1. Record Nr. UNINA9911039312003321

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Titolo	Buildings Energy Audit : Heat Loss, Air Exchange, Microclimate / / by Artur Zaporozhets, Inna Bilous, Ievgen Antypov
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-032-07200-X
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (165 pages)
Collana	Studies in Systems, Decision and Control, , 2198-4190 ; ; 641
Disciplina	321.319
Soggetti	Electric power distribution Electric power production Mechanics, Applied Energy Grids and Networks Electrical Power Engineering Engineering Mechanics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Current State and Analysis of Regulatory Requirements for Energy Efficiency of Buildings -- Models and Tools for Analyzing the Thermal Conditions of Buildings -- Modelling of Air Exchange in Premises -- Experimental Studies of Air Exchange Parameters and Microclimatic Characteristics.
Sommario/riassunto	Today, the issue of energy saving and energy security is of particular relevance both locally and globally. Today, the world is facing an acute problem of saving and rational use of energy resources in order not only to reduce their consumption but also to reduce pollutant emissions. For Ukraine, the issue of energy security has become particularly acute since the beginning of Russia's hybrid aggression. The destruction of energy infrastructure, the threat of disruption of energy supplies, and aggressive actions in the economic sphere are driving Ukraine to improve energy efficiency along the chain from production to consumption and to develop modern energy-saving technologies. According to the European Parliamentary Research Service, households are the largest energy consumers in Europe, with final energy consumption accounting for 28% of the total energy

consumption of all sectors. That is why researchers are focused on implementing resource-saving activities through the use of modern energy-efficient technologies in households and buildings, in particular, to reduce transmission and infiltration heat losses. To determine the extent of heat transfer losses, it is common to measure the thermal resistance of buildings on site. These measurements are usually made by analysing the low-density heat flux. To monitor the thermal insulation characteristics of building envelopes and materials used in repair work and establish their actual values, it is extremely important to develop modern monitoring tools and appropriate methods for measuring thermal resistance as the main indicator in assessing the energy efficiency of buildings.