For nonferrous alloys, protect cast iron crucibles with a suitable wash coating. In permanent mold casting and diecasting of aluminum alloys, be sure that the temperature is high enough in the holding furnace. Use care in pouring to avoid any sludge deposits which may be present at the bottom of the crucible.

**G 112**

**COLD SHOT**

Metallic inclusions, generally spheroidal, located on the drag surface of the casting. Their chemical composition is identical to that of the casting. The surface of the inclusions is generally oxidized.

**Possible Cause**
Droplets of metal which enter the mold prematurely, solidify, and fail to remelt and fuse to the remaining metal which fills the mold. Do not confuse with defect G 113, internal sweating.

**Remedies**
- Protect mold openings against metal splashing.
  - Arrange runners and risers correctly (relative spacing and height).
- Pour carefully.

**G 111 - Cast Iron**
Fragment of a gray iron casting containing a foreign metallic inclusion.

**G 111 - Aluminum Alloy, Die Cast**
Aluminum diecasting with metallic (Al-Fe-Mn-Si) inclusions at the gate area.

**G 112 - Cast Iron, Green Sand**
Drag surface of a gray iron piston showing cold shot (G 112) as well as blowholes (B 111).