Record Nr. UNINA9910457995003321 Autore Bai Yong **Titolo** Marine structural design [[electronic resource] /] / Yong Bai Pubbl/distr/stampa Amsterdam;; Boston,: Elsevier, 2003 **ISBN** 1-281-07043-2 9786611070434 0-08-053583-6 Edizione [1st ed.] Descrizione fisica 1 online resource (627 p.) Disciplina 627/.98 Soggetti Offshore structures - Design and construction Naval architecture Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Front Cover; Marine Structural Design; Copyright Page; Preface; Table of Contents; Part I: Structural Design Principles; Chapter 1. Introduction: 1.1 Structural Design Principles: 1.2 Strength and Fatigue Analysis; 1.3 Structural Reliability Applications; 1.4 Risk Assessment; 1.5 Layout of This Book; 1.6 How to Use This Book; 1.7 References; Chapter 2. Wave Loads for Ship Design and Classification; 2.1 Introduction: 2.2 Ocean Waves and Wave Statistics: 2.3 Ship Response to a Random Sea; 2.4 Ship Design for Classification; 2.5 References Chapter 3. Loads and Dynamic Response for Offshore Structures 3.1 General; 3.2 Environmental Conditions; 3.3 Environmental Loads and Floating Structure Dynamics; 3.4 Structural Response Analysis; 3.5 Extreme Values: 3.6 Concluding Remarks: 3.7 References: 3.8 Appendix A: Elastic Vibrations of Beams; Chapter 4. Scantling of Ship's Hulls by Rules; 4.1 General; 4.2 Basic Concepts of Stability and Strength of Ships; 4.3 Initial Scantling Criteria for Longitudinal Strength; 4.4 Initial Scantling Criteria for Transverse Strength; 4.5 Initial Scantling

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Sommario/riassunto

This new reference describes the applications of modern structural engineering to marine structures. It will provide an invaluable resource to practicing marine and offshore engineers working in oil and gas as well as those studying marine structural design. The coverage of fatigue and fracture criteria forms a basis for limit-state design and reassessment of existing structures and assists with determining material and inspection requirements. Describing applications of risk assessment to marine and offshore industries, this is a practical and useful book to help engineers conduct structural