

UL94 flammability ratings of engineering plastics

Typical UL94 class of the standard grade, flame-retardant grade availability, and the V-0 / V-1 / V-2 pass criteria - <https://www.ekinsun.com/custom-plastic-parts/ul94-flammability-ratings/>

UL94 rating by plastic

Material	Standard grade	FR grade available
PEEK	V-0	Not needed
PPS	V-0	Not needed
PEI	V-0	Not needed
PTFE	V-0	Not needed
PVDF	V-0	Not needed
PA66	V-2	Yes - V-0 grades, often glass-filled
PA6 / cast PA6	HB to V-2	Yes, for injection grades
PC	V-2	Yes - V-0 grades
PBT	HB	Yes - V-0 grades, usually glass-filled
ABS	HB	Yes - V-0 grades
POM (acetal)	HB	Rarely - choose another plastic for V-0
PP	HB	Yes - V-2 and V-0 grades
PE / UHMW-PE	HB	Rarely
PMMA (acrylic)	HB	Rarely

UL94 vertical burn - V-0 / V-1 / V-2

Criterion	V-0	V-1	V-2
After-flame time of one bar, t1 or t2	<= 10 s	<= 30 s	<= 30 s
Total after-flame time of all 5 bars (t1 + t2)	<= 50 s	<= 250 s	<= 250 s
After-flame + afterglow after the 2nd flame (t2 + t3), per bar	<= 30 s	<= 60 s	<= 60 s
Burning or glowing up to the holding clamp	No	No	No
Burning drips ignite the cotton below	No	No	Allowed

The class shown is the usual rating of the material family; a grade's rating holds at its tested thickness or thicker - check the data sheet. A UL94 test result is not a UL listing.