

Preface

In this publication, the reader will find the results of various studies in the field of modern structural and functional materials.

Modern structural materials from metals and alloys to composites and polymers are characterized by high strength and machinability and can significantly improve the functional properties of final products and structures.

Here, some problems in corrosion prevention and assessment of structural materials damage state are analysed and recommendations for decreasing their effect on the durability of the equipment are presented.

The book also discusses the issues of green synthesis of functional nanoparticles as well as an analysis of the properties, methods of application and processing of shape memory alloys.

The results of evaluating the possibility of using abrasive waterjet garnet wastes in concrete production are presented, and a predictive model is announced for determining the compressive strength of concrete using non-destructive testing data.

This book will be helpful for specialists in materials science from many production branches.