

Drawing for Civil Engineering

Edition: 2nd Edition

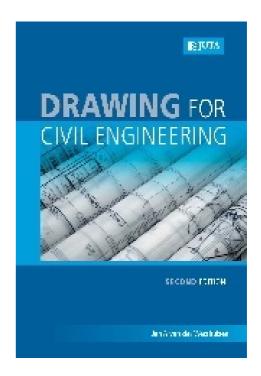
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Author/Editors: van der Westhuizen, JA

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About this Publication:

Drawing for Civil Engineering Second Edition has been revised and now includes computer applications and free Internet-downloadable software that can be used by students. The core function of this book is to cover the fundamentals of civil engineering drawing, draughting practice and conventions. Aimed mainly at second-level students at universities of technology and other tertiary institutions, the book outlines reinforced concrete drawings, steel structure drawings and surveying drawings.

With its improved design, Drawing for Civil Engineering Second Edition is more accessible and comprehensive.

Key Features and Benefits

- Two new chapters, one on CAD in surveying and the other on COMPACT
- Expanding the basic knowledge of drawing principles
- · Step-by-step, fully-worked-out examples
- · Self-evaluation activities to assist students throughout
- Answers to selected activities
- · An emphasis on independent study

Contents Include:

MODULE 1 REINFORCED CONCRETE

Requirements for detailing reinforced concrete drawings

Module outcomes

Terms

Unit 1 Introduction and standard tables

- 1.1 Reinforced concrete
- 1.1.1 Simple theory
- 1.2 Detailing of reinforcement
- 1.2.1 Beams
- 1.2.2 Columns
- 1.2.3 Slabs
- 1.2.4 Stirrups or links
- 1.3 General principles for drawing
- 1.4 Bar schedules (or bending schedules)
- 1.5 Types of drawings used for reinforced concrete

Unit 2 Foundations and columns

- 2.1 Introduction to foundations
- 2.2 Types of bases
- 2.2.1 Spread footings
- 2.2.2 Pile footings
- 2.3 Introduction to columns
- 2.4 Method of detailing columns
- 2.5 A closer look at footings and columns
- 2.5.1 Isolated footings
- 2.5.2 Combined footings

Unit 3 Beams and slabs

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- 3.2 Detailing beams
- 3.3 Introduction to slabs.
- 3.4 Detailing floor slabs
- 3.5 A practical approach

Unit 4 Using Computer Aided Concrete Training

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- 4.1.1 Advanced Design of Reinforced Concrete Structures
- 4.1.2 Design of Reinforced Concrete Structures
- 4.1.3 Buildability
- 4.1.4 Conceptual Design of Concrete Structures
- 4.1.5 Concrete as a Material (including Mix Design)
- 4.1.6 Concrete Bridges
- 4.1.7 Concrete Site Practice
- 4.1.8 Drawing and Detailing of Concrete Structures
- 4.1.9 Foundations and Retaining Walls
- 4.1.10 Precast Concrete Structures
- 4.1.11 Pre-stressed Concrete Structures
- 4.2 Downloading COMPACT

MODULE 2 STRUCTURAL STEELWORK

Requirements for detailing structural steel drawings

Module outcomes

Terms

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- 5.2 Standard steel tables
- 5.3 Bolted connections
- 5.4 Backmark
- 5.5 Dimensioning of holes
- 5.6 Symbols
- 5.7 Holding down bolts

- 5.8 Welded connections 5.8.1 Types of welds 5.8.2 Symbols for welds
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Unit 7 Beam-to-column connections

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Unit 8 Beam-to-beam connections

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Unit 9 Roof structures

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- 9.2 Roof trusses
- 9.3 Lattice girders
- 9.4 Portal frames
- 9.5 Roof systems
- 9.5.1 A typical truss and purlin system
- 9.5.2 Lattice girders
- 9.5.3 Portal frames

MODULE 3 SURVEYING

Introduction to surveying drawing for civil engineering

Module outcomes

Terms

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- 10.3 Plotting spot-heights (revision)
- 10.4 Contouring (revision)
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