

## **BSI Standards Publication**

# Methodology for achieving non-residential zero-energy buildings (ZEBs)



### National foreword

This Published Document is the UK implementation of ISO/TS 23764:2021.

The UK participation in its preparation was entrusted to Technical Committee RHE/2, Ventilation for buildings, heating and hot water services.

A list of organizations represented on this committee can be obtained on request to its committee manager.

### **Contractual and legal considerations**

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

This publication is not to be regarded as a British Standard.

© The British Standards Institution 2021 Published by BSI Standards Limited 2021

ISBN 978 0 539 13863 4

ICS 91.040.01

## Compliance with a Published Document cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 September 2021.

#### Amendments/corrigenda issued since publication

Date Text affected

PD ISO/TS 23764:2021

## TECHNICAL SPECIFICATION

ISO/TS 23764

First edition 2021-09-24

Methodology for achieving non-residential zero-energy buildings (ZEBs)



Reference number ISO/TS 23764:2021(E)

PD ISO/TS 23764:2021 **ISO/TS 23764:2021(E)** 



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Ch. de Blandonnet 8 • CP 401 CH-1214 Vernier, Geneva, Switzerland Tel. +41 22 749 01 11 Fax +41 22 749 09 47 copyright@iso.org www.iso.org

Contents				Page	
Fore	word			iv	
Introduction				<b>v</b>	
1	Scon	e		1	
2	-		eferences		
_					
3	Terms and definitions				
4	Stepwise approach toward ZEB				
	4.1		al <u>.</u>		
	4.2		ng phase		
		4.2.1			
	4.0	4.2.2			
	4.3	_	n phase		
		4.3.1	General		
		4.3.2 4.3.3	Setting the outcome		
		4.3.3 4.3.4	Passive design		
		4.3.4	Active designSelection of building materials, equipment and systems		
		4.3.6	Forecast of primary energy consumption and energy supply for attaining	/	
		4.3.0	the targets	9	
	4.4	Construction phase			
	1.1	4.4.1	General		
		4.4.2	Construction plan		
		4.4.3	Construction and inspection		
		4.4.4	Final check and verification (as built)		
	4.5		tions and management		
		4.5.1	Fine tuning		
		4.5.2	Understanding the primary energy consumption		
		4.5.3	Comparison between planned primary energy consumption and actual		
			measurements		
		4.5.4	Optimizing the energy consumption	10	
		4.5.5	Measurement and feedback	11	
5	Exan	nples of	evaluations on ZEB	11	
Ann	ex A (in	formativ	e) Example of (net) ZEB evaluation	12	
Annex B (informative) Example of a nearly ZEB evaluation				22	
Ann	ex C (in	formativ	e) Example of ZEB-ready evaluation	30	
Bibl	iograpł	1V		37	

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="www.iso.org/directives">www.iso.org/directives</a>).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 205, Building environment design

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at <a href="https://www.iso.org/members.html">www.iso.org/members.html</a>.