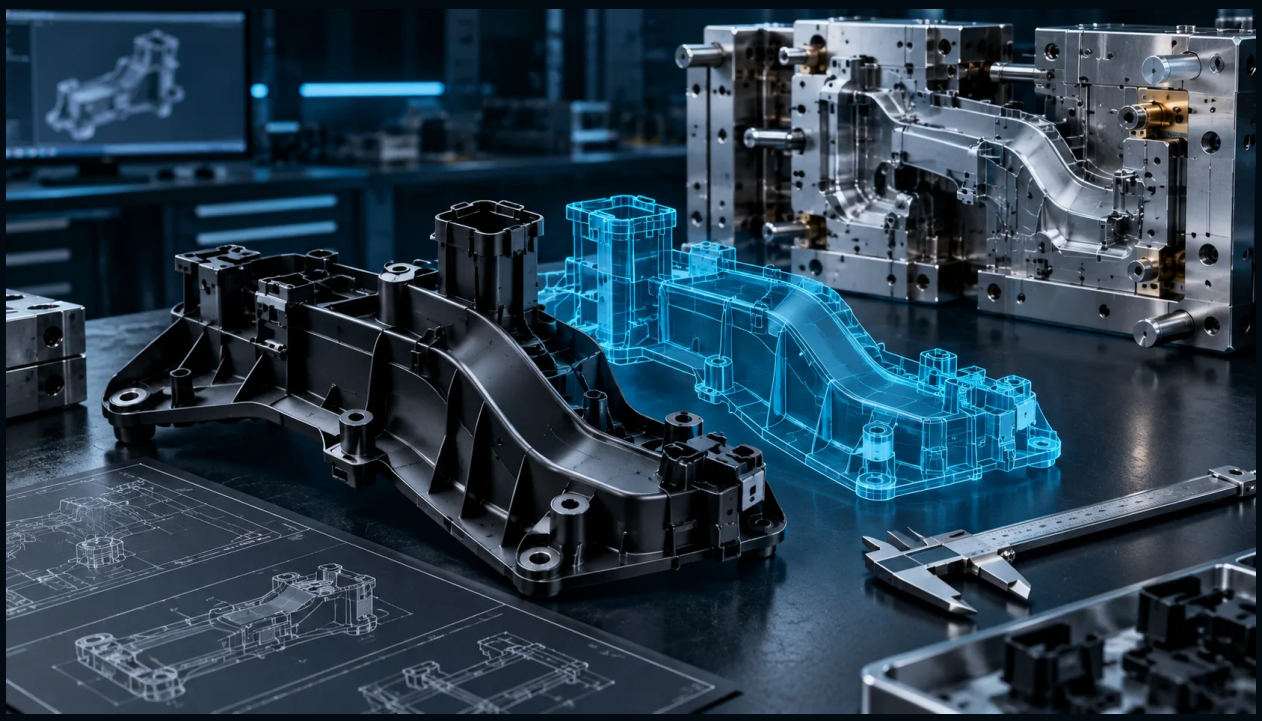
DESIGN CHECKLIST FOR INJECTION MOULDS

A practical pre-steel review covering product data, mould architecture, manufacture, trial and handover.



ENGINEERING-LED	PRODUCTION-AWARE	CMS MANAGED

ENGINEERING CONTEXT

This resource supports early technical discussions and structured programme reviews. It does not replace project-specific DFM, material data, simulation, trial evidence or an authorised commercial agreement.

HOW TO USE THIS CHECKLIST

Use this document during feasibility, design review and release. Record the owner, evidence and decision for every item; a tick without evidence is not closure.

+ Confirm assumptions with the customer before steel release.
+ Mark non-applicable items and state why.
+ Carry unresolved risks into the programme action register.

PRODUCT DEFINITION

A reliable mould starts with an explicit component definition and production context.

+ Latest controlled 3D model and 2D drawing
+ Polymer grade, colour, additives and shrinkage basis
+ Appearance zones, texture, gloss and permissible witness marks
+ Annual volume, peak demand and target cycle
+ Moulding machine, tie-bar, platen, shot and services constraints
+ Dimensional, functional and regulatory acceptance criteria

DFM REVIEW

Review geometry before the mould concept is frozen.

+ Nominal and local wall thickness
+ Draft by surface and texture requirement
+ Ribs, bosses, clips and assembly interfaces
+ Undercuts and release direction
+ Parting, shut-offs and flash-sensitive zones
+ Gate, weld-line, venting and ejection mark strategy

TOOL ARCHITECTURE

The architecture must connect component intent to repeatable production and maintenance.

+ Cavity count and family strategy
+ Core, cavity and insert split
+ Slider, lifter and lock sequence
+ Hot runner or cold runner layout
+ Cooling accessibility and circuit balance
+ Ejection balance and positive return
+ Standard components, wear areas and spares

REVIEW RECORD

PROGRAMME CHECKLIST

Use the final column for the document, model view, report, decision reference or responsible owner that closes each point.

CHECK	REVIEW POINT	EVIDENCE / DECISION
[ ]	Customer inputs controlled	
[ ]	DFM risks reviewed	
[ ]	Parting and mechanisms approved	
[ ]	Gate and cooling strategy reviewed	
[ ]	Ejection and return confirmed	
[ ]	Manufacturing access verified	
[ ]	Inspection plan defined	
[ ]	Trial objectives agreed	
[ ]	Handover package defined	