

This document is a preview generated by EVS

Plastics piping systems for the supply of gaseous fuels
- Polyethylene (PE) - Part 2: Pipes

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 1555-2:2025 sisaldab Euroopa standardi EN 1555-2:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 08.10.2025.</p> <p>Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 1555-2:2025 consists of the English text of the European standard EN 1555-2:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 08.10.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
---	---

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 23.040.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 1555-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2025

ICS 23.040.20

Supersedes EN 1555-2:2021

English Version

Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 2: Pipes

Systèmes de canalisations en plastique pour la
distribution de combustibles gazeux - Polyéthylène
(PE) - Partie 2 : Tubes

Kunststoff-Rohrleitungssysteme für die Gasversorgung
- Polyethylen (PE) - Teil 2: Rohre

This European Standard was approved by CEN on 11 August 2025.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
3.1 Terms related to geometry	9
3.2 Terms related to material	10
3.3 Terms related to joints	11
4 Symbols and abbreviated terms	11
4.1 Symbols	11
4.2 Abbreviated terms	12
5 Material	12
5.1 Compound for pipes	12
5.2 Compound for identification stripes	13
5.3 External reworked material and recycle	13
6 General characteristics	13
6.1 Appearance	13
6.2 Colour	13
7 Geometrical characteristics	14
7.1 Measurement of dimensions	14
7.2 Mean outside diameters, out-of-roundness (ovality) and tolerances	14
7.3 Wall thicknesses and related tolerances	15
7.3.1 Minimum wall thicknesses	15
7.3.2 Tolerance on the wall thicknesses	17
7.4 Coiled pipe	18
7.5 Lengths	18
8 Mechanical characteristics	19
8.1 Conditioning	19
8.2 Requirements	19
9 Physical characteristics	24
9.1 Conditioning	24
9.2 Requirements	24
9.3 Circumferential reversion of pipes with $d_n \geq 250$ mm	25
10 Performance requirements	26
11 Marking	26
11.1 General	26
11.2 Minimum required marking	26
11.3 Additional marking	27
Annex A (normative) Pipes with co-extruded layers	28
A.1 General	28
A.2 Material	28
A.3 Geometrical characteristics	28

A.4	Mechanical characteristics	28
A.5	Physical characteristics	28
A.6	Marking	28
A.7	Delamination	29
A.8	Integrity of the structure	29
Annex B (normative) Pipes with peelable layer		30
B.1	General	30
B.2	Geometrical characteristics	30
B.3	Mechanical characteristics	30
B.4	Physical characteristics	30
B.5	Peelable layer adhesion	30
B.6	Marking	30
Annex C (normative) Squeeze-off technique		32
Bibliography		33

European foreword

This document (EN 1555-2:2025) 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 April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

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 document supersedes EN 1555-2:2021.

The main changes are as follows:

- reference to information related to the suitability of PE pipe systems for 100 % hydrogen and its admixtures with natural gas has been made;
- terms and definitions have been distributed over EN 1555-1, EN 1555-2 and EN 1555-3;
- subclause 5.1 about the compound for pipes has been restructured;
- the requirement for the compound used for identification stripes has been updated;
- the circumferential reversion has been moved to subclause 9.3;
- a conversion and normalisation step has been included to the requirement for the CRB;
- the performance requirements for joints have been mentioned more explicitly by adding Table 7;
- the mechanical characteristics of pipes with peelable layer have been updated;
- the requirement for the squeeze-off has been adjusted.

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 1555 consists of the following parts:

- EN 1555-1, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 1: General*;
- EN 1555-2, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 2: Pipes* (this document);
- EN 1555-3, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 3: Fittings*;
- EN 1555-4, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 4: Valves*;

- EN 1555-5, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 5: Fitness for purpose of the system*;

In addition, the following document provides guidance on the assessment of conformity:

- CEN/TS 1555-7, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 7: Guidance for assessment of conformity*.

NOTE EN 12007-2 prepared by CEN/TC 234 “Gas infrastructure” deals with the recommended practice for installation of plastics pipes system in accordance with EN 1555 (all parts).

