>
<td>Burning stops within 10 seconds after two applications of ten seconds each of a flame to a test bar. NO flaming drips are allowed. This is the highest rating for the vertical burn test.</td>
</tr>
<tr>
<td>V-1</td>
<td>Burning stops within 60 seconds after two applications of ten seconds each of a flame to a test bar. NO flaming drips are allowed.</td>
</tr>
<tr>
<td>V-2</td>
<td>Burning stops within 60 seconds after two applications of ten seconds each of a flame to a test bar. Flaming drips ARE allowed.</td>
</tr>
<tr>
<td>H-B</td>
<td>Slow horizontal burning on a 3mm (0.120&quot;) thick specimen with a burning rate is less than 76.20mm (3&quot;)/min or stops burning before the 127mm (5&quot;) mark. H-B rated materials are considered “self-extinguishing”. This is the lowest (least flame retardant) UL94 rating.</td>
</tr>
</tbody>
</table>

KYDEX® 100 has a 94 V-0 rating for all thicknesses 0.70mm (0.028").
KYDEX® T has a 94 V-0 rating for all thicknesses 0.70mm (0.028").

KYDEX® sheet UL 94 Listing at [www.UL.com](http://www.UL.com)

To access KYDEX, LLC Company information:

1. Go to: [www.ul.com](http://www.ul.com)
2. Click on certifications from the list on the left hand side of the screen.
3. Under "Begin A Basic Search" locate the UL file number space.
4. Type in E115252.
5. Click the "search" button or hit enter.
6. A “search results” screen should appear.
7. Click on one of the “link to file” choices to access the information you are seeking.
8. A complete UL 94 listing of KYDEX® sheet grades that were tested should appear, including their colours and the tests which were administered.

Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability of the accuracy of this information or the suitability of our products in any given situation. Users should conduct their own tests to determine the suitability of each product for their particular purposes. Data in the physical property table represents typical values and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal laboratory conditions. Right to change physical properties as a result of technical progress is reserved. THE PRODUCTS DISCUSSED ARE SOLD WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, EITHER EXPRESSED OR IMPLIED, EXCEPT AS PROVIDED IN OUR STANDARD TERMS AND CONDITIONS OF SALE. Buyer assumes all responsibility for loss or damage arising from the handling and use of our products, whether done in accordance with directions or not. In no event shall the supplier or the manufacturer be liable for incidental or consequential damages. Also, statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Consult local code and regulatory agencies for specific requirements regarding code compliance, transporting, processing, recycling and disposal of our product. Product not intended for use as a heat resistant surface. Texture, product grade and other conditions may cause variations in appearance.

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