
High Temperature Corrosion and Materials Chemistry 12

Editors:

E. Opila
J. Fergus
P. Gannon
T. Markus
M. Nanko
D. Chidambaram

Sponsoring Divisions:**High Temperature Materials****Corrosion**

Published by
The Electrochemical Society
65 South Main Street, Building D
Pennington, NJ 08534-2839, USA
tel 609 737 1902
fax 609 737 2743
www.electrochem.org

ecst**transactions**TM**Vol. 75, No. 28**

Copyright 2017 by The Electrochemical Society.
All rights reserved.

This book has been registered with Copyright Clearance Center.
For further information, please contact the Copyright Clearance Center,
Salem, Massachusetts.

Published by:

The Electrochemical Society
65 South Main Street
Pennington, New Jersey 08534-2839, USA

Telephone 609.737.1902
Fax 609.737.2743
e-mail: ecs@electrochem.org
Web: www.electrochem.org

ISSN 1938-6737 (online)
ISSN 1938-5862 (print)
ISSN 2151-2051 (cd-rom)

ISBN 978-1-62332-419-3 (CD-ROM)
ISBN 978-1-60768-777-1 (PDF)

Printed in the United States of America.

ECS Transactions, Volume 75, Issue 28
High Temperature Corrosion and Materials Chemistry 12

Table of Contents

Preface	iii
The Origin of Instability of Lanthanum Strontium Cobalt Ferrite (La–Sr–Co–Fe–O; LSCF) under Oxygen Potential Gradient <i>X. Wang, T. Miyazaki, K. Yashiro, S. Hashimoto, T. Kawada</i>	1
CMAS Corrosion Behavior of Gadolinium Zirconate Thermal Barrier Coating Materials <i>W. Deng, H. Wang, A. Bakal, K. Roebbecke, J. Fergus</i>	11
Effect of Temperature on Oxidation Behaviour of Ni-Cr Alloys in CO ₂ Atmosphere <i>Y. Xie, J. Zhang, D. J. Young</i>	19
Kinetics and Microstructure Development on Sulfonitriding of Die-Steels <i>M. Nanko, K. Horie, R. Nakagane, S. Kadouaki, Y. Kuwabara</i>	37
Measurement of Cr Evaporation at 760 °C for Several Nickel Based Alloys at Moderate Velocities <i>J. H. Tylczak, G. R. Holcomb</i>	43
Mitigation of Chromium Assisted Degradation of LSM Cathode in SOFC <i>C. Liang, B. Hu, A. Aphale, M. Venkataraman, M. K. Mahapatra, P. Singh</i>	57
Soaking Experiments for Understanding Corrosion Behavior of Zircaloy with Molten Stainless Steel–B ₄ C at Elevated Temperatures <i>S. Matsuura, M. Nanko, M. Kurata</i>	65
Author Index	73