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Effect of alloying elements addition and solidification time on nodularity of 400/15 SGI casting – A Review"

Thumar Durgesh Rajeshbhai, Manojkumar V. Sheladiya

Abstract

SGI Casting is most important Casting process. As specially SGI Casting is Graded Casting so it is difficult to maintain all composition. Spheroidal graphite iron castings has been increasing constantly all over the world. In the recent years there has been increasing interest in the microstructure analysis of SGI castings. So analyze the Alloying elements effect on the microstructure particularly nodularity of SGI 400/15 grade material and also effect of solidification time on nodularity

Keywords

SGI 400/15 grade, Nodularity, solidification time, hardness, alloying elements

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References

Qiu, Y., Pang, J.C., Li, S.X., Yang, E.N., Fu, W.Q., Liang, M.X., Zhang, Z.F. (2016). Influence of thermal exposure on microstructure evolution and tensile fracture behaviors of compacted graphite iron. Materials Science and Engineering. A, 664, 75-85. 2. Sertucha, Jon, Lacaze, Jacques, Serrallach, Joan, Suárez, R., Osuna, F. (2012). Effect of alloying on mechanical properties of as cast ferritic nodular cast irons. Materials Science and Technology. 28. 184-191. 10.1179/1743284711Y.0000000014. 3. Oluwole, Leke, Olorunniwo, O., Ogundare, Atanda, Pethuel, Oridota, O.O. (2007). Effect of Magnesium and Calcium as Spheroidizers on the Graphite Morphology in Ductile Cast Iron. Journal of Minerals and materials Characterisation and Engineering. 6. 25–37. 10.4236/jmmce.2007.61003. 4. Serrallach, Joan, Lacaze, Jacques, Sertucha, Jon, Suárez, R., Monzón, Adrián. (2010). Effect of Selected Alloying Elements on Mechanical Properties of Pearlitic Nodular Cast Irons. Key Engineering Materials. 457. 361-366. 10.4028/www.scientific.net/KEM.457.361. 5. KISS, I., Raţiu, S. (2003). The Basic Chemical Composition Influences Upon the Nodular Cast Iron Rolls Hardness. Annals of the Faculty of Engineering Hunedoara, 2, 137. 6. Ingole, P.P.M., Awate, A.U., Saharkar, P. S.V. (2012). Effect of Basic Chemical Element in Sgi (Ductile Iron). Int. J. Eng. Res. Technol, 1(7), 1-77. Peng, Y.C., Jin, H. J., Liu, J.H., Li, G.L. (2012). Influence of cooling rate on the microstructure and properties of a new wear resistant carbidic austempered ductile iron (CADI). Materials characterization, 72, 53-58. 8. Baer, W. (2019). Chunky Graphite in Ferritic Spheroidal Graphite Cast Iron: Formation,

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Prevention, Characterization, Impact on Properties: An Overview. International Journal of Metalcasting, 1–35. 9. Ferro, P., Lazzarin, P., Berto, F. (2012). Fatigue properties of ductile cast iron containing chunky graphite. Materials Science and Engineering: A, 554, 122–128. 10. Jayashree, M.S.G.D.M.V. (2014). Microstructure analysis of spheroidal graphite iron (SGI) using hybrid image processing approach. International Journal of Advanced Research in Computer Engineering & Technology (IJARCET), 3(7). 11. Pullan, T.T. (2016). Spheroidal graphite cast iron property enhancement by heat treatment. International Journal of Materials Research, 107(9), 807–814. 12. Serrallach, J., Lacaze, J., Sertucha, J., Suárez, R., Monzón, A. (2011). Effect of selected alloying elements on mechanical properties of pearlitic nodular cast irons. In Key Engineering Materials (Vol. 457, pp. 361–366). Trans Tech Publications Ltd. 13. Vyas, S., Jani, F., Akabari, D. The Effect of Different Inoculant Material on Microstructure & Mechanical Property of SG 500/7 Iron in Green Sand-Casting Process. carbon, 3, 3–85. 14. Campbell, J. (2015). Sixty years of casting research. Metallurgical and Materials Transactions A, 46(11):4848–4853.

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