

**Plasttorustikusüsteemid gaaskütuste transportimiseks.  
Polüetüleen (PE). Osa 3: Liitmikud**

**Plastics piping systems for the supply of gaseous fuels  
- Polyethylene (PE) - Part 3: Fittings**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1555-3:2010+A1:2012 sisaldab Euroopa standardi EN 1555-3:2010+A1:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 1555-3:2010+A1:2012 consists of the English text of the European standard EN 1555-3:2010+A1:2012.
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English Version

**Plastics piping systems for the supply of gaseous fuels -  
Polyethylene (PE) - Part 3: Fittings**

Systèmes de canalisations en plastique pour la distribution  
de combustibles gazeux - Polyéthylène (PE) - Partie 3 :  
Raccords

Kunststoff-Rohrleitungssysteme für die Gasversorgung -  
Polyethylen (PE) - Teil 3: Formstücke

This European Standard was approved by CEN on 30 July 2010 and includes Amendment 1 approved by CEN on 4 September 2012.

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## Contents

Page

Foreword.....	4
Introduction .....	6
1 Scope .....	7
2 Normative references .....	7
3 Terms and definitions, symbols and abbreviations .....	9
4 Material .....	10
4.1 PE Compound .....	10
4.2 Material for non-polyethylene parts .....	10
4.2.1 General.....	10
4.2.2 Metal parts .....	10
4.2.3 Elastomers.....	10
4.2.4 Other materials.....	10
5 General characteristics .....	11
5.1 Appearance .....	11
5.2 Colour .....	11
5.3 Design .....	11
5.4 Appearance of factory made joints .....	11
5.5 Electrical characteristics for electrofusion fittings .....	11
6 Geometrical characteristics .....	12
6.1 Measurement of dimensions .....	12
6.2 Dimensions of electrofusion socket fittings .....	12
6.2.1 Diameters and lengths of electrofusion sockets .....	12
6.2.2 Wall thicknesses .....	13
6.2.3 Out-of-roundness of the bore of a fitting (at any point).....	14
6.2.4 Spigots .....	14
6.2.5 Other dimensions .....	14
6.3 Dimensions of electrofusion saddle fittings .....	14
6.4 Dimensions of spigot end fittings .....	15
6.4.1 Diameters and lengths .....	15
6.4.2 Wall thickness of the fusion end .....	17
6.4.3 Wall thickness of the fitting body .....	17
6.4.4 Other dimensions .....	18
6.5 Dimensions of mechanical fittings .....	18
6.5.1 General.....	18
6.5.2 Mechanical fittings with polyethylene spigot ends .....	18
6.5.3 Mechanical fittings with polyethylene electrofusion sockets .....	18
6.5.4 Threads .....	18
7 Mechanical characteristics .....	18
7.1 General.....	18
7.2 Requirements .....	19
7.3 Performance requirements .....	21
8 Physical characteristics .....	21
8.1 Conditioning.....	21
8.2 Requirements .....	21
9 Performance requirements .....	22
10 Marking .....	22
10.1 General.....	22
10.2 Minimum required marking of fittings .....	22

<b>10.3</b>	<b>Additional marking .....</b>	<b>23</b>
<b>10.4</b>	<b>Fusion system recognition.....</b>	<b>23</b>
<b>11</b>	<b>Delivery conditions .....</b>	<b>23</b>
<b>Annex A</b>	<b>(informative) Examples of typical terminal connection for electrofusion fittings .....</b>	<b>24</b>
<b>Annex B</b>	<b>(normative) Short-term pressure test method .....</b>	<b>26</b>
<b>B.1</b>	<b>Principle.....</b>	<b>26</b>
<b>B.2</b>	<b>Apparatus .....</b>	<b>26</b>
<b>B.3</b>	<b>Test piece .....</b>	<b>26</b>
<b>B.4</b>	<b>Procedure .....</b>	<b>26</b>
<b>B.5</b>	<b>Test report.....</b>	<b>27</b>
<b>Annex C</b>	<b>(normative) Tensile test for fitting/pipe assemblies .....</b>	<b>28</b>
<b>C.1</b>	<b>Principle.....</b>	<b>28</b>
<b>C.2</b>	<b>Apparatus .....</b>	<b>28</b>
<b>C.3</b>	<b>Test piece .....</b>	<b>28</b>
<b>C.4</b>	<b>Procedure .....</b>	<b>28</b>
<b>C.5</b>	<b>Test report.....</b>	<b>28</b>
<b>Bibliography</b>	<b>.....</b>	<b>30</b>

## Foreword

This document (EN 1555-3:2010+A1:2012) 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 May 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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 includes Amendment 1 approved by CEN on 4 September 2012.

