

**Plastics - Recycled Plastics -
Characterisation of Polyethylene (PE)
recyclates**

Plastics - Recycled Plastics - Characterisation of
Polyethylene (PE) recyclates

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15344:2007 sisaldab Euroopa standardi EN 15344:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.12.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15344:2007 consists of the English text of the European standard EN 15344:2007.</p> <p>This document is endorsed on 18.12.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard defines a method of specifying delivery conditions for polyethylene (PE) recyclates. It gives the most important characteristics and associated test methods for assessing PE recyclates intended for use in the production of semi-finished/finished products. It is intended to support parties involved in the use of recycled PE to agree on specifications for specific and generic applications. This standard is applicable without prejudice to any existing legislation. This standard does not cover the characterisation of plastics wastes. See EN 15347.</p>	<p>Scope: This European Standard defines a method of specifying delivery conditions for polyethylene (PE) recyclates. It gives the most important characteristics and associated test methods for assessing PE recyclates intended for use in the production of semi-finished/finished products. It is intended to support parties involved in the use of recycled PE to agree on specifications for specific and generic applications. This standard is applicable without prejudice to any existing legislation. This standard does not cover the characterisation of plastics wastes. See EN 15347.</p>
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ICS 13.030.50, 83.080.20

Võtmesõnad:

ICS 13.030.50; 83.080.20

English Version

Plastics - Recycled Plastics - Characterisation of Polyethylene (PE) recyclates

Plastiques - Plastiques recyclés - Caractérisation des
recyclats de polyéthylène (PE)

Kunststoffe - Kunststoff-Rezyklate - Charakterisierung von
Polyethylen (PE)-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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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 15344:2007) 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 wastes
- 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 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 defines a method of specifying delivery conditions for polyethylene (PE) recyclates. It gives the most important characteristics and associated test methods for assessing PE recyclates intended for use in the production of semi-finished/finished products.

It is intended to support parties involved in the use of recycled PE to agree on specifications for specific and generic applications.

This standard is applicable without prejudice to any existing legislation.

This standard does not cover the characterisation of plastics wastes. See EN 15347.

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 12099, *Plastics piping systems — Polyethylene piping materials and components — Determination of volatile content*

EN 15348:2007, *Plastics—Recycled plastics—Characterization of poly(ethylene terephthalate) (PET) recyclates*

EN ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test (ISO 179-1:2000)*

EN ISO 180, *Plastics — Determination of Izod impact strength (ISO 180:2000)*

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

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1:1993 including Corr 1:1994)*

EN ISO 527-2, *Plastics — Determination of the tensile properties — Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2:1993 including Corr 1:1994)*

EN ISO 1043-1:2001, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics (ISO 1043-1:2001)*

EN ISO 1133, *Plastics — Determination of the melt mass flow-rate (MFR) and the melt-volume flow rate (MVR) of thermoplastics (ISO 1133:2005)*

EN ISO 1183-1, *Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1:2004)*

EN ISO 3451-1, *Plastics — Determination of ash — Part 1: General methods (ISO 3451-1:1997)*

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

ISO 22498, *Plastics — Vinyl chloride homopolymer and copolymer resins — Particle size determination by mechanical sieving*

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