Green Sand

Compact and irregular projections on large portions of the casting, having the appearance of a fracture and containing numerous sand inclusions.

This defect appears in corners and re-entrant angles of the casting or on irregularly-shaped surfaces, usually accompanied by defect D 230 (scab).

Possible Causes

High compressive stresses in the hot layers of the upper mold wall produced by expansion of the silica; simultaneously, behind these layers there occurs a low-strength, wet condensation zone. The hot layer becomes detached during filling of the mold.

Remedies

Increase the green strength by the following means:
- higher proportion of clay (bentonite),
- better quality clay (bentonite),
- improved sand preparation (mulling),
- proper ramming (avoid excessive ramming),
- cooling the sand.

Reduce compressive stresses (defect D 232), increase wet tensile strength of the sand.