

Ultimate Injection Molding Pre-Release Checklist

Project/Part Name: _____ Date: _____

Designer Sign-Off: _____ Engineer Sign-Off: _____

1. All walls uniform thickness ($\pm 25\%$ max variation)? Nominal 1.8–3.0 mm? ☐ Yes
☐ No
2. Minimum draft 1° on all vertical walls? $2\text{--}3^\circ$ if textured? ☐ Yes ☐ No
3. Ribs $\leq 60\%$ of nominal wall thickness? Height $\leq 3\times$ wall? ☐ Yes ☐ No
4. All ribs/bosses drafted and connected to walls/ribs? Gussets added? ☐ Yes ☐ No
5. No standalone thick bosses? Cored or ribbed? ☐ Yes ☐ No
6. All internal corners $\geq 0.5\times$ wall radius? External $\geq 1.5\times$ wall? ☐ Yes ☐ No
7. Undercuts eliminated or deliberately budgeted (slides/lifters quantified)? ☐ Yes
☐ No
8. Parting line located away from Class-A cosmetics? ☐ Yes ☐ No
9. Gate location hidden (submarine/tunnel preferred)? No hot-tip on visible surfaces? ☐ Yes ☐ No
10. Ejector pin zones marked (non-cosmetic only)? ☐ Yes ☐ No
11. Material selected and locked (with shrink rate known)? ☐ Yes ☐ No
12. Resin tested for environment (cold/heat/chemical/UV/drop)? ☐ Yes ☐ No
13. DFM report received and all red/yellow issues resolved? ☐ Yes ☐ No
14. Wall thickness analysis run (no red zones >4 mm or <1.2 mm)? ☐ Yes ☐ No
15. Mold type decided (aluminum prototype first if volume $<50k$)? ☐ Yes ☐ No
16. Files complete: STEP + fully dimensioned PDF + critical notes? ☐ Yes ☐ No
17. RFQ sent with 15-question template to ≥ 3 shops? ☐ Yes ☐ No
18. Quotes compared (breakdown, not just total)? Red flags checked? ☐ Yes ☐ No

19. Prototyping ladder climbed (3D → CNC → insert → aluminum)? ☐ Yes ☐ No

20. Assembly fit checked with molded-like prototypes? ☐ Yes ☐ No

21. Drop/impact/vibration tested in target material? ☐ Yes ☐ No

22. Living hinge (if any) in correct PP grade and flex-tested cold? ☐ Yes ☐ No

23. Weld-line locations acceptable (not on logo/visible face)? ☐ Yes ☐ No

24. Expected mold life/volume matches tooling choice? ☐ Yes ☐ No

25. Team sign-off: Everyone agrees “no known violations of the 7 Rules”? ☐ Yes ☐ No

Notes/Exceptions/Justifications:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This checklist must be completed and signed before sending CAD to any mold maker.