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Design7.1. Basic principles of ultimate limit state design; 7.2 Revisiting the yield design theory in the context of ULSD; 7.3 The yield design theory applied to ULSD; 7.4.Conclusion; 7.5.Bibliography; Chapter 8. Optimality and Probability Approaches ofYield Design; 8.1. Optimal dimensioning and probabilistic approach; 8.2.Domain of potential stability; 8.3 Optimal dimensioning; 8.4.Probabilistic approach of yield design; 8.5.Bibliography; Chapter 9. Yield Design of Structures; 9.1. The curvilinear one-dimensional continuum
9.2 Implementation of the yield design theory9.3 Typical strength criteria; 9.4 Final comments; 9.5 Bibliography; Chapter 10. Yield Design of Plates: the Model; 10.1. Modeling plates as two-dimensional continua; 10.2.Dynamics; 10.3 Theorem/principle of virtual work; 10.4 Plate model derived from the three-dimensional continuum; 10.5. Bibliography; Chapter 11. Yield Design of Plates Subjected to Pure Bending; 11.1. The yield design problem; 11.2 Implementation of the yield design theory; 11.3. Strength criteria and  functions; 11.4.Final comments; 11.5.Bibliography; Index

Sommario/riassunto

Since the middle of the 20th Century yield design approaches have been identified with the lower and upper bound theorem of limit analysis theory - a theory associated with perfect plasticity. This theory is very restrictive regarding the applicability of yield design approaches, which have been used for centuries for the stability of civil engineering structures.This book presents a theory of yield design within the original "equilibrium/resistance" framework rather than referring to the theories of plasticity or limit analysis; expressing the compatibility between the equilibrium of