

English Version

Plastics piping systems for non-pressure underground  
drainage and sewerage - Structured-wall piping  
systems of unplasticized poly(vinyl chloride) (PVC-U),  
polypropylene (PP) and polyethylene (PE) - Part  
1: General requirements and performance characteristics

Systèmes de canalisations en plastique pour les  
branchements et les collecteurs d'assainissements  
sans pression enterrés - Systèmes de canalisations  
à parois structurées en poly(chlorure de  
vinyle) non plastifié (PVC-U), polypropylène  
(PP) et polyéthylène (PE) - Partie 1: Exigences  
générales et caractéristiques de performance

Kunststoff-Rohrleitungssysteme für erdverlegte  
drucklose Abwasserkanäle und -leitungen -  
Rohrleitungssysteme mit profilierter Wandung  
aus weichmacherfreiem Polyvinylchlorid (PVC-U),  
Polypropylen (PP) und Polyethylen (PE) - Teil 1:  
Allgemeine Anforderungen und Leistungsmerkmale

This European Standard was approved by CEN on 8 February 2018.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

# Contents

Page

European foreword .....	iii
Introduction .....	v
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>2</b>
3.1 Terms and definitions .....	2
3.1.1 General definitions .....	2
3.1.2 Geometrical definitions .....	3
3.2 Symbols and abbreviations .....	4
<b>4 Material .....</b>	<b>5</b>
4.1 General .....	5
4.2 Utilization of non-virgin material .....	5
4.3 Sealing ring retaining components .....	5
4.4 Sealing rings .....	5
4.5 Fused or welded joints .....	5
4.6 Adhesives for PVC-U .....	5
<b>5 Designation of wall construction .....</b>	<b>5</b>
<b>6 Appearance and colour .....</b>	<b>5</b>
6.1 Appearance .....	5
6.2 Colour .....	6
<b>7 Geometrical characteristics .....</b>	<b>6</b>
<b>8 Types of fittings .....</b>	<b>6</b>
8.1 General .....	6
8.2 Design length of fittings .....	8
<b>9 System performance related test methods and characteristics .....</b>	<b>8</b>
<b>10 Marking, general .....</b>	<b>10</b>
10.1 Presentation .....	10
10.2 Marking process .....	10
10.3 Size 10 .....	
<b>Annex A (informative) Characteristics of PVC-U, PP and PE pipes and fittings .....</b>	<b>11</b>
<b>Annex B (informative) Structural design .....</b>	<b>13</b>
<b>Annex C (informative) Designation of pipes and corresponding fittings .....</b>	<b>14</b>
<b>Annex D (informative) Guidance in cleaning plastics pipes .....</b>	<b>15</b>
<b>Bibliography .....</b>	<b>19</b>

## European foreword

This document (EN 13476-1:2018) 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 October 2018, and conflicting national standards shall be withdrawn at the latest by October 2018.

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

This document supersedes EN 13476-1:2007.

The main changes with respect to the previous edition are listed below:

- a) updating of references in [Clause 2](#), [Table 2](#) and Bibliography;
- b) deletion of Note 3 (Scope);
- c) definition fabricated fitting changed ([3.1.1.3](#));
- d) clarification requirements sealing ring ([4.4](#));
- e) extension of nominal sizes range ([Table 1](#), [Table 2](#));
- f) substitute “DURABILITY” [Table 2](#);
- g) new reference for hydraulic roughness ([A.5](#));
- h) text updated and new reference ([Annex B](#));
- i) adhesives PVC-U added ([4.6](#));
- j) saddle branches deleted ([8.1](#));
- k) updated with new CEN template (entire document).

This standard is a part of a System Standard for plastics piping systems of particular materials for specified applications. There are a number of such System Standards.

System Standards are based on the results of the work being undertaken in ISO/TC 138 “Plastics pipes, fittings and valves for the transport of fluids”, which is a Technical Committee of the International Organization for Standardization (ISO).

They are supported by separate standards on test methods to which references are made throughout the System Standard.

The System Standards are consistent with general standards on functional requirements and on recommended practice for installation.

EN 13476 consists of the following parts under the general title “Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE)”:

- *Part 1: General requirements and performance characteristics (this standard);*
- *Part 2: Specifications for pipes and fittings with smooth internal and external surface and the system, Type A;*
- *Part 3: Specifications for pipes and fittings with smooth internal and profiled external surface and the system, Type B;*