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Nota di contenuto	Intro -- Contents -- Preface -- General Principles and Practices -- 1.1 Brief description of the structure -- 1.2 Design philosophy and practice -- References -- Structural Analysis and Design -- 2.1 Structural analysis -- 2.2 Methods and procedures for analysis and design -- 2.3 Design data -- 2.4 Properties and specifi cation of materials -- 2.5 Specifi cations for selecting the structural components -- 2.6 Conventions for member axes -- 2.7 Model design of beam and column using Eurocode 3 and BS 5950, and comparison of the results -- References -- Design of Gantry Girders (Members Subjected to Biaxial Bending) -- 3.1 Design philosophy -- 3.2 Detailed considerations -- 3.3 Design of section -- 3.4 Intermediate transverse stiffeners -- 3.5 Design of end bearings of gantry girder -- References -- Design of Welded and Bolted Connections -- 4.1 General -- 4.2 Welded connections -- 4.3 Design of bolted connections -- References -- Design of Purlins, Side Rails, Roof Trusses, Roof Girders, Intermediate Columns and Horizontal Roof Bracings -- 5.1 Purlins in melting bay (members subjected to bending) -- 5.2 Side sheeting rails

(members subjected to biaxial bending) -- 5.3 Design of roof trusses (members subjected to compression and tension) -- 5.4 Roof girders in melting bay (members subjected to compression and tension) -- 5.5 Design of intermediate columns (members subjected to bending and thrust) -- 5.6 Design of horizontal wind bracing system for roof (members subjected to compression and tension) -- References -- Case Study I: Analysis and Design of Structure of Melting Shop and Finishing Mill Building -- 6.1 Design considerations -- 6.2 Loadings -- 6.3 Design of stanchions in melting bay along line A -- 6.4 Design of stanchions along line B -- References -- Case study II: Design of Gable End Framing System Along Row 10, Based on Eurocode 3. 7.1 Design considerations (see Figs 1.1 and 7.1) -- 7.2 Functions -- 7.3 Design of gable columns -- 7.4 Design of horizontal wind girder at 22.36 m level -- 7.5 Design of horizontal wind girder at 33.0 m level -- References -- Case Study III: Design of Vertical Bracing Systems for Wind Forces and Crane Tractive Forces Along Stanchion Lines A and B, B -- 8.1 Vertical bracing systems along stanchion line A -- 8.2 Design of bracing system between crane column rows 9 and 10 along stanchion line A to resist the longitudinal tractive force due to crane loads and wind loads from the gable end (see Fig. 8.1) -- 8.3 Design of vertical bracing system between roof column rows 9 and 10 along stanchion line A to resist wind loads from gable end (see Fig. 8.1(a)) -- 8.4 Design of vertical bracing system for wind forces and crane tractive forces in column along stanchion line B -- References -- APPENDIX A -- A.1 Design considerations -- A.2 Material properties -- A.3 Design of bearings -- References -- APPENDIX B -- Further Reading -- Books -- Papers -- Index.

Sommario/riassunto

Provides a rigorous analysis of a complete structure and the design of structural members, all in compliance with Eurocde (EC)3. Augmented by design sketches