

عنوان مقاله:

New Approach to Assessing of High-Strength SG Cast Iron for Environmentally Clean Energy Technology

محل انتشار:

مجله مواد دوستدار محیط, دوره 6, شماره 1 (سال: 1401)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

SG Cast Iron can be utilized advantageously as working materials in a number of devices which can contribute significantly to an environmentally clean energy technology. In this investigation microstructure and mechanical properties of ferritic-pearlitic spheroidal graphite (SG) cast iron is improve by continuous heat treatment and addition alloying of trace amount of tin has been study. Two standard Y-block was designed by in-mold process. Calculations and simulation were accomplished before molding by the Sutcast software. In each experiment, different chemical analysis were applied. The cooling curve of solidification was recorded by the datalogger with labview software and using S-thermocouple (Pt-Rh) attached into the mold. Then Y-block was shakeout from molds and cooled in the air standard specimen were machined for doing mechanical and metallographic exams. The metallographic exams has been indicated that with increasing the rate of shakeout time, the percentage of pearlite in microstructure has been increased. The mechanical test illustrated that with increase the rate of shakeout time, hardness and tensile strength have been increased, although the percentage of elongation and impact energy have been diminished

کلمات کلیدی:

Spheroidal Graphite, High Strength, Continuous Heat Treatment, Clean Energy

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