

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