

Plastics - Determination of the degree of disintegration of plastic materials under composting conditions in a laboratory-scale test (ISO 20200:2023)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 20200:2023 sisaldab Euroopa standardi EN ISO 20200:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 30.08.2023.</p> <p>Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 20200:2023 consists of the English text of the European standard EN ISO 20200:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 30.08.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English Version

Plastics - Determination of the degree of disintegration of
plastic materials under composting conditions in a
laboratory-scale test (ISO 20200:2023)

Plastiques - Détermination du degré de désintégration
de matériaux plastiques dans des conditions de
compostage lors d'un essai de laboratoire (ISO
20200:2023)

Kunststoffe - Bestimmung des Zersetzungsgrades von
Kunststoffmaterialien unter nachgebildeten
Kompostierungsbedingungen mittels einer Prüfung im
Labormaßstab (ISO 20200:2023)

This European Standard was approved by CEN on 18 April 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 20200:2023) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by SIS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 20200:2015.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 20200 has been approved by CEN as EN ISO 20200:2023 without any modification.

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Synthetic solid waste	2
6 Composting reactor	3
7 Procedure	3
7.1 Test material preparation	3
7.2 Start-up of the test	4
7.3 Incubation	4
7.3.1 General	4
7.3.2 Type 1: constant thermophilic incubation	4
7.3.3 Type 2: two-stages incubation	5
7.3.4 Mesophilic incubation (optional)	5
8 Monitoring the composting process	5
9 Diagnostic parameters	5
9.1 Odour	5
9.2 Visual appearance	5
9.3 Chemical analysis	6
9.4 Determination of dry mass and volatile solids	6
10 Termination of the test and measurement of the degree of disintegration	6
11 Calculation of degree of disintegration	6
12 Expression of results	7
13 Validity of the test	7
14 Test report	7
Bibliography	9

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 document 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).

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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 61, *Plastics*, Subcommittee SC 14, *Environmental aspects*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 20200:2015), which has been technically revised.

The main changes are as follows:

- the [Clause 3](#) “Terms and definitions” has been updated;
- a new incubation mode (type 2) has been added, based on two stages (see [Clause 4](#) and [7.3](#));
- the dimensions of the samples has been modified (see [7.1](#)).

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Introduction

The test method described in this document determines the degree of disintegration of plastic materials when exposed to a composting environment. The method does not require special bioreactors, and is scaled for use in any general-purpose laboratory. It requires the use of a standard and homogeneous synthetic solid waste. The synthetic waste components are dry, clean, safe products, which can be stored in the laboratory without any odour or health problems. The synthetic waste is of constant composition and devoid of any undesired plastic material which could be erroneously identified as test material at the end of testing, altering the final evaluation. The bioreactors are small, as is the amount of synthetic waste to be composted (approximately 3 l). With the limited amount of test material, this method provides a simplified test procedure.

Plastics — Determination of the degree of disintegration of plastic materials under composting conditions in a laboratory-scale test

1 Scope

This document specifies a method of determining the degree of disintegration of plastic materials when exposed to a laboratory-scale composting environment. The method is not applicable to the determination of the biodegradability of plastic materials under composting conditions. Further testing is necessary to be able to claim compostability.

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 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

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

compost

organic soil conditioner obtained by biodegradation of a mixture consisting principally of vegetable, fruit and garden residues, occasionally with other organic material and having a limited mineral content

[SOURCE: ISO 14855-2:2018, 3.1, modified — “fruit and garden” was added.]

3.2

compostability

potential of a material to be biodegraded and disintegrated in a defined and controlled *composting* (3.3) process without leaving visible and toxic residues

Note 1 to entry: ISO 17088 or another suitable standard are used to prove compostability.

3.3

composting

aerobic process designed to produce *compost* (3.1)

3.4

laboratory scale composting

aerobic process designed to produce *compost* (3.1) at laboratory scale under environmental conditions simulating those experienced in an industrial compost pile