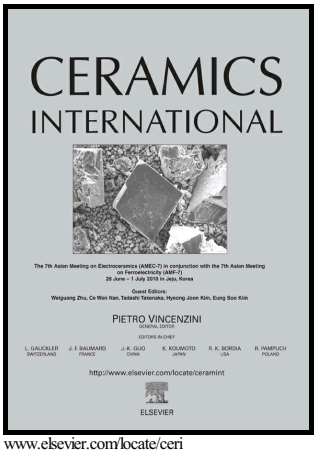

www.elsevier.com/locate/ceri

Comparative study on wear behavior of plasma sprayed Al_2O_3 coatings sliding against different counterparts

Wen Deng, Shuangjian Li, Guoliang Hou, Xia Liu, Xiaoqin Zhao, Yulong An, Huidi Zhou, Jianmin Chen

PII: S0272-8842(17)30328-0
DOI: http://dx.doi.org/10.1016/j.ceramint.2017.02.122
Reference: CERI14738

To appear in: *Ceramics International*

Received date: 1 December 2016
Revised date: 15 February 2017
Accepted date: 23 February 2017

Cite this article as: Wen Deng, Shuangjian Li, Guoliang Hou, Xia Liu, Xiaoqi Zhao, Yulong An, Huidi Zhou and Jianmin Chen, Comparative study on wea behavior of plasma sprayed Al_2O_3 coatings sliding against different counterparts *Ceramics International,* http://dx.doi.org/10.1016/j.ceramint.2017.02.122

Comparative study on wear behavior of plasma sprayed Al_2O_3 coatings sliding against different counterparts

Wen Deng[a,b], Shuangjian Li[a,b], Guoliang Hou[a], Xia Liu[a,b], Xiaoqin Zhao[a], Yulong An[a*], Huidi Zhou[a*], Jianmin Chen[a]

[a]State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, P. R. China

[b]University of Chinese Academy of Sciences, Beijing 100049, P. R. China

csuayl@sohu.com

hdzhou@lzb.ac.cn

[*]Corresponding authors. Tel.: +8609314968085; fax: +8609314968138.

Abstract

Although the friction and wear behavior of plasma sprayed aluminum matrix ceramic coatings have been extensively discussed in the last decades, only few researches have been carried out the wear mechanisms sliding against different pairs. The tribological behaviors of plasma sprayed Al_2O_3 coating sliding against ZrO_2, Si_3N_4, Al_2O_3 and stainless steel balls in air were comparatively investigated in this study. It was showed that Al_2O_3 coating sliding against different counterparts exhibited diverse tribological behaviors, which could be mainly ascribed to the different mechanical properties of