INTERNATIONAL STANDARD

ISO 18098

Second edition
2022-08

Thermal insulating products for building equipment and industrial installations — Determination of the apparent density of preformed pipe insulation

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles — Détermination de la masse volumique apparente des coquilles isolantes préformées

Reference number
ISO 18098:2022(E)

© ISO 2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, 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
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

© ISO 2022 – All rights reserved

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Apparatus **1**
6 Test specimens **2**
6.1 Dimensions of test specimens 2
6.2 Number of test specimens 2
6.3 Preparation of test specimens 2
6.4 Conditioning of test specimens 2
7 Procedure **3**
7.1 Test conditions 3
7.2 Test procedure 3
8 Calculation and expression of results **3**
9 Accuracy of measurement **4**
10 Test report **4**

© ISO 2022 – All rights reserved

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 www.iso.org/directives).

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 www.iso.org/patents).

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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 88, *Thermal insulating materials and products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18098:2013), which has been technically revised.

The main changes are as follows:

— EN 13470:2001 and ISO 18098:2013 have been merged into one document;

— editorial revisions.

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 www.iso.org/members.html.

© ISO 2022 – All rights reserved

Thermal insulating products for building equipment and industrial installations — Determination of the apparent density of preformed pipe insulation

1 Scope

This document specifies the equipment and procedures for determining the apparent overall density and the apparent core density under reference conditions. It is applicable to full-size thermal insulating products and test specimens of preformed pipe insulation.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12628, *Thermal insulating products for building equipment and industrial installations — Determination of dimensions, squareness and linearity of preformed pipe insulation*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
apparent overall density
ρ_a
mass per unit volume of a product, including all surface skins formed during production, but excluding any facings and/or coatings

3.2
apparent core density
ρ_c
mass per unit volume of the core of a product after all surface skins formed during production and all facings and/or coatings have been removed

4 Principle

The density is determined as the quotient of the mass and the volume of the test specimen.

5 Apparatus

5.1 **Balance**, capable of determining the mass of a test specimen to an accuracy of 0,5 %.

5.2 **Equipment**, for the determination of the dimensions of preformed pipe insulation (see 7.2).

© ISO 2022 – All rights reserved