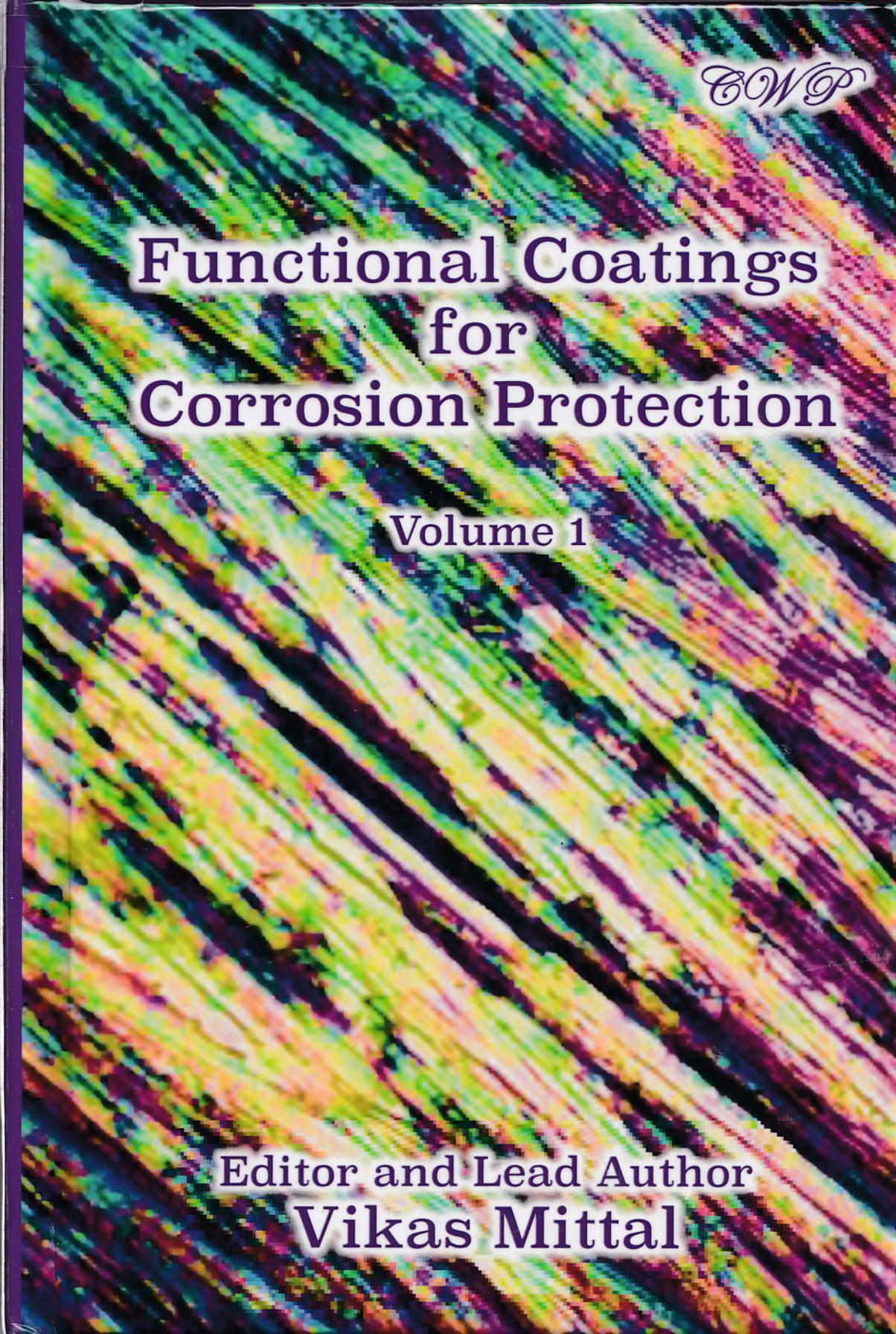
CWP
Functional Coatings for Corrosion Protection
Volume 1
Editor and Lead Author
Vikas Mittal

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About the Book

Corrosion involves the degradation of metals due to the oxidation and reduction processes occurring during the interaction of the metallic surfaces with the aggressive environments. These electrochemical processes result in the impairment of materials' physical and mechanical properties such as strength and ductility. Application of coatings is the most widely used method for the corrosion protection of the metallic structures. Specifically, the polymeric coatings (or reinforced polymer coatings) protect the metal substrates from external corrosive agents by acting as an effective barrier. Besides that, depending on the morphology and structure of polymers, the coatings possess the properties like thermal, chemical and mechanical stability. These properties combined with the ability to strongly adhere to metal surfaces yield durable coatings with longer service lifetime compared with other metallic and inorganic coatings. The purpose of this book is to assimilate the recent advances in the field of functional coatings systems for achieving effective corrosion protection.

About the Editor

Dr. Vikas Mittal works as Associate Professor in the Department of Chemical Engineering at Khalifa University of Science and Technology, Abu Dhabi, UAE. Before, he was employed at BASF, Germany as polymer engineer and at SunChemical, UK as materials scientist. Dr. Mittal received his PhD degree in 2006 from Department of Materials and Department of Chemistry and Applied Biosciences at Swiss Federal Institute of Technology (ETH) Zurich, Switzerland. He has been an active researcher in the field of polymer nanotechnology and its applications in various streams. He has published more than 125 peer reviewed papers on these subjects, along with 35 edited and authored books. His research accomplishments have also resulted in many patents. In addition, he has published many book chapters and has also delivered numerous keynote and invited lectures.

ISBN 978-1-922617-05-7
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9 781922 617057

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