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M Factor; 2.3.2 CLTD; 2.3.3 FAT; 2.3.4 Lessons Learned; References; 3 Implications of the Assumptions in Assessing Building Thermal Balance; Abstract; 3.1 European Standard for Assessing the Building Thermal Behaviour
 3.2 Comparison Between Simplified Method and Detailed Simulation
 3.2.1 Input Parameters Selection: The Effect on the Thermal Balance;
 3.2.1.1 Set-Point Temperature; 3.2.1.2 Air-Change Rate; 3.2.1.3 Internal Loads; References; 4 Thermal Comfort Approaches and Building Performance; Abstract; 4.1 The Standard Approach; 4.2 The Adaptive Approach; 4.2.1 ASHRAE Equation; 4.2.2 ACA Equation; 4.2.3 ATG Equation; 4.2.4 CEN Equation; 4.3 Approaches Application on a Case Study; 4.4 Building Performance Implications; References; 5 Defining Representative Building Energy Models; Abstract
 5.1 Definition of the Basis Building Model
 5.1.1 Building Shape; 5.1.2 Internal Heat Loads; 5.1.3 Air Change Rate; 5.2 Definition of the Characterizing Parameters; 5.2.1 Building Locations; 5.2.2 Building Constructions; 5.2.2.1 New Conventional; 5.2.2.2 New Glazed; 5.2.2.3 60/80 Conventional; 5.2.2.4 60/80 Sandwich Largely Glazed; 5.2.2.5 Traditional; References; 6 Energy Performance Analysis of Typical Buildings; Abstract; 6.1 The Set of the Simulations; 6.1.1 Passive Cooling Strategies; 6.1.1.1 Shading; 6.1.1.2 Night Ventilation; 6.1.2 Indoor Set-Point Temperature
 6.2 Comparison of Buildings Performances
 6.2.1 Winter Week; 6.2.2 Summer Week, Basis; 6.2.3 Summer Week, with External Shading; 6.2.4 Summer Week, with Night Ventilation; 6.2.5 Summer Week, with External Shading and Night Ventilation; 6.3 Effect of a Climate-Connected Set-Point to the Seasonal Cooling Needs; References; 7 Climate-Related Assessment of Building Energy Needs; Abstract; 7.1 Assessing Building Energy Needs; 7.2 Climate-Related Analysis; 7.3 Data Sheets of the Case-Studies Results; References; 8 Buildings Performance Comparison: From Energy Need to Energy Consumption; Abstract
 8.1 HVAC Systems and Primary Energy Consumption

Sommario/riassunto

This book discusses the issues relevant to the evaluation of the thermal energy balance of buildings in southern Europe and equips readers to carry out optimal building energy-performance assessments taking into account the peculiarities of the climatic context. Evaluation of building energy performance in this region is complex, since the significant need for cooling means that the effect of thermal capacity, glazed surfaces and ventilation and shading strategies have to be carefully considered when determining the indoor operative temperatures. This is fully explained, and critical issues in the application of the commonly employed, simplified procedures and assumptions are identified. In addition to the theoretical analysis, there are case studies that explore the energy performances of a set of typical building typologies within the variability of the Italian climate, considered as representative of conditions in southern Europe. These descriptions will support energy consultants and other stakeholders in assessing building energy performances beyond the mere simplified standard assumptions. Furthermore, the numerous graphs and tables documenting data can be easily adopted to serve as design advice tools for both new constructions and retrofits.