D 241

OXIDE SCALE

Heat treated steel, ductile, gray and malleable iron.

An adherent oxide coating which generally can be broken loose only by peening or repeated bending. In certain cases this oxide layer is so adherent that it can be distinguished only after rupture of the casting. The coloration caused by this defect is no longer recognizable after blast cleaning.

Possible Causes
— Oxidizing annealing atmosphere.
— Air leaks in the furnace.

Remedies
— Control the furnace atmosphere and seal leaks.
— Avoid charging wet castings or other humid materials in the furnace. See defect D 243.

D 242

ADHERENT PACKING MATERIAL

Malleable iron.

Presence of partially-fused packing material adhering strongly to the surface of malleable iron castings (packed in core).

Possible Causes
— Excessive annealing temperature.
— Low fusion point packing material.
— Packing material too fine in grain size.

Remedies
— Carefully control annealing temperature.
— Use packing with higher fusion temperature.
— Avoid use of packing with excessive fines (optimum grain size 5 to 15 mm).

Figure 183

D 242 Malleable Iron

Malleable iron casting. Fused packing adhering to the casting. Use packing material with higher fusion point.