

1. Record Nr.	UNINA9910145299003321
Autore	Institute The Steel Construction
Titolo	Steel Designers' Manual
Pubbl/distr/stampa	Oxford, : Wiley, 2008
ISBN	1-280-21402-3 9786610214020 0-470-77509-2 1-4051-4818-7
Edizione	[6th ed.]
Descrizione fisica	1 online resource (1370 p.)
Disciplina	624.1 624.1821 624.18210941
Soggetti	Building -- Details Building fittings Building, Iron and steel -- Handbooks, manuals, etc Buildings -- Specifications Steel, Structural -- Handbooks, manuals, etc Civil Engineering Civil & Environmental Engineering Engineering & Applied Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	""Contents""; ""Introduction to the sixth edition""; ""Contributors""; ""Notation""; ""SECTION 1: DESIGN SYNTHESIS""; ""1 Single-storey buildings""; ""Range of building types""; ""Anatomy of structure""; ""Loading""; ""Design of common structural forms""; ""2 Multi-storey buildings""; ""Introduction""; ""Factors influencing choice of form""; ""Anatomy of structure""; ""Worked example""; ""3 Industrial steelwork""; ""Range of structures and scale of construction""; ""Anatomy of structure""; ""Loading""; ""Structure in its wider context""; ""4 Bridges""; ""Introduction""; ""Selection of span"" ""Selection of type""""Codes of practice""; ""Traffic loading""; ""Other actions""; ""Steel grades""; ""Overall stability and articulation""; ""Initial

design"; "Worked example"; "5 Other structural applications of steel"; "Towers and masts"; "Space frames"; "Cable structures"; "Steel in residential construction"; "Atria"; "SECTION 2: STEEL TECHNOLOGY"; "6 Applied metallurgy of steel"; "Introduction"; "Chemical composition"; "Heat treatment"; "Manufacture and effect on properties"; "Engineering properties and mechanical tests"; "Fabrication effects and service performance" "Summary"; "7 Fracture and fatigue"; "Fracture"; "Linear elastic fracture mechanics"; "Elastica€?plastic fracture mechanics"; "Materials testing for fracture properties"; "Fracture-safe design"; "Fatigue"; "8 Sustainability and steel construction"; "Introduction"; "Economic impacts"; "Social impacts"; "Environmental impacts"; "Embodied energy"; "Operational energy"; "Summary"; "SECTION 3: DESIGN THEORY"; "9 Introduction to manual and computer analysis"; "Introduction"; "Element analysis"; "Line elements"; "13 Local buckling and cross-section classification" "Introduction"; "Cross-sectional dimensions and momenta€?rotation behaviour"; "Effect of momenta€?rotation behaviour on approach to design and analysis"; "Classification table"; "Economic factors"; "14 Tension members"; "Introduction"; "Types of tension member"; "Design for axial tension"; "Combined bending and tension"; "Eccentricity of end connections"; "Other considerations"; "Cables"; "Worked examples"; "15 Columns and struts"; "Introduction"; "Common types of member"; "Design considerations"; "Cross-sectional considerations"

Sommario/riassunto

This classic manual on structural steel design provides a major source of reference for structural engineers and fabricators working with the leading construction material. Based fully on the concepts of limit state design, the manual has been revised to take account of the 2000 revisions to BS 5950. It also looks at new developments in structural steel, environmental issues and outlines the main requirements of the Eurocode on structural steel.
