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Autore	Kane R. D
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Nota di contenuto	Material Aging and Reliability of Engineered Systems / RP Wei -- Issues in Modelling of Environment Assisted Cracking / A Turnbull -- Environment-Assisted Intergranular Cracking: Factors that Promote Crack Path Connectivity / JR Scully -- Micromechanical Modeling of Hydrogen Transport-A Review / P Sofronis, A Taha -- Strain Rate Dependent Environment Assisted Cracking of a/ß-Ti Alloys in Chloride Solution / E Richey, RP Gangloff -- Framework for Predicting Stress Corrosion Cracking / RW Staehle -- Deterministic Prediction of Localized Corrosion Damage in Power Plant Coolant Circuits / DD Macdonald, GR Engelhardt -- Status of JAERI Material Performance Database (JMPD) and Its Use for Analyses of Aqueous Environmentally Assisted Cracking Data / Y Kaji, T Tsukada, Y Miwa, H Tsuji, H Nakajima -- An Analysis of Baffle/Former Bolt Cracking in French PWRs / PM Scott, MC Meunier, D Deydier, S Silvestre, A Trenty -- Improvement of IASCC Resistance for Austenitic Stainless Steels in PWR Environment / T Yonezawa, K Fujimoto, T Iwamura, S Nishida -- Prediction of Conditions Leading to Stress Corrosion Cracking of Gas Transmission Lines / N Sridhar, DS Dunn, A Anderko -- Considerations in Using Laboratory Test Data as an Indicator of Field Performance: Stress Corrosion Cracking / RH Jones -- Effects of Environmental Factors and Potential on Stress Corrosion Cracking of Fe-Ni-Cr-Mo

Alloys in Chloride Solutions / YM Pan, DS Dunn, GA Cragnolino -- Environmentally Assisted Cracking in the Chemical Process Industry. Stress Corrosion Cracking of Iron, Nickel, and Cobalt Based Alloys in Chloride and Wet HF Services / RB Rebak -- Hydrogen Embrittlement - Loading Rate Effects in Fracture Mechanics Testing / RWJ Koers, AHM Krom, A Bakker -- Standardization of Rising Load/Rising Displacement SCC Testing / W Dietzel -- Role of Cyclic Pre-Loading in Hydrogen Assisted Cracking / J Toribio, V Kharin -- Improvement of Stress Corrosion Cracking (SCC) Resistance by Cyclic Pre-Straining in FCC Materials / I de Curiere, B Bayle, T Magnin -- Influence of Surface Films and Adsorption of Chloride Ions on SCC of Austenitic Stainless Steels in 0.75M HCl at Room Temperature / PH Chou, R Etien, TM Devine -- Toward A More Rational Taxonomy For Environmentally Induced Cracking / PF Ellis, RE Munson, J. Cameron -- Environmentally Influenced Near-Threshold Fatigue Crack Growth in 7075-T651 Aluminum Alloy / EU Lee, HC Sanders, K George, VV Agarwala -- The Use of Atomic Force Microscopy to Detect Nucleation Sites of Stress Corrosion Cracking in Type 304 Stainless Steel / MPH Brongers, GH Koch, AK Agrawal -- An Electrochemical Film-Rupture Model for SCC of Mild Steel in Phosphate Environment / R Raicheff, L Maldonado -- Cyclic Strain Cracking of Stainless Steels in Hot Steam-Hydrocarbon Reformer Condensates: Test Method Development / SW Dean, JG Maldonado, RD Kane -- Environmentally Assisted Cracking of Cold Drawn Eutectoid Steel for Civil Engineering Structures / J Toribio, E Ovejero -- Premature Failures of Copper Alloy Valves and Fittings in the New York City Water Supply System / GA Andersen -- Stress Corrosion Cracking of Linepipe Steels in Near-Neutral pH Environment: A Review of the Effects of Stress / W Zheng, R Sutherby, RW Revie, WR Tyson, G Shen -- Author Index -- Subject Index.

Sommario/riassunto

The November 2000 symposium addressed methodologies for evaluation of environmental assisted cracking (EAC) in equipment and structures exposed to corrosive environments, and recent developments in the generation of relevant materials properties data based on laboratory tests. Twenty-seven papers from the symposium are collected in this volume. The seven plenary papers present current thought concerning mechanistic and predictive models for understanding EAC and materials performance. The remaining papers discuss prediction of irradiation assisted stress corrosion cracking performance in reactor cooling water systems, predicting EAC performance in industrial applications, EAC testing and in-service experiences, mechanistic studies for control of EAC, and engineering applications for new experimental and analytical methods. Topics include prediction of conditions leading to stress corrosion cracking of gas transmission lines, the role of cyclic pre-loading on hydrogen assisted cracking of carbon steel, the use of Raman spectroscopy to investigate surface films on stainless steels in acidic and chloride-containing media, and premature failures of copper alloy valves and fittings in the New York City water supply system. Annotation copyrighted by Book News, Inc., Portland, OR.