

**Plastics - Recycled plastics -  
Characterization of poly(ethylene  
terephthalate) (PET) recyclates**

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poly(ethylene terephthalate) (PET) recyclates

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

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| <p>Käesolev Eesti standard EVS-EN 15348:2008 sisaldab Euroopa standardi EN 15348:2007 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 28.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.12.2007.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 15348:2008 consists of the English text of the European standard EN 15348:2007.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 28.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 01.12.2007.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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ICS 13.030.50; 83.080.20

English Version

## Plastics - Recycled plastics - Characterization of poly(ethylene terephthalate) (PET) recyclates

Plastiques - Plastiques recyclés - Caractérisation des  
recyclats de poly(éthylène téréphtalate) (PET)

Kunststoffe - Kunststoff-Rezyklate - Charakterisierung von  
Polyethylenterephthalat (PET)-Rezyklaten

This European Standard was approved by CEN on 25 October 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 15348:2007) has been prepared by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by NBN.

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 June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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

This standard is one part of a series of CEN publications on Plastics Recycling which is structured as follows:

- EN 15342 Plastics — Recycled Plastics — Characterization of polystyrene (PS) recyclates
- EN 15343 Plastics — Recycled Plastics — Plastics recycling traceability and assessment of conformity and recycled content
- EN 15344 Plastics — Recycled Plastics — Characterisation of Polyethylene (PE) recyclates
- EN 15345 Plastics — Recycled Plastics — Characterisation of Polypropylene (PP) recyclates
- EN 15346 Plastics — Recycled plastics — Characterisation of poly(vinyl chloride) (PVC) recyclates
- EN 15347 Plastics — Recycled Plastics — Characterisation of plastics waste
- EN 15348 Plastics — Recycled plastics — Characterization of poly(ethylene terephthalate) (PET) recyclates
- CEN/TR 15353 Plastics — Recycled plastics — Guidelines for the development of standards for recycled plastics

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

Recycling of plastics waste is one type of material recovery process intended to save resources (virgin raw materials, water, and energy), while minimising harmful emissions into air, water and soil as well as any impacts on human health. The environmental impact of recycling has to be assessed over the whole life cycle of the recycling system (from the waste generation point to the disposal of final residues). To ensure that recycling constitutes the best environmental option for treating the available waste, some prerequisites should preferably be met:

- recycling scheme being contemplated should generate lower environmental impacts than alternative recovery options;
- existing or potential market outlets should be identified that will secure a sustainable industrial recycling operation;
- collection and sorting schemes should be properly designed to deliver recyclable plastics waste fractions fitting reasonably well with the available recycling technologies and with the (changing) needs of the identified market outlets, preferably at minimum costs to society.

This standard has been produced in accordance with the guidance produced by CEN on Environmental Aspects and in accordance with CEN/TR 15353, Plastics—Recycled plastics—Guidelines for the development of standards for recycled plastics.

NOTE CEN/TR 15353 considers the general environmental aspects which are specific to the recycling process.

It is often impossible to trace back each individual product at the end user stage and to check whether the product has been used correctly through its life. Consequently products are out of industrial control for a period of time. It is possible that during this period contamination with other materials may occur that could affect the product's suitability for recycling into the intended application.

## 1 Scope

This European Standard gives guidelines for the characterisation of poly(ethylene terephthalate) (PET) recyclates.

It gives the most important characteristics and associated test methods for assessing PET recyclates intended to be used for the production of semi-finished/finished products. It is intended for use by the supplier and purchaser of such materials, to assist them in agreeing on specifications.

This standard is applicable without prejudice to any existing legislation.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

EN ISO 472:2001, *Plastics — vocabulary (ISO 472:1999)*

ISO 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 1628-5, *Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 5: Thermoplastic polyesters (TP) homopolymers and copolymers*

ISO 3534-2, *Statistics — Vocabulary and symbols — Part 2: Applied statistics*

CEN/TR 15353:2007, *Plastics — Recycled plastics — Guidelines for the development of standards for recycled plastics*

## 3 Terms, definitions and abbreviations terms

For the purposes of this European Standard, the terms and definitions given in EN ISO 472:2001 and those prepared in CEN/TR 15353:2007 apply.

### 3.1

#### **Sieve retention**

The percentage, in mass, of the recycled test sample retained on a sieve at the end of the test

### 3.2

#### **Container retention**

percentage of recycled matter retained in the container at the bottom of a stack of sieves, or under a simple sieve, at the end of the testing method compared to the mass of the sample

### 3.3

#### **Average particulate dimension**

Single value of size, representing the dominant mass size for the whole test sample

## 4 Characterisation of PET recyclates

A single batch is the quantity of recyclate that has homogeneous characteristics within the specified tolerances.

The characteristics of PET recyclates, which shall be met for every batch (see ISO 3534-2) of PET recyclate are shown in Table 1, and are divided into two types: