

7th International Symposium on Corrosion in the Pulp and Paper Industry

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The 7th International Symposium on Corrosion in the Pulp and Paper Industry, held in Orlando, FL, Nov. 16–20, 1992, was attended by an international audience of 145 scientists and engineers representing a variety of disciplines within the fields of materials and corrosion engineering. The symposium was cosponsored by the TAPPI, Canadian Pulp and Paper Association/Technical Section, European Federation of Corrosion, Finnish Paper Engineers Association, National Association of Corrosion Engineers, and the Swedish Association of Pulp and Paper Engineers.

Walter A. Mueller organized the first such symposium in 1974 with the aim of bringing together industry representatives for a concentrated review of state-of-the-art corrosion knowledge in the pulp and paper industry. The Walter A. Mueller Award for the best paper at the 1992 symposium was presented to David Crowe of Union Camp Research, whose work "Corrosion in acid cleaning solutions for kraft digesters" demonstrated fundamental research with practical application in a field in which little prior published information existed.

Max Moskal of Stone Container, chairman for the 7th International Symposium, organized an educational and fun week that included 38 technical papers, a poster session, and evening outings at Universal Studios and Sea World. The program committee included Per Erik Ahlers of the Institute of Paper Science and Technology, Joan Barna of Babcock & Wilcox, Dave Bennett of Champion International, Andy Garner of PAPRICAN, Charlie Guzi of Lambda Research, Tero Hakkarainen of the Technical Research Center of Finland, Sandy Sharp of Westvaco, and Joe Wolf of Wisconsin Protective Coatings. Administration and advisory was provided by Ed Robie and Bill Stafford of TAPPI.

The technical sessions of the symposium covered all aspects of the pulp and paper industry, including general corrosion, bleach plant corrosion, liquor corrosion, coatings and nonmetals, paper machine corrosion, nondestructive testing, and corrosion in power and recovery systems.

Discussions on general corrosion covered changes in pulping and papermaking processes that have been brought about in the last decade by market and environmental forces and their effect on corrosion in process equipment. Attendees also learned about process changes and corrosion consequences anticipated in the next decade, such as increased ClO_2 substitution in bleaching environments and the replacement of chlorine bleaching compounds with chlorine-free peroxygenated bleaching agents.

Papers on liquor corrosion addressed an often-overlooked corrosion problem that is both common today in many mills and is likely to become more common as process changes and closed loop systems are instituted. Presentations included laboratory studies exploring the role of aeration, pH, temperature, and chloride content on the stability of the passive condition of carbon steel in brown stock and post-oxygen washing solutions. Reports also covered system design for successful anodic protection of carbon steel liquor tanks.

The nonmetals and coatings session offered a relatively new cost saving concept of dual laminate construction of process equipment using a combination of RTP and exotic thermoplastics. Another report concerned the need to combine the efforts of the civil, corrosion, and materials engineering disciplines in order to successfully resolve concrete deterioration in paper mills.

The corrosion topics covered in the power and recovery systems session varied widely and consisted of studies made not only in the laboratory, but also field corrosion test trials and failure analysis. Presentations covered superheater corrosion as a function of iron-chlorine compounds, the importance of superheater design in minimizing the formation of molten deposits, and corrosion and cracking of composite tube recovery furnaces.

The session on paper machine corrosion included presentations on the effects of thiosulfate on duplex stainless steel suction rolls and the use of protective coatings for paper machine wet end service.

Following the daily technical sessions, the poster session offered refreshments and the opportunity for all attendees to mingle with the authors, meet new friends, and maintain old acquaintances. Referred to by many in the field of pulp and paper corrosion and materials engineering as "old home week," the symposium offers unique opportunities for learning and growing, both personally and professionally. As such, the tradition of holding this symposium every three years will continue. ■