Improve Your Molding Pty Ltd

Injection Mold Design Checklist

Tick off the following information

1. Part Information Notes

- ☐ Customer_____
- ☐ Date_____
- ☐ Part Name_____
- ☐ Drawing no._____
- ☐ Part weight_____
- ☐ Part size _____
- ☐ Wall thickness_____
- ☐ Fillets and radii_____
- ☐ Plastic material_____
- ☐ Shrinkage_____
- ☐ Core surface finish requirement: polishing grade/texture_____
- ☐ Cavity surface finish polishing grade/ texture_____
- ☐ In mold labelling or decorating requirement _____
- ☐ Engraving detail_____

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https://www.improve-your-injection-molding.com/mold-design-services.html

2. Basic Mold Design

- Gate location_____
- Gate size and type_____
- Runner type (hot/cold)_____
- Ejection method_____
- Ejector return method eg. springs_____
- Minimum mould opening requirement_____
- Parting line locations (also called split lines)_____
- Venting positions (primary & secondary to atmosphere)_____
- Basic cooling design concept_____
- Interlocking method between fixed and moving sides of mould_____

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- Heat treating requirements such as nitriding on moving mould components_____

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3. Annual Production Quantity

- Annual production quantity_____
- Estimated cycle time_____
- Number of mould cavities_____
- Mould material for core and cavity inserts_____
- Hardness for core and cavity inserts_____
- Mould material for mould bolster_____
- Hardness and coatings for mould bolster_____

4. Molding Machine Specifications

- Machine tonnage capacity_____
- Machine Brand_____
- Location ring diameter_____
- Nozzle spherical radius_____
- Orifice diameter_____
- Space between tie bars (both horizontally and vertically) _____
- Maximum opening stroke_____
- Minimum opening stroke_____
- Minimum die height_____
- Maximum die height_____
- Clamp hole size and position_____
- Maximum KO bar ejector stroke_____
- KO bar positions and diameter_____
- Core puller option_____
- Platen length and width_____
- Number of available cooling circuits on machine_____
- Number of available air lines on machine_____
- Robot take out or free fall requirement_____
- Mould clamping technique - direct bolting or clamps_____

5. Additional items to include in mold design:

- ☐ Electrical connector brand (DME, Husky..)_____
- ☐ Number of hot runner electrical zones_____
- ☐ Cavity layout (ie 2x2, 3X4)_____
- ☐ Pitching distance between cavities_____
- ☐ Pre-alignment - guide pin and bush diameter_____
- ☐ Plate thicknesses – especially back plates for mould rigidity_____

  _____

- ☐ Sufficient support pillars for mould rigidity_____
- ☐ Mould design for easy mould assembly_____
- ☐ Mould design for easy cleaning of vents in the moulding machine: _____
- ☐ Mould design for easy access to block gates_____
- ☐ Mould design for easy machine installation and removal_____
- ☐ Corrosion protection coatings such as electroless nickel plating on P20 bolster plates_____
- ☐ Limit sensors_____
- ☐ Grease nipples_____
- ☐ Lifting bar (used to lift mould into moulding machine) _____
- ☐ Retainers for gate inserts_____
- ☐ Correct fitting clearances specified on drawings of inserts_____

Additional Notes:

_____
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_____
_____
_____

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