PD CEN/TS 1046:2021

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# Thermoplastics piping and ducting systems — Outside the building structures for gravity and pressurised systems — Trench installation

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# National foreword

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The UK participation in its preparation was entrusted to Technical Committee PRI/88, Plastics piping systems.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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TECHNICAL SPECIFICATION

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# CEN/TS 1046

May 2021

ICS 23.040.45; 93.030; 23.040.05; 23.040.20

Supersedes CEN/TR 1046:2013

English Version

# Thermoplastics piping and ducting systems - Outside the building structures for gravity and pressurised systems - Trench installation

Systèmes de canalisations et de gaines en matières thermoplastiques - Système d'adduction d'eau ou d'assainissement à l'extérieur de la structure des bâtiments - Pratiques pour la pose en enterrée

Thermoplastische Kunststoff-Rohrleitungs- und Schutzrohr-Systeme - Systeme außerhalb der Gebäudestruktur zum Transport von Wasser oder Abwasser - Verfahren der unterirdischen Verlegung

This Technical Specification (CEN/TS) was approved by CEN on 12 April 2021 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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

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## European foreword

This document (CEN/TS 1046:2021) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

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 CEN/TR 1046:2013.

This document is changed fundamentally by taking out design topics and topics already dealt with in EN 1610 and EN 805. The lay-out was changed and the pressure systems are described more in detail.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: 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, Turkey and the United Kingdom.

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# Introduction

This document contains guidance for installation procedures for thermoplastics piping systems and their components intended to be used below ground for pressure and non-pressure applications outside building structures. This document is intended to be used in conjunction with general standards for installation recommendations, for example those issued by CEN/TC 164 "Water supply" and CEN/TC 165 "Waste water engineering" as stated in EN 805 and EN 1610 respectively.

NOTE 1 Guidelines for installation of pipelines made out of thermosetting materials can be found in the ISO/TS 10465 series [23].

This document is based on the results from research with full-scale trials undertaken by the thermoplastics pipes industry and expressed in CEN/TS 15223.

This document is a guidance document only. It provides a set of general guidelines which gives best practices for underground installation of thermoplastics piping and ducting systems outside building structures.

This document includes recommendations for the pipe surround and backfilling procedures but not road base and road sub-base details. Attention is drawn to any national regulations which may cover these or other aspects of the installation.

This document does not cover matters relating to renovation of existing pipeline systems using lining techniques, or replacement of existing pipeline systems using trenchless techniques.

NOTE 2 Guidelines for installation of lining techniques can be found in the EN 12889 series

This document is intended to be used by authorities, design engineers, installation contractors and manufacturers.

In this document, much of the guidance is expressed as requirements, e.g. by use of "shall" or by instructions in the imperative. It is strongly recommended that these be followed whenever applicable.

Other guidance is presented for consideration as a matter of judgement in each case, e.g. by use of "should".

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# 1 Scope

This document gives the recommended practise for underground open trench installation and commissioning of thermoplastics piping systems to be used for the conveyance of water under pressure (in addition to EN 805) and for the discharge of wastewater under gravity (in addition to EN 1610).

In the field of non-pressure underground drainage and sewerage this is reflected in the marking of products by application code "U" and "UD":

— outside the building structure (U);

— both buried in ground within the building structure (application area code "D") and outside the building (application area code "UD").

This document covers also installation and/or connections to valves, manholes, inspection chambers, gullies and other ancillary components in piping systems.

NOTE 1 Code of practise for pipelines for gas supply is covered by EN 12007-series [2].

NOTE 2 Recommended practices for installation of plastic piping systems for soil and waste discharge within the building structure is covered by CEN/TR 13801 [12].

NOTE 3 Practices for underground installation of rainwater infiltration and storage attenuation systems are covered by CEN/TR 17179 [13].

NOTE 4 It is assumed that additional recommendations and/or requirements are detailed in the individual product standards.

NOTE 5 If non-plastic components are part of the plastic system there will be applicable manufacturer's instructions.

Requirements and instructions concerning commissioning of systems can be found in EN 805 and EN 1610 and the relevant national and/or local regulations. This document gives specific additional recommendations for commissioning relevant for plastic piping systems.

Attention is drawn to any relevant local and/or national regulations (e.g. health, safety and hygienic requirements).

# 2 Normative references

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.

EN 805, *Water supply - Requirements for systems and components outside buildings*

EN 1610:2015, *Construction and testing of drains and sewers*

# 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply in addition to EN 1610.

**3.1**
**deformation**
change in the true shape of the cross-section

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