

CASTING DEFECTS CHEAT SHEET



Bent or Twisted

Part bends or twists out of desired shape.

Cause: Poorly designed mold or improper ejection. Part design does not meet casting design requirements (e.g. not enough draft).



Misrun or Short Pour

Holes or areas where the metal didn't fill the mold, creating an incomplete part.

Cause: Not enough metal fed into the mold. Poorly designed gating system/mold. Improper temperature control by foundry. Part design may not meet casting design requirements (e.g. too thin of walls).



Parting Line Shift

Offset appearance at parting line. Cope and drag misalignment.

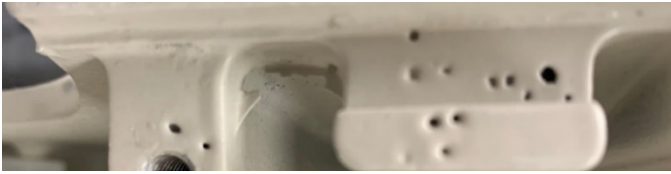
Cause: Improper mold set up, design, or maintenance.



Flash

Metal leaking out the mold, creating excess surface area.

Cause: Improper mold maintenance or mold reaching end of life.



Porosity

Localized round holes in the part.

Cause: Poorly designed gating system/mold.



Hydrogen Gas Porosity

Small holes throughout the part.

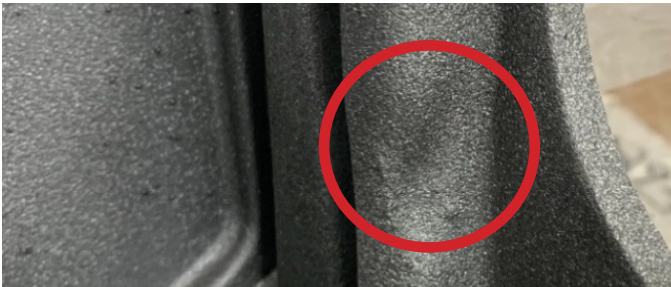
Cause: Improper metal maintenance.



Inclusion

Particles trapped in mold or metal create porosity or poor surface finish on casting.

Cause: Sand or impurity in metal. Poorly maintained metal melt process or mold.



Shrink

Dips, sinks, and voids in a part.

Cause: Poor mold design or improper temperature control by foundry. Part design may not meet casting design requirements (e.g. drastic changes in wall thickness).



Crack

Line splitting the surface.

Cause: Poorly designed mold, or improper temperature control by foundry.



Rough Surface Finish

High RMS surface finish out of spec.

Cause: Mold type or poor maintenance of mold. An indicator of other defects such as inclusions or porosity.



The best way to avoid defects is to choose an experienced supplier who will produce quality castings from the start! Visit [batesvilleproducts.com](https://www.batesvilleproducts.com) to learn more.