

Preface

This special edition contains articles on the latest research results and technological solutions in materials science and industrial manufacturing.

Properties of steel and alloys, features of some additive manufacturing technologies - fused deposition modelling, inkjet printing of supercapacitor electrodes and postprocessing of laser powder bed fusion manufactured steel specimens are the topics of the first two chapters.

The following two parts are devoted to analysing materials with magnetic and superconducting properties and investigating materials used in microelectronics and energy storage.

Some issues of physical chemistry with the application of methods of computational materials science are discussed in detail in the fifth chapter of this edition.

The last chapter includes articles on failure analysis of shafts used in twin screw extruders during fluoropolymer compounding and prediction of point defects in silicon wafer manufacturing.

The special edition will be helpful to specialists from applied materials science, machinery, electronic industry and chemical production.