BS EN 17152-1:2019
Incorporating corrigendum June 2020

BSI Standards Publication

Plastics piping systems for non-pressure underground conveyance and storage of non-potable water – Boxes used for infiltration, attenuation and storage systems

Part 1: Specifications for storm water boxes made of PP and PVC-U

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National foreword

This British Standard is the UK implementation of EN 17152-1:2019, incorporating corrigendum June 2020.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by CEN corrigendum June 2020 is indicated in the text by AC 〉 〈AC.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/5, Underground infiltration, attenuation and storage systems.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Boxes used for infiltration, attenuation and storage systems - Part 1: Specifications for storm water boxes made of PP and PVC-U

Systèmes de canalisations en plastique pour le transport et le stockage souterrains sans pression de l'eau non potable - Structures alvéolaires ultra-légères pour les systèmes d'infiltration, de rétention et de stockage - Partie 1 : Spécifications relatives aux structures alvéolaires ultra-légères pour eaux pluviales fabriquées à partir de PP et de PVC-U

Kunststoff-Rohrleitungssysteme für die drucklose unterirdische Entwässerung für Nicht-Trinkwasser - Versickerungsblöcke zur Verwendung in Infiltrations-, Zwischenspeicher- und Speichersystemen - Teil 1: Festlegungen für Regenwasserabfluss-Versickerungsblöcke aus PP und PVC-U

This European Standard was approved by CEN on 19 October 2018 and includes the Corrigendum issued by CEN on 2020-06-10.

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European foreword

This document (EN 17152-1:2019+AC:2020) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

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 2020, and conflicting national standards shall be withdrawn at the latest by February 2021.

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 standard is supported by separate standards on test methods to which normative references are made.

EN 17152 consists of the following parts under the general title *Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Boxes used for infiltration, attenuation and storage systems*:

— *Part 1: Specifications for storm water boxes made of PP and PVC-U* [this document];

— *Part 2: Specifications for systems of storm water boxes made of PP and PVC-U* [under development];

— *Part 3: Assessment of conformity (CEN/TS)* [under development].

Recommended practices for installation are described in CEN/TR 17179 [1].

National standards for pipes and fittings for the transport of surface water are not considered to be conflicting with this standard and can thus be allowed to coexist.

This document includes the corrigendum EN 17152-1:2019/AC:2020 which corrects VR / P in Clause 4 and corrects 7.3.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags AC〉 〈AC

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

The products covered by this standard are part of storm water management system.

This standard is intended to reflect the current state of knowledge of determining and predicting the long-term lifetime of product groups mentioned in the scope while maintaining reasonable testing times for producers and developers of these systems.

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1 Scope

This document gives the definitions and specifies the minimum requirements for injection moulded, extruded and thermoformed thermoplastics cuboid shaped boxes, including integral components, used in underground systems for infiltration, attenuation and storage of non-potable water (e.g. storm water) and manufactured from polypropylene (PP) or unplasticized polyvinylchloride (PVC-U).

NOTE 1 Specifications and design rules for systems will be described in part 2 of EN 17152.

Product properties are determined by a combination of material specifications, design and manufacturing process.

These boxes are intended for buried underground use, e.g. in landscape, pedestrian or vehicular traffic areas.

A box can either be factory assembled or site assembled from different components.

These boxes are intended to be used as elements in a modular system where the manufacturer has clearly stated in the documentation how the components are assembled to create a complete infiltration, attenuation or storage system.

NOTE 2 Non load bearing component(s) can be manufactured by various methods e.g. extrusion, injection moulding, rotational moulding, thermoforming and low-pressure injection moulding

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.

EN 17150:2018, *Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Test method for determination of short-term compression strength of boxes*

EN 17151:2018, *Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Test method for determination of long-term compression strength of boxes*

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

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

EN ISO 472:2013, *Plastics - Vocabulary (ISO 472)*

EN ISO 527-1, *Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1)*

EN ISO 527-2, *Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 527-3, *Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets (ISO 527-3)*

EN ISO 580:2005, *Plastics piping and ducting systems - Injection-moulded thermoplastics fittings - Methods for visually assessing the effects of heating (ISO 580:2005)*

EN ISO 899-1, *Plastics - Determination of creep behaviour - Part 1: Tensile creep (ISO 899-1)*

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EN ISO 899-2, *Plastics - Determination of creep behaviour - Part 2: Flexural creep by three-point loading (ISO 899-2)*

EN ISO 1043-1:2011, *Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1)*

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

EN ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 1: General method (ISO 1167-1)*

EN ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 2: Preparation of pipe test pieces (ISO 1167-2)*

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

EN ISO 3126, *Plastics piping systems - Plastics components - Determination of dimensions (ISO 3126)*

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

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)*

EN ISO 11358-1, *Plastics - Thermogravimetry (TG) of polymers - Part 1: General principles (ISO 11358-1)*

EN ISO 13229, *Thermoplastics 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)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 472:2013, EN ISO 1043-1:2011 and the following apply.

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

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
box
thermoplastic cuboid shaped element, with or without sidewalls, used to create a modular system

3.2
integral component
load bearing component contributing to the overall strength of the box

3.3
modular system
system made of repeating boxes

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