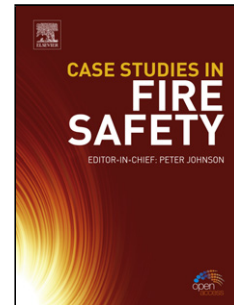


Accepted Manuscript

Title: Interfacial Corrosion of Copper in Concentrated Chloride Solution and the Formation of Copper Hydroxychloride

Authors: Shengxi Li, Mary T. Teague, Gary L. Doll, Eric J. Schindelholz, Hongbo Cong



PII: S0010-938X(18)30231-2
DOI: <https://doi.org/10.1016/j.corsci.2018.06.037>
Reference: CS 7593

To appear in:

Received date: 4-2-2018
Revised date: 20-5-2018
Accepted date: 23-6-2018

Please cite this article as: Li S, Teague MT, Doll GL, Schindelholz EJ, Cong H, Interfacial Corrosion of Copper in Concentrated Chloride Solution and the Formation of Copper Hydroxychloride, *Corrosion Science* (2018), <https://doi.org/10.1016/j.corsci.2018.06.037>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Interfacial Corrosion of Copper in Concentrated Chloride Solution and the Formation of Copper Hydroxychloride

Shengxi Li^a, Mary T. Teague^a, Gary L. Doll^b, Eric J. Schindelholz^{c,*}, Hongbo Cong^{a,*}

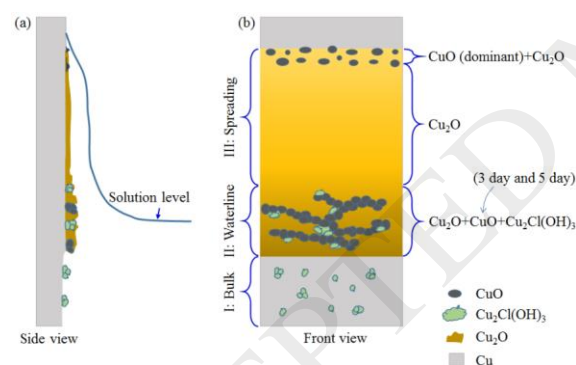
^aDepartment of Chemical and Biomolecular Engineering, Corrosion Engineering Program, The University of Akron, Akron, OH, 44325, USA

^bDepartment of Civil Engineering, Timken Engineered Surface Lab (TESL), The University of Akron, Akron, OH, 44325, USA

^cCenter for Materials Science and Engineering, Sandia National Laboratories, PO Box 5800, Albuquerque, NM, 87185, USA

Corresponding authors: hcong@uakron.edu (H. Cong), ejschi@sandia.gov (E. J. Schindelholz)

Graphical abstract



Highlights

- Spatial and temporal distribution of corrosion products are identified by micro-Raman
- Pourbaix diagram is constructed for coexistence of four copper species in 4 M NaCl
- Oxide film formation in spreading region is compared with high pH bulk solutions
- Potential and pH profiles across waterline region are proposed

Download English Version:

<https://daneshyari.com/en/article/7893186>

Download Persian Version:

<https://daneshyari.com/article/7893186>

[Daneshyari.com](https://daneshyari.com)