

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/284735004>

Al-Fin Bond in Aluminum Piston Alloy & Austenitic Cast Iron Insert

Article in *International Journal of Metalcasting* · December 2015

DOI: 10.1007/BF03356037

CITATIONS

20

READS

902

5 authors, including:



[Srecko Manasijevic](#)

Lola Institute Ltd

47 PUBLICATIONS 290 CITATIONS

[SEE PROFILE](#)

[Radomir Radiša](#)

Lola Institut

31 PUBLICATIONS 249 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Center for Foundry Technology - SIMET [View project](#)



1. TR 6319, Implementacija automatizovanog projektovanja obradnih sistema i procesa u industriji prerade metala [View project](#)



Al-Fin Bond in Aluminum Piston Alloy & Austenitic Cast Iron Insert

Authors

[Authors and affiliations](#)

Srećko Manasijević, Radomir Radiša, Zdenka Zovko Brodarac, Natalija Dolić, Mile Djurdjevic

Article

First Online: 28 January 2016

DOI: 10.1007/BF03356037

Cite this article as:

Manasijević, S., Radiša, R., Brodarac, Z.Z. et al. Inter Metalcast (2015) 9: 27.
doi:10.1007/BF03356037

25

Views

Abstract

This paper presents the results of investigating an Al-Fin bond between an aluminum piston alloy and austenitic cast iron. The part investigated utilized an austenitic cast iron insert for the first ring groove for application in a highly loaded diesel engine for increased wear resistance. A metallographic investigation using an optical microscope in combination with SEM/EDS (Scanning Electron Microscopy/Energy Dispersive Spectroscopy) analysis and 3D visualization of the quality of the intermetallic bonding layer was performed. The test results show that a metallic bond can be formed between the aluminum piston alloy and the austenitic cast iron.