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

The EN 1555 series specifies the requirements for a piping system and its components made from polyethylene (PE) compounds, which is intended to be used for the supply of gaseous fuels.

This document covers the characteristics of pipes.

Requirements and test methods for materials and components, other than pipes, are specified in EN 1555-1, EN 1555-3 and EN 1555-4.

Characteristics for fitness for purpose of the system are covered in EN 1555-5. CEN/TS 1555-7 gives guidance for assessment of conformity.

Recommended practice for design, handling and installation is given in EN 12007-2.

1 Scope

This document specifies the characteristics of pipes made from polyethylene (PE) for piping systems in the field of the supply of gaseous fuels.

NOTE 1 Additional information related to the installation of PE 100-RC systems is given in EN 1555-1:2025, Annex A.

NOTE 2 Additional information about the suitability of PE pipe systems for hydrogen and its admixtures is given in EN 1555-1:2025, Annex B.

It also specifies the test parameters for the test methods referred to in this document.

In conjunction with EN 1555-1, EN 1555-3, EN 1555-4 and EN 1555-5, this document is applicable to PE pipes, fittings and valves, their joints, and joints with components of PE and other materials intended to be used under the following conditions:

- a) a maximum operating pressure, MOP, up to and including 10 bar¹ at a design reference temperature of 20 °C;
- b) an operating temperature between –20 °C and 40 °C.

For operating temperatures between 20 °C and 40 °C derating coefficients are specified in EN 1555-5.

The EN 1555 series covers a range of MOPs and gives requirements concerning colours.

This document is applicable to three types of pipe:

- PE pipes (outside diameter, d_n) including any identification stripes;
- PE pipes with co-extruded layers on either or both the outside and/or inside of the pipe (total outside diameter, d_n) as specified in Annex A, where all PE layers have the same MRS rating;
- PE pipes (outside diameter, d_n) with a peelable and contiguous thermoplastics additional layer on the outside of the pipe ("coated pipe") as specified in Annex B.

It is the responsibility of the purchaser or specifier to make the appropriate selections from these aspects, taking into account their particular requirements and any relevant national guidance or regulations and installation practices or codes.

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 1555-1:2025, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 1: General*

EN 1555-5, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 5: Fitness for purpose of the system*

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)*

¹ bar = 0,1 MPa. = 10⁵ Pa; 1 MPa = 1 N/mm².

EN ISO 1167-1:2006, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method (ISO 1167-1:2006)*

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 2505, *Thermoplastics pipes — Longitudinal reversion — Test method and parameters (ISO 2505)*

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

EN ISO 6259-1, *Thermoplastics pipes — Determination of tensile properties — Part 1: General test method (ISO 6259-1)*

EN ISO 6259-3, *Thermoplastics pipes — Determination of tensile properties — Part 3: Polyolefin pipes (ISO 6259-3)*

EN ISO 9969, *Thermoplastics pipes — Determination of ring stiffness (ISO 9969)*

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 13477, *Thermoplastics pipes for the conveyance of fluids — Determination of resistance to rapid crack propagation (RCP) — Small-scale steady-state test (S4 test) (ISO 13477)*

EN ISO 13478, *Thermoplastics pipes for the conveyance of fluids — Determination of resistance to rapid crack propagation (RCP) — Full-scale test (FST) (ISO 13478)*

EN ISO 13479:2022, *Polyolefin pipes for the conveyance of fluids — Determination of resistance to crack propagation — Test method for slow crack growth on notched pipes (ISO 13479:2022)*

EN ISO 13968, *Plastics piping and ducting systems — Thermoplastics pipes — Determination of ring flexibility (ISO 13968)*

ISO 11922-1:2018, *Thermoplastics pipes for the conveyance of fluids — Dimensions and tolerances — Part 1: Metric series*

ISO 18488, *Polyethylene (PE) materials for piping systems — Determination of Strain Hardening Modulus in relation to slow crack growth — Test method*

ISO 18489:2015, *Polyethylene (PE) materials for piping systems — Determination of resistance to slow crack growth under cyclic loading — Cracked Round Bar test method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1555-1 and the following apply.

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

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