

1. Record Nr.	UNINA9910463511403321
Autore	Souder Chris
Titolo	Temporary structure design // Chris Souder
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons, Inc., , 2015 ©2015
ISBN	1-119-00485-3 1-118-93414-8 1-118-93996-4
Descrizione fisica	1 online resource (452 p.)
Disciplina	690
Soggetti	Temporary structures (Building) - Design and construction Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover; Title Page; Copyright; Contents; About the Author; Preface; Acknowledgments; Chapter 1 Statics Review; 1.1 Statics Review; 1.2 Units of Measure; 1.2.1 Common Units of Measure; 1.3 Statics; 1.3.1 Centroids/Center of Gravity; 1.3.2 Properties of Sections; Chapter 2 Strength of Materials Review; 2.1 Stress; 2.1.1 Normal Stress; 2.1.2 Bending Stress; 2.1.3 Shear Stress; 2.1.4 Horizontal Shear Stress; 2.1.5 Modulus of Elasticity; 2.2 Bending Moments; 2.2.1 Maximum Bending Moments; 2.2.2 Maximum Shear; 2.2.3 Law of Superposition; 2.3 Materials; 2.3.1 Factors of Safety; 2.3.2 Grades of Steel 2.3.3 Compact Beam2.3.4 Wood; 2.4 Deflection; 2.5 Shear and Moment Diagrams; 2.6 Beam Design; 2.6.1 Combined Stress; Chapter 3 Types of Loads on Temporary Structures; 3.1 Supports and Connections on Temporary Structures; 3.1.1 Forces and Loads on Temporary Structures; 3.1.2 Materials-How Different Materials Create Different Forces; Chapter 4 Scaffolding Design; 4.1 Regulatory; 4.2 Types of Scaffolding; 4.3 Loading on Scaffolding; 4.4 Scaffolding Factors of Safety; 4.5 Scaffold Components; 4.5.1 Planking; 4.5.2 Bearers (Lateral Supports); 4.5.3 Runners; 4.5.4 Posts; 4.5.5 OSHA 4.6 Scaffold Design4.6.1 Securing Scaffolding to the Structure; 4.6.2 Hanging Scaffold; Chapter 5 Soil Properties and Soil Loading; 5.1 Soil

Properties; 5.1.1 Standard Penetration Test and Log of Test Borings; 5.1.2 Unit Weights above and below the Water Table; 5.1.3 Testing; 5.2 Soil Loading; 5.2.1 Soil Mechanics; 5.2.2 Active Soil Pressure and Coefficient; 5.2.3 Soil Pressure Theories; 5.2.4 Soil Pressure Examples Using Rankine Theory; 5.2.5 Soil Pressures Using State and Federal Department Standards; Chapter 6 Soldier Beam, Lagging, and Tiebacks; 6.1 System Description and Units of Measure 6.1.1 Beams/Piles 6.1.2 Lagging; 6.1.3 Tiebacks; 6.2 Materials; 6.2.1 Steel AISC; 6.2.2 Wood Species-National Design Specifications (NDS) for Wood Construction; 6.2.3 Lagging; 6.2.4 Soldier Beam Design; 6.2.5 Tiebacks and Soil Nails; Chapter 7 Sheet Piling and Strutting; 7.1 Sheet Piling Basics; 7.1.1 Materials; 7.1.2 System Description and Unit of Measure; 7.1.3 Driving Equipment; Chapter 8 Pressure and Forces on Formwork and Falsework; 8.1 Properties of Materials; 8.1.1 Unit Weights; 8.1.2 Forces from Concrete Placement; Chapter 9 Concrete Formwork Design; 9.1 General Requirements 9.1.1 Concrete Specifications 9.1.2 Types and Costs of Forms in Construction; 9.2 Formwork Design; 9.2.1 Bending, Shear, and Deflection; 9.2.2 Form Design Examples Using All-Wood Materials with Snap Ties or Coil Ties; 9.2.3 Formwork Charts; 9.2.4 Estimating Concrete Formwork; 9.3 Conclusion; Chapter 10 Falsework Design; 10.1 Falsework Risks; 10.1.1 Falsework Accidents; 10.1.2 Falsework Review Process; 10.1.3 Falsework Design Criteria; 10.1.4 Load Paths for Falsework Design; 10.1.5 Falsework Design Using Formwork Charts; 10.1.6 Bridge Project; Chapter 11 Bracing and Guying 11.1 Rebar Bracing and Guying

Sommario/riassunto

A comprehensive guide to temporary structures in construction projects Temporary Structure Design is the first book of its kind, presenting students and professionals with authoritative coverage of the major concepts in designing temporary construction structures. Beginning with a review of statistics, it presents the core topics needed to fully comprehend the design of temporary structures: strength of materials; types of loads on temporary structures; scaffolding design; soil properties and soil loading; soldier beam, lagging, and tiebacks; sheet piling and strutting; pressure and forces on
