Injection mould designer (AutoCAD – Basic to Intermediate Level)

Department : Design / Engineering
Reports To : Design Manager / Tool Design Head
Job Description – Injection Mold Designer (2D → 3D Capability)
Position Title : Injection Mold Designer
Experience : 3–8 years (flexible based on technical depth and practical exposure)

Educational Background (Mandatory)
- Diploma / B.Tech / BE in Mechanical / Tool Engineering / Production Engineering
- Preferred candidates from institutes such as:
  - Central Institute of Plastics Engineering & Technology (CIPET)
  - Nettur Technical Training Foundation (NTTF)
  - Indo-German Tool Room (IGTR)
  - Central Tool Room & Training Centre (CTTC)
- Equivalent technical background with proven injection mold design experience is acceptable.

Core Responsibilities
1. Product & Surface Understanding
- Interpret customer **2D drawings** and convert them into **accurate 3D solid models**.
- Clear understanding of **A-surface and B-surface philosophy**:
  - A-surface: aesthetic / customer-visible surface
  - B-surface: structural / engineering surface
- Ability to identify and segregate **surface classes (Class A / B / C)** and define their usage in mold construction (shut-offs, parting, lifter interaction, ribs, bosses, etc.).

2. Mold Design Capability
- Develop complete injection mold designs including:
  - Core & cavity
  - Parting line / parting surface
  - Slides, lifters, inserts
  - Ejection system
  - Cooling layout
- Ensure manufacturability and assembly feasibility from concept stage.

3. Product Design Knowledge
- Understand plastic product design fundamentals:
  - Draft angles
  - Wall thickness control
  - Rib & boss design
  - Sink/warp prevention concepts
- Provide DFM feedback to customers wherever required.

4. Tolerances & Fits
- Strong command over **limits, fits, and functional tolerancing**.

- Ability to apply GD&T practically for:
  - Mold components
  - Product critical features
  - Assembly clearances

5. Steel Selection & Application
- Clear understanding of **tool steels and their usage**, such as:
  - Pre-hardened steels
  - Through-hardened steels
  - Corrosion-resistant steels
- Capability to select steel based on:
  - Expected shot life
  - Plastic material
  - Surface finish requirement
  - Cost-performance balance

6. Rapid Prototyping Awareness
- Working knowledge of **rapid prototyping techniques** (SLA / FDM / SLS or equivalent):
  - Purpose in design validation
  - Fitment checks
  - Customer approvals
- Understand limitations versus production tooling.

Desired Technical Skills
- Proficient in any mainstream CAD software for mold design (NX / Creo / SolidWorks / Catia).
- Ability to build parametric 3D assemblies from 2D inputs.
- Experience in reviewing moldflow results is an added advantage.
- Practical exposure to shop-floor coordination (CNC / EDM / Assembly).

Behavioral Expectations
- Strong analytical mindset
- Ownership of design deliverables
- Ability to communicate clearly with manufacturing and assembly teams
- Discipline in documentation and revision control