



UNIVERSITY OF
LEICESTER

Poster 10

Exploring the effects of Cryogenic treatment on coating-substrate systems



Christian Chiadikobi

AUTHOR OF POSTER:
Christian Chiadikobi

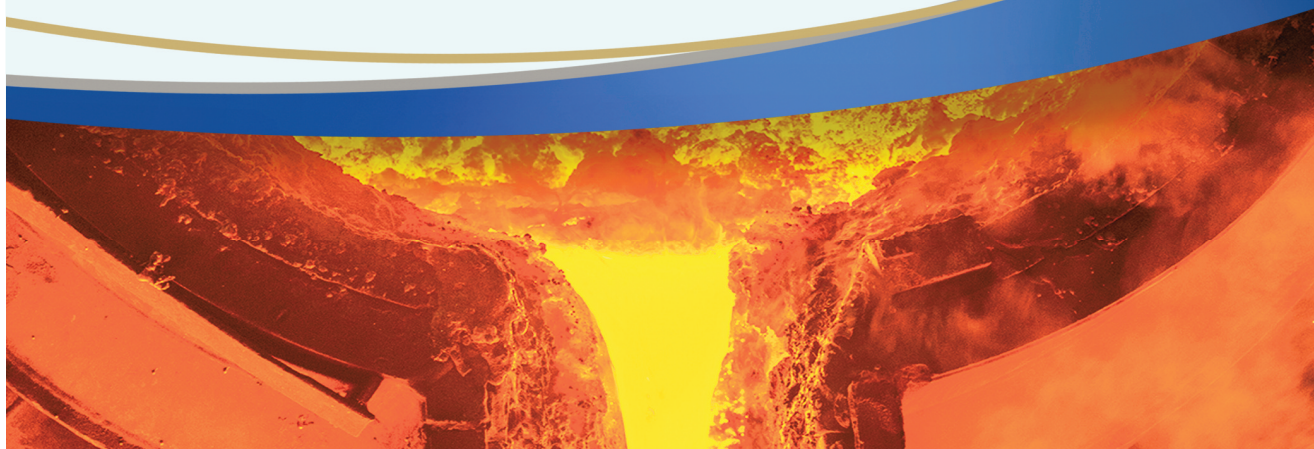
INSTITUTION:
University of Leicester

OTHER AUTHORS:
Dr Rob Thornton, University of Leicester,
Dr Dave Weston, University of Leicester

ABSTRACT:

Owing to the growing demand in production industries to employ materials that will last longer and more efficient as well as reduced cost, focus has now been shifted to employ materials and strategic treatment geared towards addressing the above demands. Thus, Cryogenic treatment (CT) is being proposed geared towards enhancing engineering materials. CT is a novel approach that relates to the behaviour of materials typically below 193K, thus causing microstructural change; which in turn enhances the behaviour of the material e.g. hardness, fatigue life, dimensional stability. For some applications CT materials are also coated as they have been found to work well and improve wear resistance.

Nevertheless, in the literature the topic is still under much discussion due to consistency of results and appropriate experimental evidence. For coating – substrate systems, the driving force responsible for the microstructural change undergone have not been fully investigated to assess their significance. Therefore, it is of importance to explore the effects of CT on materials as well as on coated - substrate systems through destructive, slightly destructive and non-destructive techniques with sole aim to improve the understanding in the field.



Organised by:



**Materials
Processing
Institute**



ARMOURERS &
BRASIERS' COMPANY

I·M3

Associate Sponsor:



www.M2A.co.uk

