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Spheroidal graphite iron: Its use as the material for nuclear-fuel container**Sudipta Sen***National Institute of Technology, India*

Spheroidal Graphite Iron (also known as Ductile Iron or Nodular Iron) contains elemental carbon in the form of spheroids or nodules. Due to this regular shape of graphite, the phase does not act as stress raisers (as happened in case of Gray cast iron). As a result of its excellent physical & mechanical properties, the material is now being used in various fields. The recent development in this area is the use of Spheroidal Graphite (S.G.)Iron as the material for the containers for storage of nuclear fuel waste. Such containers must possess excellent corrosion-resistance and higher amount of toughness. In the present work, it has been found that the required properties can be achieved by means of proper alloying and suitable heat-treatment-techniques. The Dual Matrix Structure (Ferrite + Martensite) produced by inter-critical annealing gives the best results in this regard.

Biography

Sudipta Sen is affiliated to Department of Metallurgical and Materials Engineering, National Institute of Technology, Rourkela. Dr. Sudipta Sen is currently providing services as Associate Professor. Dr. Sudipta Sen has authored and co-authored multiple peer-reviewed scientific papers and presented works at many national and International conferences. Dr. Sudipta Sen contributions have acclaimed recognition from honourable subject experts around the world.