DESCRIPTION

This handbook is derived from the online reference "Corrosion Handbook", bringing together the relevant information about corrosion protection and prevention for steels, one of the most widely used materials. It provides comprehensive information, including tabulated data and references, on the corrosion properties of the following materials:

Unalloyed steels and cast steel, unalloyed cast iron, high-alloy cast iron, high-silicon cast iron, structural steels with up to 12% chromium, ferritic chromium steels with more than 12% chromium, ferritic-austenitic steels with more than 12% chromium, high-alloy multiphase steels, ferritic/perlitic-martensitic steels, ferritic-austenitic steels/duplex steels, austenitic chromium-nickel steels, austenitic chromium-nickel-molybdenum steels, austenitic chromium-nickel steels with special alloying additions, special iron-based alloys, and zinc.

The following corrosive media are considered: Seawater, brackish water, industrial waste water, municipal waste water, drinking water, high-purity water.

ABOUT THE AUTHOR

Michael Schütze, born in 1952, studied materials sciences at the University of Erlangen-Nürnberg from 1972 to 1978, then joined the Karl Winnacker Institute of the DECHEMA as a research associate. He received his doctorate in engineering sciences from the RWTH (Technical University) in Aachen in 1983, completed his habilitation in 1991, becoming a member of the external teaching
staff of the RWTH. Since 1998, he holds a professorship there. He was appointed director of the Karl Winnacker Institute in 1996 and Chairman of the executive board of DECHHEMA Forschungsinstitut in 2012. He is recipient of the Friedrich-Wilhelm-Prize, the Rahmel-Schwenk medal, the Otto-von-Guericke Prize, the Cavallaro medal, the U.R. Evans Award, the Khwarizmi Award and the UNIDO Award, past Chairman of the Gordon Conference on Corrosion, editor of the journal Materials and Corrosion, Past-President of the European Federation of Corrosion, Past-President of the World Corrosion Organization and Chairman of the Working Party Corrosion by Hot Gases and Combustion Products of the European Federation of Corrosion.

Marcel Roche, born in 1945, received his diplomas in Chemical Engineering from the Institut National des Sciences Appliquées of Lyon in 1967 and in Refining and Chemical Engineering from the Ecole Nationale Supérieure du Pétrole et des Moteurs in 1968. He worked as a corrosion engineer for the Institut Français de Pétrole and Technip Engineering from 1970 to 1979, when he moved to the Corrosion Department of Elf Aquitaine. He spent the remainder of his career in the field of Corrosion, Inspection and Materials in this Group which became TotalFinaElf and finally Total. He retired in June 2008 and became a corrosion consultant. Since July 2011, he is President of CEFRACOR, the French Corrosion Society, and of its department Conseil Français de la Protection Cathodique. He is a member of the Scientific and Technical Advisory Committee of the European Federation of Corrosion and a member of its Board of Administrators, representing France. He has been active in several European and international standardisation working groups, including CEN TC219 WG3 for cathodic protection in marine applications for which he has been Convenor from 2009 to 2014.

Roman Bender, born in 1971, studied chemistry at the Justus Liebig University of Giessen from 1992 to 1997. After he received his diploma he joined the Karl Winnacker Institute of the DECHHEMA in Frankfurt (Main) as a research associate. Since 2000 he is head of the group materials and corrosion at the DECHHEMA and editor in chief of the world's largest corrosion data collection, the DECHHEMA Werkstofftabelle, and the Corrosion Handbook. In 2001 he received his doctorate in natural sciences from the Technical University of Aachen (RWTH Aachen). In 2008 Dr. Bender was appointed chief executive officer of the GfKORR - The Society for Corrosion Protection. As well, in 2013 he has been appointed as the Scientific Secretary of the European Federation of Corrosion.