



BSI Standards Publication

Plastics pipes and fittings — Characteristics for utilisation of non-virgin PVC-U, PP and PE materials

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National foreword

This Published Document is the UK implementation of CEN/TS 14541:2013. It supersedes DD CEN/TS 14541:2007 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/1, Plastics piping for non-pressure applications.

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

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English Version

**Plastics pipes and fittings - Characteristics for utilisation of non-
 virgin PVC-U, PP and PE materials**

Tubes et raccords en plastique - Caractéristiques pour
 l'utilisation de matières non vierges en PVC-U, PP et PE

Kunststoffrohrlösungen und Formstücke - Eigenschaften für
 die Verwendung von Rücklaufmaterial und Recyclat aus
 PVC-U-, PP- und PE-Materialien

This Technical Specification (CEN/TS) was approved by CEN on 6 November 2012 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (CEN/TS 14541:2013) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

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 document supersedes CEN/TS 14541:2007.

The main changes are:

- definitions brought in line with common practice;
- application "Pressure piping systems" is introduced;
- a general guidance has been added for utilisation of non-virgin materials;
- Annex A "Processing and performance of pipes and characteristics of recyclable material" is deleted.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This Technical Specification specifies definitions and recommended characteristics and test methods for the utilisation of PVC-U, PP and PE non-virgin materials in pipes, fittings and ancillaries for both pressure and non-pressure piping systems.

This Technical Specification specifies the conditions for utilisation of non-virgin material with and without agreed specification

Non-virgin materials may be reformulated by the use of additives and processing techniques to meet an agreed specification. Typically the additives used would be stabilisers and pigments etc.

The WG responsible for the product standard should consider the content of this document and only permit dosage levels which give compliance with the requirements of the product standard. Further, the WG should consider whether extra or more frequent product testing is relevant when using such material in the production of pipes and fittings in accordance with the relevant product standard.

NOTE For the purpose of this specification the term pipes means extruded pipes, gutters and any parts of a fabricated fitting which is made from an extruded pipe. The term fitting means injection- and injection moulded fittings and injection moulded parts of a fabricated fitting.

For the recycling process, the testing and the use of the non-virgin material National and/or European regulations may apply.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 10204:2004, *Metallic products — Types of inspection documents*

EN 15346:2007, *Plastics — Recycled Plastics — Characterisation of poly(vinyl chloride) (PVC) recyclates*

EN ISO 306, *Plastics — Thermoplastic materials — Determination of Vicat softening temperature (VST) (ISO 306)*

EN ISO 13229, *Thermoplastic piping systems for non-pressure applications — Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings — Determination of the viscosity number and K-value (ISO 13229)*

EN ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastic — Part 1: Standard method (ISO 1133-1)*

EN ISO 1183-2, *Plastics — Methods for determining the density of non-cellular plastics — Part 2: Density gradient column method (ISO 1183-2)*

EN ISO 3451-1:2008, *Plastics — Determination of ash — Part 1: General method (ISO 3451-1:2008)*

EN ISO 3451-5, *Plastics — Determination of ash — Part 5: Poly(vinyl chloride) (ISO 3451-5)*

EN ISO 11357-6, *Plastics — Differential scanning calorimetry (DSC) — Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT) (ISO 11357-6)*