

ICMH 2012 30 - 31 May 2012 Iran, Isfahan

Abstract Book

3" International Conference on Materials Heat Treatment ICMH 2012

- Fundamental of Materials Heat Treatment (Theory/Experiments/Simulation).
- Heat Treatment and Surface Engineering.
- · Heat Treatment and Welding.
- · Heat Treatment Application.
- · Heat Treatment and Nano Technology.
- · Potentials and Problems of Heat Treatment.
- Heat Treatment of Metallic and Non-Metallic Materials.

Editor: Dr. Morteza Zand Rahimi

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ICMH focuses on real world applications; therefore authors should highlight the benefits of Heat Treatment for industry and services. Ideas on how to solve problems, using Material science, will arise from the conference. Papers describing advanced prototypes, systems, tools and techniques and general survey papers indicating future directions are also encouraged. Papers describing original work are invited in any of the areas listed below. Accepted papers, presented at the conference by one of the authors, will be published in the Proceedings of ICMH. Acceptance will be based on quality, relevance and originality. Both full research reports and work-in-progress reports are welcome. There will be both oral and poster sessions.

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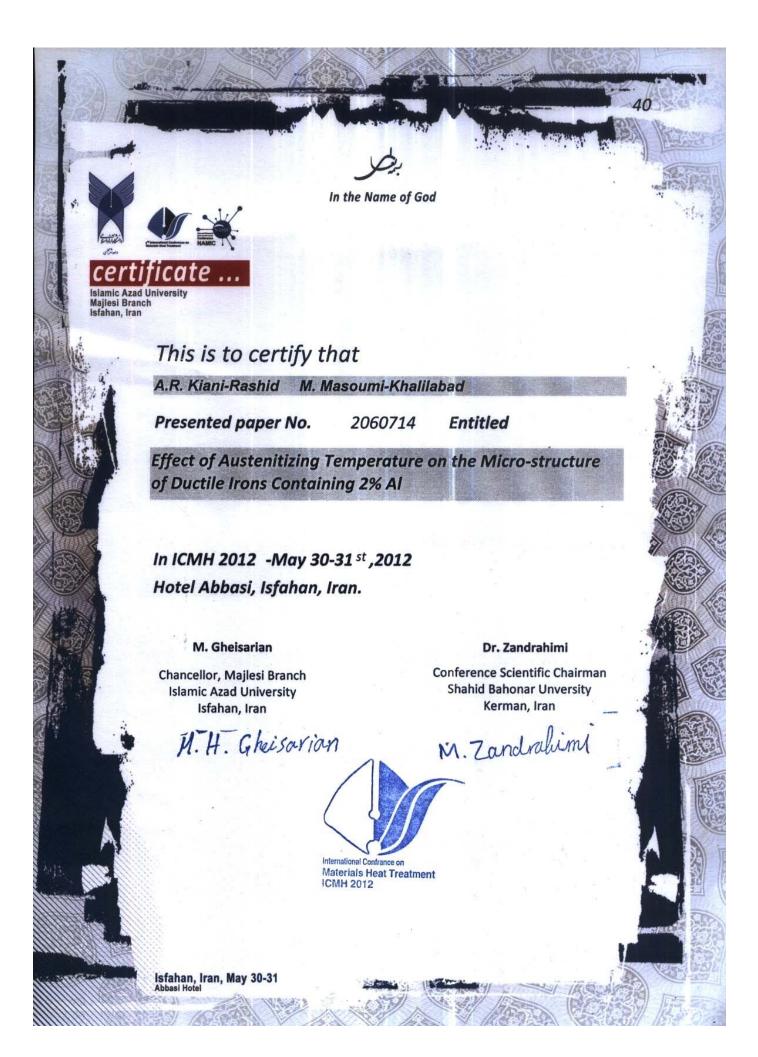












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Fundamental of Materials Heat Treatment

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Effect of Austenitizing Temperature on the Micro-structure of Ductile Irons Containing 2% Al

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Abstract :

Considering the importance of austenization in preparing steel, it is crucial to have a good understanding of the effects of temperature on this process. In this project, we studied these effects on an aluminum-containing ductile iron sample. We exposed many of these samples for 30 minutes to 890, 920 and 950 Celsius degrees and immediately quenched them in cold water. Micro-structural studies and XRD tests show that samples prepared in 950 degrees have a better micro-structure and hardness. In addition, we found that heat treatment of the as-cast samples containing Fe3Si in matrix microstructure causes the disappearance of this phase.

Keywords: ductile iron, micro-structure, aus:enite, martensite.

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