Casting structures, before malleabilizing annealing, are not entirely white and contain some primary graphite which formed during solidification. The defect is visible on fractured surfaces before heat treatment, appearing as dark gray spots in heavy sections. After annealing the spots are black and coarse-grained.

Possible Causes
- Carbon and silicon contents too high for the section thickness of the casting.
- Inoculation effect of additions.

Remedies
- Avoid large differences in section thickness for a given casting, as well as hot spots which may arise from an improper gating or risering system.
- Use chills,
- Adjust metal composition for section thickness of the casting. Preferably, adjust carbon content for black-heart, silicon for white-heart malleable.
- Use care in selecting correct charge materials and in melting.
- Add bismuth (about 2¼ oz. per ton).