This document supersedes A1 EN 1555-3:2010 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

A1 Due to Amendment 1 to EN 1555-3:2010, this document comprises technical changes to:

- Subclause 7.2, Requirements;
- Subclause 10.2, Minimum required marking of fittings. A1

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*;
- EN 1555-3, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 3: Fittings* (this standard);
- prEN 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*;
- CEN/TS 1555-7, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 7: Guidance for assessment of conformity*.

NOTE EN 12007-2:2000 [1] 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).

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.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## Introduction

The System Standard, of which this is Part 3, specifies the requirements for a piping system and its components made from polyethylene (PE) and which is intended to be used for the supply of gaseous fuels.

Requirements and test methods for material and components, other than fittings, are specified in EN 1555-1, EN 1555-2 and prEN 1555-4 [9].

Characteristics for fitness for purpose are covered in EN 1555-5. CEN/TS 1555-7 [2] gives guidance for assessment of conformity. Recommended practice for installation is given in EN 12007-2:2000 [1] prepared by CEN/TC 234.

This part of EN 1555 covers the characteristics of fittings.



## 1 Scope

This <sup>A1</sup> European Standard <sup>A1</sup> specifies the characteristics of fusion fittings made from polyethylene (PE) as well as of mechanical fittings for piping systems in the field of the supply of gaseous fuels.

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

In conjunction with Parts 1, 2, 4 and 5 of EN 1555, it is applicable to PE fittings, their joints and to 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 bar <sup>1)</sup>;
- b) an operating temperature of 20 °C as reference temperature.

NOTE 1 For other operating temperatures, derating coefficients should be used; see EN 1555-5.

EN 1555 (all parts) covers a range of maximum operating pressures and gives requirements concerning colours and additives.

NOTE 2 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 regulations and installation practices or codes.

This European Standard is applicable for fittings of the following types:

- c) electrofusion socket fittings;
- d) electrofusion saddle fittings;
- e) spigot end fittings (for butt fusion using heated tools and electrofusion socket fusion);
- f) mechanical fittings.

The fittings can e.g. be in the form of couplers, equal and reduced tees, reducers, bends or caps.

## 2 Normative references

<sup>A1</sup> 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. <sup>A1</sup>

EN 682:2002, *Elastomeric Seals — Materials requirements for seals used in pipes and fittings carrying gas and hydrocarbon fluids*

EN 1555-1:2010, *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*

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

EN 1716, *Plastics piping systems — Polyethylene (PE) tapping tees — Test method for impact resistance of an assembled tapping tee*

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1) 1 bar = 0,1 MPa.

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*

EN 10226-2, *Pipe threads where pressure tight joints are made on the threads — Part 2: Taper external threads and taper internal threads — Dimensions, tolerances and designation*

EN 12117, *Plastics piping systems — Fittings, valves and ancillaries — Determination of gaseous flow rate/pressure drop relationships*

EN ISO 228-1:2000, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

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 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 1167-4, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 4: Preparation of assemblies (ISO 1167-4:2007)*

EN ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions (ISO 3126:2005)*

ISO 10838-1 <sup>2)</sup>, *Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels — Part 1: Metal fittings for pipes of nominal outside diameter less than or equal to 63 mm*

ISO 10838-2 <sup>2)</sup>, *Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels — Part 2: Metal fittings for pipes of nominal outside diameter greater than 63 mm*

ISO 10838-3 <sup>2)</sup>, *Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels — Part 3: Thermoplastic fittings for pipes of nominal outside diameter less than or equal to 63 mm*

ISO 11357-6:2008, *Plastics — Differential scanning calorimetry (DSC) — Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)*

ISO 13950, *Plastics pipes and fittings — Automatic recognition systems for electrofusion joints*

ISO 13951:2001, *Plastics piping systems — Test method for the resistance of polyolefin pipe/pipe or pipe/fitting assemblies to tensile loading*

ISO 13953, *Polyethylene (PE) pipes and fittings — Determination of the tensile strength and failure mode of test pieces from a butt-fused joint*

ISO 13954, *Plastics pipes and fittings — Peel decohesion test for polyethylene (PE) electrofusion assemblies of nominal outside diameter greater than or equal to 90 mm*

ISO 13955, *Plastics pipes and fittings — Crushing decohesion test for polyethylene (PE) electrofusion assemblies*

ISO/FDIS 13956, *Plastics pipes and fittings — Determination of cohesive strength — Evaluation of ductility of fusion joint interface by tear test*

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2) Under revision.