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4.10.1. Unprotected steel members; 4.10.2. Protected steel members; 4.11. Temperature in stainless steel members; 4.11.1. Example; 5. Mechanical Analysis; 5.1. Basic principles; 5.2. Mechanical properties of carbon steel; 5.3. Classification of cross-sections; 5.4. Fire resistance of structural members; 5.4.1. General; 5.4.2. Tension members; 5.4.3. Compression members; 5.4.4. Shear resistance; 5.4.5. Laterally restrained beams; 5.4.5.1. Uniform temperature distribution; 5.4.5.2. Non-uniform temperature distribution; 5.4.5.3. Bending and shear; 5.4.6. Laterally unrestrained beams
5.4.6.1. The elastic critical moment for lateral-torsional buckling; 5.4.6.2. Resistance to lateral-torsional buckling; 5.4.7. Members with Class 1, 2 or 3 cross-sections, subjected to combined bending and axial compression; 5.4.8. Members with Class 4 cross-sections; 5.4.9. Some verifications of the fire resistance not covered by EN 1993-1-2; 5.4.9.1. Shear buckling resistance for web without intermediate stiffeners; 5.4.9.2. Cross section verification of a member subjected to combined bending and axial force (compression or tension); 5.4.9.2.1. Class 1 and 2 rectangular solid sections
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7.3. Temperature of joints in fire

Sommario/riassunto

This book explains and illustrates the rules that are given in the Eurocode for designing steel structures subjected to fire. After the first introductory chapter, Chapter 2 explains how to calculate the mechanical actions (loads) in the fire situation based on the information given in EN 1990 and EN 1991. Chapter 3 presents the models to be used to represent the thermal action created by the fire. Chapter 4 describes the procedures to be used to calculate the temperature of the steelwork from the temperature of the compartment and Chapter 5 shows how the information given in EN 1993-1
