A portion of the casting is missing, usually on the cope surface or at a location remote from the gate area. The edges surrounding the missing portion are rounded. Adjacent surfaces are generally shiny.

The gates, runners and sprue are well-filled (as distinct from the case of defect E 122).

Possible Causes
- Inadequate pouring temperature; insufficient metal fluidity, oxidized metal.
- Gates too small or improperly located with respect to the shape and thickness of the casting.
- In permanent molding, low mold temperature or inadequate venting.

Note: Do not confuse with defects E 122 and E 123.

Remedies
- Raise pouring temperature.
- Modify size and arrangement of gating system.
- Provide more effective venting system.
- Raise mold temperature (permanent molding).
- If possible, arrange with customer to increase section thickness somewhat.
E 121 - Copper Alloy, Permanent Mold

Permanent molded brass valve body, 120 mm (4.8 in.) high. Casting is incomplete. A misrun occurred but sections remote from the gate show no evidence of pouring too cold (E 111). During pouring, the top flange of the casting filled with liquid metal prior to the walls. The entrapped air could not escape, causing a misrun. The defect was eliminated by enlarging the sprues.

E 121 - Aluminum Alloy, Permanent Mold

Aluminum alloy permanent mold casting 60 mm (2.4 in.) in diameter (handwheel) showing misrun. Shorten the cycle between pourings in order to maintain adequate mold temperature.

The upper portion of the casting is missing. The edges adjacent to the missing section are slightly rounded; all other contours conform to the pattern. The sprue, risers and lateral vents are filled only to the same height above the parting line as is the casting (contrary to what is observed in the case of defect E 121).

Possible Causes
- Insufficient quantity of liquid metal in the ladle.
- Premature interruption of pouring due to workmanship error (assumption mold is filled due to rapid filling and overflow of choked sprue).

Note: Do not confuse with defects E 121 and E 123.

Remedies
- Have sufficient metal in the ladle to fill the mold.
- Check the gating system.
- Instruct pouring crew and supervise pouring practice.

(Examples follow)