Production and Characterization of Kiln Cast Composite Alloys

BY

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CERTIFICATE OF AUTHORSHIP/ORIGINALITY

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Signature of Student

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PUBLICATIONS AND AWARDS ARISING FROM THIS WORK

Refereed Papers

[1] T. Lucey, R. Wuhrer, K. Moran, M. Reid, P. Huggett and M. Cortie. "Interfacial reactions in white iron/steel composites." Journal of Materials Processing Technology 212(11): 2349-2357. 2012

[2] T. Lucey, R. Wuhrer, P. Huggett, K. Moran, W.Y. Yeung and M. Cortie. "Solidification Phenomena during Casting of Stainless Steel/Cast Iron Composites." Supplemental Proceedings: Materials Properties, Characterisation and Modelling, John Wiley & Sons, Inc.: 267-274. 2012

Conference Papers

[3] T. Lucey, R. Wuhrer, K. Moran, P. Huggett and M. Cortie. "Microstructural Analysis of the Interfacial Development of White Iron/Steel Composites." Microscopy and Microanalysis 18 (Supplement S2): 1670-1671. 2012

[4] T. Lucey, R. Wuhrer, P. Huggett, K. Moran, W.Y. Yeung and M. Cortie. "Solidification Phenomena during Casting of Stainless Steel/Cast Iron Composites", in Defects and Properties of Cast Metals, M. Jolly, B. Thomas and C. Reilly (eds.), Proceedings of the 141st TMS Annual Meeting & Exhibition, March 11-15, 2012, Orlando, Florida, USA.

[5] T. Lucey, P. Huggett, R. Wuhrer and W.Y. Yeung. "Effect of Soak Time on the Microstructural Evolution at the Interface of Kiln Cast White Iron/Steel Composites." The 7th Pacific Rim International Conference on Advanced Materials and Processing (PRICM 7), Cairns, Australia. 2010

[6] T. Lucey, P. Huggett, R. Wuhrer, K. Moran and W.Y. Yeung. "X-Ray Mapping and Analysis of the Interfacial Region of Kiln Cast Composites." Microscopy and Microanalysis 16(Supplement S2): 1674-1675. 2010

[7] T. Lucey, P. Huggett, R. Wuhrer and W.Y. Yeung. "Production and Characterisation of Vacuum Cast Composite Alloys." Materials Australia & Austceram 2009, Gold Coast, Australia. 2009

Awards

[1] Castaing Award – Best Student Paper, Microscopy Society of America, 2012

[2] 2nd Prize, Presentation, Materials Australia Jules Byrnes Student Presentation Night, 2009

[3] 2nd Prize, Poster, Materials Australia Jules Byrnes Student Presentation Night, 2009

[4] 1st Prize, Poster, UTS Student Research Showcase Poster Competition, 2009