

Vervangt NEN-EN 12201-1:1995 Ontw.

Nederlandse norm

# NEN-EN 12201-1 (en)

Kunststofleidingssystemen voor de  
drinkwatervoorziening - Polyetheen (PE) -  
Deel 1: Algemeen

Plastics piping systems for water supply - Polyethylene (PE) -  
Part 1. General

ICS 23.040.01; 91.140.60  
september 2003

Als Nederlandse norm is aanvaard:  
- EN 12201-1:2003, IDT

Preview

Normcommissie 349 070 "Kunststofveringsystemen"

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Gewijzigde aspecten in NEN EN 12201 ten opzichte van NEN 7116:

- nieuwe classificatie van PE-materialen;
- PE-buizen voor drinkwater moeten zijn voorzien van blauwe strepen of moeten volledig blauw zijn ingekleurd.

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 728	NEN-EN 728	Kunststofleiding- en mantelbuissystemen - Buizen en hulpstukken van polyolefinen - Bepaling van de oxidatieve inductietijd (en)
EN 921:1994	NEN-EN 921:1995	Kunststofleidingsystemen - Buizen van thermoplasten - Bepaling van de weerstand tegen inwendige druk bij gelijkblijvende temperatuur (en)
EN 1056	-	-
EN 12099	NEN-EN 12099	Kunststofleidingsystemen - Materialen en onderdelen van leidingen van polyetheen - Bepaling van het gehalte aan vluchtige bestanddelen (en)
EN 12107	NEN-EN 12107	Kunststofleidingsystemen - Gespuitsgiete hulpstukken, afsluiters en toebehoren van thermoplasten - Bepaling van de lange-termijn hydrostatische sterkte van thermoplastische materialen voor gespuitsgiete leidingonderdelen (en)
EN 12118	NEN-EN 12118	Kunststofleidingsystemen - Bepaling van het vochtgehalte in thermoplasten met coulometrie (en)
EN 12201-2:2003	NEN-EN 12201-2:2003	Kunststofleidingsystemen voor drinkwatervoorziening - Polyetheen (PE) - Deel 2: Buizen (en)
EN ISO 472:2001	NEN-EN-ISO 472:2001	Kunststoffen - Woordenlijst (en,fr)
EN ISO 1043-1:2001	NEN-EN-ISO 1043-1:2002	Kunststoffen - Symbolen en afkortingen - Deel 1: Basispolymeren en hun speciale eigenschappen (en)
EN ISO 1133:1999	NEN-EN-ISO 1133:1999	Kunststoffen - Thermoplasten - Bepaling van de smeltindex op basis van massa (MFR) en volume (MVR) (en)
EN ISO 6259-1:2001	NEN-EN-ISO 6259-1:2001	Kunststofleidingsystemen - Bepaling van de treksterkte-eigenschappen - Deel 1: Algemene beproevingsmethode (en)
EN ISO 12162:1995	NEN-EN-ISO 12162:1995	Thermoplastische materialen voor buizen en hulpstukken voor druktoepassingen - Classificatie en materiaalaanduiding - Globale bedrijfs(ontwerp)coëfficiënt (en)
EN ISO 13478:1997	NEN-EN-ISO 13478:1997	Buizen van thermoplasten voor het transport van vloeistoffen - Bepaling van de weerstand tegen snelle scheurvoortplanting (RCP) - Volle schaalproef (FST) (en)
EN ISO 13479:1997	NEN-EN-ISO 13479:1997	Buizen van polyefinen voor het transport van vloeistoffen - Bepaling van de weerstand tegen scheurvoortplanting - Beproevingsmethode voor de langzame scheurgroei op gekerfde buizen (kerfproef) (en)
ISO 3:1973	NEN 3070:1977	Voorkeurreeksen (nl)
ISO 1183:1987	-	-
ISO 4065	-	-
ISO 6259-3:1997	-	-
ISO 6964:1986	-	-
ISO/TR 9080:1992	-	-
ISO 11414:1996	-	-
ISO 13477:1997	-	-
ISO 13953:2001	-	-
ISO 18553:2002	NEN-ISO 18553:2002	Methode voor de bepaling van de mate van pigment of roetdispersie in polyolefine buizen, hulpstukken en samenstellingen (en)

ICS 23.040.01; 91.140.60

English version

Plastics piping systems for water supply - Polyethylene (PE) -  
Part 1: General

Systèmes de canalisations en plastiques pour alimentation  
en eau - Polyéthylène (PE) - Partie 1: Généralités

Kunststoff-Rohrleitungssysteme für die Wasserversorgung -  
Polyethylen (PE) - Teil 1: Allgemeines

This European Standard was approved by CEN on 27 December 2002.

