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Plaströrsystem – Självfallsledningar för avloppssystem i mark – PP-MD –

Del 1: Specifikationer för rör, rördelar och systemet

**Plastics piping systems for non-pressure underground drainage
and sewerage – Polypropylene with mineral modifiers (PP-MD) –
Part 1: Specifications for pipes, fittings and the system**

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Denna standard ersätter SS-EN 14758-1:2005, utgåva 1.

The European Standard EN 14758-1:2005+A1:2009 has the status of a Swedish Standard. This document contains the official English version of EN 14758-1:2005+A1:2009.

This standard supersedes the Swedish Standard SS-EN 14758-1:2005, edition 1.

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14758-1:2005+A1

February 2009

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English Version

**Plastics piping systems for non-pressure underground drainage
and sewerage – Polypropylene with mineral modifiers (PP-MD) -
Part 1: Specifications for pipes, fittings and the system**

Systèmes de canalisations en plastique pour les
branchements et les collecteurs d'assainissement enterrés
sans pression - Polypropylène avec modificateurs minéraux
(PP-MD) - Partie 1 : Spécifications pour les tubes, les
raccords et le système

Kunststoff-Rohrleitungssysteme für erdverlegte
Abwasserkanäle und -leitungen - Polypropylen mit
mineralischen Additiven (PP-MD) - Teil 1: Anforderungen
an Rohre, Formstücke und das Rohrleitungssystem

This European Standard was approved by CEN on 24 November 2005 and includes Amendment 1 approved by CEN on 18 December 2008.

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Foreword

This document (EN 14758-1:2005+A1:2009) 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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

This document includes Amendment 1, approved by CEN on 2008-12-18.

This document supersedes EN 14758-1:2005.

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

This European 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.

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 14758 consists of the following parts under the general title *Plastics piping systems for non-pressure underground drainage and sewerage — Polypropylene with mineral modifiers (PP-MD)*

Part 1: Specifications for pipes, fittings and the system (this document)

Part 2: Guidance for the assessment of conformity (intended to be published as CEN/Technical Specification)

Part 3: Guidance for installation (intended to be published as CEN/Technical Specification).

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

1 Scope

This European Standard specifies the requirements for solid-wall pipes, fittings and the system of piping systems made from mineral modified polypropylene materials (PP-MD) in the field of non-pressure underground drainage and sewerage outside the building structure (application area code "U"), and non-pressure underground drainage and sewerage for both buried in ground within the building structure (application area code "D") and outside the building structure.

This is reflected in the marking of products by "U" and "UD".

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

This European Standard covers a range of nominal sizes, a range of pipe series/stiffness classes and gives recommendations concerning colours.

NOTE 1 It is the responsibility of the purchaser or specifier to make the appropriate selection from these aspects, taking into account their particular requirements and any relevant national regulations and installation practices or codes.

In conjunction with Part 2 and Part 3 of EN 14758 (see Foreword) it is applicable to PP-MD pipes and fittings, their elastomeric sealing ring joints and to joints with components of other plastics and non-plastics materials intended to be used for buried piping systems for non-pressure underground drainage and sewerage.

This European Standard is applicable to PP-MD pipes with or without an integral socket.

NOTE 2 The fittings can be manufactured by injection-moulding or be fabricated from pipes and/or mouldings.

NOTE 3 Requirements and limiting values for application area code "D" are given in Table 4, Table 7 and Table 13.

NOTE 4 Pipes, fittings and other components conforming to any of the plastics product standards listed in Annex B can be used with pipes and fittings conforming to this European Standard, when they conform to the requirements for joint dimensions given in Clause 6 and to the requirements of Table 13.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 681-1, *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 681-2, *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*

EN 744:1995, *Plastics piping and ducting systems — Thermoplastics pipes — Test method for resistance to external blows by the round-the-clock method*

A1 deleted text A1

EN 1055:1996, *Plastics piping systems — Thermoplastics piping systems for soil and waste discharge inside buildings — Test method for resistance to elevated temperature cycling*

EN 1277:2003, *Plastics piping systems — Thermoplastics piping systems for buried non-pressure applications — Test methods for leaktightness of elastomeric sealing ring type joints*

EN 1411, *Plastics piping and ducting systems — Thermoplastics pipes — Determination of resistance to external blows by the staircase method*

☐_{A1} deleted text ☐_{A1}

EN 12061, *Plastics piping systems — Thermoplastics fittings — Test method for impact resistance*

EN 12256, *Plastics piping systems — Thermoplastics fittings — Test method for mechanical strength or flexibility of fabricated fittings*

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

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

EN ISO 1133:2005, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:2005)*

☐_{A1} EN ISO 1167 (all parts), *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure* ☐_{A1}

EN ISO 2505:2005, *Thermoplastics pipes — Longitudinal reversion — Test method and parameters (ISO 2505:2005)*

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

☐_{A1} EN ISO 13968, *Plastics piping and ducting systems — Thermoplastics pipes — Determination of ring flexibility (ISO 13968:2008)* ☐_{A1}

EN ISO 9969, *Thermoplastics pipes — Determination of ring stiffness* ☐_{A1} (ISO 9969:2007) ☐_{A1}

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

ISO 13967, *Thermoplastics fittings — Determination of ring stiffness*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this European Standard, the terms, definitions and symbols given in EN ISO 472:2001 and EN ISO 1043-1:2001 and the following apply.

3.1.1

application area code

code used in the marking of pipes and fittings to indicate the application area for which they are intended, as follows:

- U: code for the area more than 1 m from the building to which the buried piping system is connected;
- D: code for the area under and within 1 m from the building where the pipes and the fittings are buried in ground and are connected to the soil and waste discharge system of the building

NOTE In code D application areas, the existence of hot water discharge in addition to the external forces from the surroundings is usual.

3.1.2 Geometrical definitions

3.1.2.1

nominal size

DN

numerical designation of the size of a component, which is a convenient round number approximately equal to the manufacturing dimension, in millimetres

3.1.2.2

nominal size

DN/OD

nominal size, related to the outside diameter

3.1.2.3

nominal outside diameter

d_n

specified outside diameter, in millimetres, assigned to a nominal size (DN/OD)

3.1.2.4

outside diameter

d_e

value of the measurement of the outside diameter through its cross section at any point of a pipe or spigot end of a fitting, rounded up to the next greater 0,1 mm

3.1.2.5

mean outside diameter

d_{em}

value of the measurement of the outer circumference of a pipe or spigot end of a fitting in any cross section, divided by π ($\approx 3,142$), rounded to the next greater 0,1 mm

3.1.2.6

mean inside diameter of a socket

$d_{s,m}$

arithmetical mean of a number of measurements of the inside diameter of a socket in the same cross section

3.1.2.7

wall thickness

e

value of the measurement of the wall thickness at any point around the circumference of a component

3.1.2.8

mean wall thickness

e_m

arithmetical mean of a number of measurements of the wall thickness, regularly spaced around the circumference and in the same cross section of a component, including the measured minimum and the measured maximum values of the wall thickness in that cross section

3.1.2.9

pipes series

S

number for pipe designation (see ISO 4065 [1])