



Injection Molding Defects Chart

Defect	Description	Causes	Solutions
Flash or Burrs	Excess material seeps out of the mold cavity, usually along the parting line or inserts.	Excessive injection pressure, improper clamping force, mold wear.	Fine-tune injection pressure, regularly inspect mold, and adjust clamping force.
Short Shots	Incomplete filling of the mold cavity, resulting in incomplete or partially formed parts.	Insufficient material volume, inadequate injection pressure, premature cooling, improperly sized or located gates, low material viscosity.	Increase material volume, adjust injection pressure, optimize mold design and temperatures, redesign gates, and select appropriate viscosity materials.
Warping	Unwanted bending or twisting in parts, often due to uneven cooling rates.	Non-uniform wall thickness, inadequate cooling system, premature mold release.	Design for uniform wall thickness, enhance cooling system, adjust cooling time and mold release timing.

Sink Marks	Dimples or depressions on the surface of molded parts.	Insufficient cooling time, low mold cavity pressure, high melt or mold temperature, thick wall sections, uneven cooling.	Increase cooling time, adjust holding pressure, reduce temperatures, redesign part for thinner walls, and improve cooling mechanism.
Weld or Knit Lines	Lines that appear where two molten resin flows converge but fail to fuse properly.	Temperature variations between flows, partial solidification, poor bonding.	Optimize resin temperature, injection speed, pressure, select lower viscosity resins, and adjust mold design.
Burn Marks	Black or rust-colored discolorations on the surface or edges of molded parts.	Overheating, excessive barrel temperatures, trapped air, rapid injection speeds.	Lower melt and mold temperatures, reduce injection speed, implement exhaust systems, optimize mold cycle.
Jetting	Wavy, snake-like patterns on the surface of molded parts.	High injection speeds, improper gate location, cold mold temperatures.	Reduce injection speed, increase mold and resin temperatures, and optimize gate placement and size.
Voids	Small hollow spaces within the molded parts, affecting strength and aesthetics.	Trapped air, low injection pressure, insufficient packing pressure in thicker sections.	Ensure proper venting, apply suitable packing pressure, and optimize cooling time, position gate near the thickest part.

Delamination	Peeling or flaking of layers within a molded part.	Material contamination, mixing incompatible polymers, excessive release agents, inconsistent resin temperatures.	Ensure material compatibility, minimize release agents, and maintain consistent resin temperatures, dry materials properly.
Discoloration	Inconsistencies in color, manifesting as uneven coloring, streaks, or faded areas.	Interaction with chemicals/UV, remaining resins in hopper, molds holding debris, inappropriate colorants.	Shield materials from chemicals/UV, clean hopper and mold, use appropriate colorants, ensure uniform colorant mixing.
Material Degradation	Weakening or alteration in the properties of molded parts.	Excessive thermal stress, processing beyond thermal stability limits.	Control processing temperatures, minimize mechanical stress, monitor and optimize parameters.
Poor Surface Finish	Uneven texture or appearance on the surface of molded parts.	Improper material selection, inadequate mold polishing, incorrect processing parameters.	Systematic material selection, polish mold post-molding, optimize processing parameters.

[Get Instant Quote](#)