RAISED CORE OR MOLD ELEMENT, CUTOFF

Green or Dried Sand

Massive irregular projection which may completely close the lower opening of a casting in the form of a cap. Its shape indicates that a massive portion of the mold or core has become detached. The displaced material often occurs as sand inclusions or missing sections of the casting wall. The condition is most prevalent in green sand molds where deep pockets must be rammed in the drag half of the pattern.

Possible Causes

- Breaking off of a portion of the rammed sand during careless pattern removal.
- Insufficient sand strength.
- The pressure of the liquid metal entering the mold cavity is too high and detaches the rammed sand.
- Failure to use molding nails or gaggers when ramming deep sand pockets.
- In the case of dried sand molds and cores, cracks may be formed by careless baking, resulting in fracture by the pressure of the molten metal during pouring.

Remedies

- Correct pattern stripping.
- Increase the binder content of the sand (improve the green strength).
- Relocate gates and reduce the pressure of liquid metal entering the cavity.
- Use molding nails and gaggers.
- Dry slowly.
- Seal cracks evident before mold assembly and pouring.