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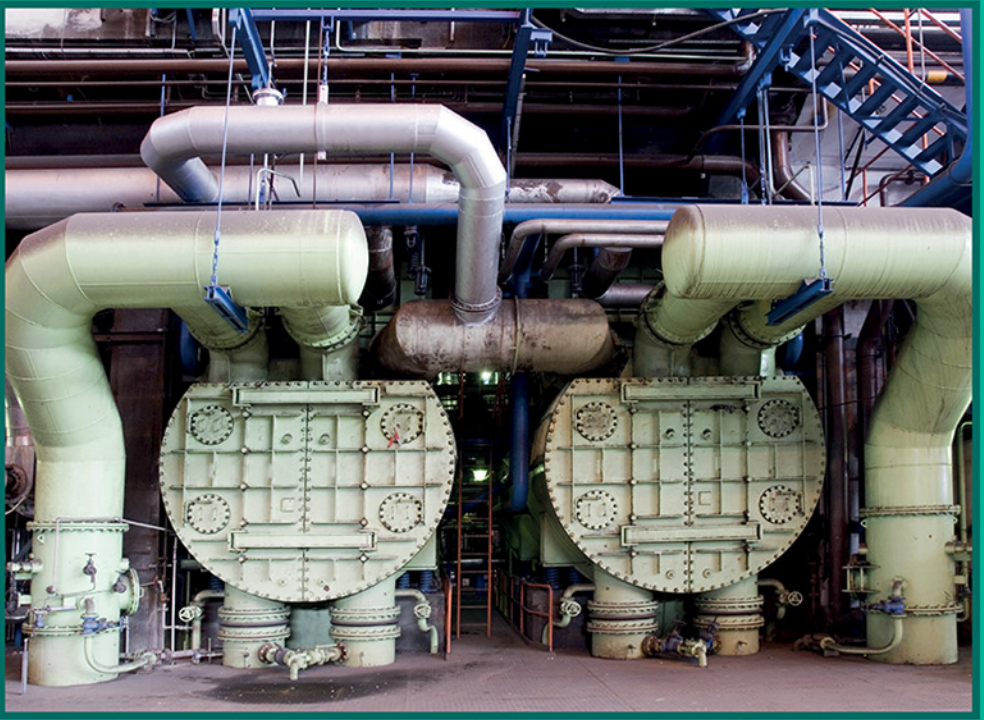

European Federation of
Corrosion Publications
Number 72

CORROSION MANAGEMENT OF SEAWATER COOLING SYSTEMS

Edited by
FRANCOIS ROPITAL, VALERIE BOUR-BEUCLER
AND ANTOINE SURBLED
(On behalf of EFC WP15 Corrosion in refinery and
petrochemistry industries and WP9 Corrosion in sea water)

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EUROPEAN FEDERATION OF CORROSION

Corrosion Management of Seawater Cooling Systems

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European Federation of Corrosion publications: Series introduction

The European Federation of Corrosion (EFC), founded in 1955, is a federation of 40 organizations with interests in corrosion and is based in 20 different countries throughout Europe and beyond. Its member societies represent the corrosion interests of more than 25,000 engineers, scientists, and technicians. The aim of this Federation is to advance the science of the corrosion and protection of materials by promoting cooperation in Europe and collaboration internationally. Aside from national and international corrosion societies, universities, research centers, and companies can also become Affiliate Members of the EFC.

The administration of the Federation is in the hands of the Board of Administrators (BoA), chaired by the EFC President, and the scientific and technical affairs are the responsibility of the Science and Technology Advisory Committee (STAC), chaired by the STAC Chairman and assisted by the Scientific Secretary. The General Assembly approves any EFC policy prepared and presented by the BoA. The Federation is managed through its General Secretariat with three shared headquarters located in London, Paris, and Frankfurt.

The EFC carries out its most important activities through its more than 20 active working parties devoted to various aspects of corrosion and its prevention, covering a large range of topics including corrosion and scale inhibition, corrosion by hot gases and combustion products, nuclear corrosion, environment sensitive fracture, surface science and mechanisms of corrosion and protection, physicochemical methods of corrosion testing, corrosion education, marine corrosion, microbial corrosion, corrosion of steel in concrete, corrosion in oil and gas production, coatings, corrosion in the refinery industry, cathodic protection, automotive corrosion, tribocorrosion, corrosion of polymer materials, corrosion and corrosion protection of drinking water systems, and corrosion of archaeological and historical artifacts. The EFC is always open to formulating new working parties in response to the demands brought about by developing technologies and their ensuing corrosion requirements and applications.

The European Federation of Corrosion's flagship event is EUROCORR, the most important Corrosion Congresses in Europe, which is held annually in a different European country in September of each year. To date, 27 EUROCORR conferences have taken place in 12 different countries and they have gained a reputation for their high technical quality, global perspective, and enjoyable social program. Another channel for the EFC's valuable transfer of knowledge is the EFC "Green" Book Series which are the fruit of the collaboration and high scientific caliber

within and amongst the EFC working party members and are emblematic of the EFC editorial policy.

EFC offices are located at:

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Seawater is considered an attractive resource for utilities in many industries such as power plants, refineries, and chemical plants. Seawater cooling systems are used in heat exchangers, for once-through cooling water systems, or for recirculating cooling water systems. The metallurgy and materials used for these facilities need to be compatible with seawater and allow good corrosion control.

The evolution of practices in terms of sustainability, materials choice, treatment selection and changes to regulations have demonstrated the need to establish this new guide on recommended best practices to support the corrosion management and development of seawater heat exchangers.

Corrosion Management of Seawater Cooling Systems provides an overview of the main seawater heat exchanger systems; different forms of corrosion; biocide treatments, corrosion, and inhibitors; and the materials used, coatings and cathodic protection and maintenance, and monitoring and control.

The book will be a valuable reference resource for academics, technicians, and engineers who are interested in the corrosion management of seawater cooling systems.

Key Features

- Covers key technological developments in corrosion management of seawater cooling systems
- Covers seawater heat exchangers
- Presentation of different forms of corrosion
- Covers selection of materials, corrosion protections (inhibitors, coatings, cathodic protection)
- Covers maintenance, control, monitoring, and inspection

About the Editors

Francois Ropital works at IFP Énergies nouvelles on the behavior of materials for energy technologies within the Applied Physico-Chemistry and Mechanics Department and is an associate professor (PAST) at INSA-Lyon, in the Department of Materials Science and Engineering. He is also past chairman of the Working Party 15 *Corrosion in Refinery and Petrochemistry*, the European Federation of Corrosion (EFC).

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