

MANUFACTURE OF SPHEROIDAL GRAPHITE IRON IN A JOBBING FOUNDRY IN SRI LANKA AND ITS APPLICATION

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The paper describes the methods adopted in the Steel Corporation foundry for the production of castings in spheroidal graphite iron.

Spheroidal Iron, is a modern material fast replacing traditional gray iron in industry. Although new to Sri Lanka, the material has gained wide acceptance in other countries.

Spheroidal graphite iron is distinguished by its high strength, toughness and ductility combined with excellent casting properties and good machinability. It has a high modulus of elasticity and good resistance to corrosion. It derives its name from the form of graphite. In Spheroidal Graphite iron, the graphite is present in the form of spheroids. This interrupts the continuity of matrix less than that of graphite flakes in gray iron, when it is subjected to tensile forces. The phenomenon will enable the Spheroidal Graphite iron to have high strength and toughness. Spheroidal Graphite iron will be a reasonable substitute for steel in casting thin and intricate shaped items. It is also known as Nodular Cast iron and Ductile iron

The charge materials used are high-purity pig iron, steel scrap and spheroidal graphite iron return scrap.

The nodularising treatment is done in a preheated treatment ladle. The treatment ladle will have a pocket at the bottom, to accommodate the nodularizer, which is covered with a thin mild steel plate.