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## Foreword

This document EN 12201-1:2003 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 September 2003, and conflicting national standards shall be withdrawn at the latest by March 2005.

This standard is a Part of a System Standard for plastics piping systems of a particular material for a specified application. 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 standards on general functional requirements and standards on recommended practice for installation.

This European Standard consists of the following Parts, under the general title *Plastics piping systems for water supply — Polyethylene (PE)*:

- Part 1: General (this standard).
- Part 2: Pipes.
- Part 3: Fittings.
- Part 4: Valves.
- Part 5: Fitness for purpose of the system.
- Part 7: Guidance for the assessment of conformity.<sup>1)</sup>

NOTE It was decided not to publish a Part 6: Recommended practice for installation. Instead, existing national practices would be applicable.

This Part of this European Standard includes the following:

- Annex A (informative): Pressure reduction coefficients;
- Bibliography.

System Standards for piping systems of other plastics materials used for the conveyance of water under pressure include the following:

EN 1452, *Plastics piping systems for water supply — Unplasticized poly(vinyl chloride) (PVC-U)*.

prEN 1796, *Plastics piping systems for water supply with or without pressure — Glass-reinforced thermosetting plastics (GRP) based on polyester resin (UP)*.

For components which have conformed to the relevant national standard before [DAV], as shown by the manufacturer or by a certification body, the national standard may continue to be applied until the [DAV + 24 months].

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard : Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland and the United Kingdom.

<sup>1)</sup> to be published as a Technical Specification

## Introduction

The System Standard, of which this is Part 1, specifies the requirements for a piping system and its components when made from polyethylene (PE). It is intended to be used for water supply intended for human consumption, including the conveyance of raw water prior to treatment.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the products covered by EN 12201:

- a) this standard provides no information as to whether the products may be used without restriction in any of the Member States of the EU or EFTA;
- b) it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of these products remain in force.

Requirements and test methods for components of the piping system are specified in EN 12201-2, EN 12201-3 and EN 12201-4.

Characteristics for fitness for purpose are covered in EN 12201-5. PrCEN/TS 12201-7 gives guidance for the assessment of conformity.

This Part of EN 12201 covers the general aspects of the plastics piping system.

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## 1 Scope

This Part of this European Standard specifies the general aspects of polyethylene (PE) piping systems (mains and service pipes) intended for the conveyance of water for human consumption, including raw water prior to treatment.

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

In conjunction with other Parts of this European Standard it is applicable to PE pipes, fittings, valves, their joints and to joints with components of other materials intended to be used under the following conditions:

- a) a maximum operating pressure, MOP, up to 25 bar <sup>2)</sup>;
- b) an operating temperature of 20 °C as a reference temperature.

NOTE 1 For applications operating at constant temperatures greater than 20 °C and up to 40 °C, see annex A.

EN 12201 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 guidance or regulations and installation practices or codes.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 728, *Plastics piping and ducting systems — Polyolefin pipes and fittings — Determination of oxidation induction time.*

EN 921:1994, *Plastics piping systems — Thermoplastics pipes — Determination of resistance to internal pressure at constant temperature.*

EN 1056, *Plastics piping and ducting systems — Plastics pipes and fittings - Method for exposure to direct (natural) weathering.*

EN 12099, *Plastics piping systems — Polyethylene piping materials and components — Determination of volatile content.*

EN 12107, *Plastics piping systems — Injection-moulded thermoplastics fittings, valves and ancillary equipment — Determination of the long-term hydrostatic strength of thermoplastics materials for injection moulding of piping components.*

EN 12118, *Plastics piping systems — Determination of moisture content in thermoplastics by coulometry.*

EN 12201-2:2003, *Plastics piping systems for water supply — Polyethylene (PE) — Part 2: Pipes.*

EN ISO 472:2001, *Plastics — Vocabulary (ISO 472:1999).*

EN ISO 1043-1:2001, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics (ISO 1043-1:2001).*

EN ISO 1133:1999, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:1997).*

EN ISO 6259-1:2001, *Thermoplastics pipes — Determination of tensile properties — Part 1: General test method (ISO 6259-1:1997).*

<sup>2)</sup> 1 bar = 10<sup>5</sup> N/m<sup>2</sup>

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