

Classification and information on design and applications of plastics piping systems used for renovation and replacement (ISO 11295:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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ICS 23.040.01

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English Version

Classification and information on design and applications  
of plastics piping systems used for renovation and  
replacement (ISO 11295:2017)

Classification et informations relatives à la conception  
et aux applications des systèmes de canalisation en  
plastique destinés à la rénovation et au remplacement  
(ISO 11295:2017)

Klassifizierung und Informationen zur Planung und  
Anwendung von Kunststoff-Rohrleitungssystemen für  
die Renovierung und Erneuerung (ISO 11295:2017)

This European Standard was approved by CEN on 10 September 2017.

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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.

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

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

## European foreword

This document (EN ISO 11295:2017) has been prepared by Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" in collaboration with 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of an identical text or by endorsement, at the latest by June 2018 and conflicting national standards shall be withdrawn at the latest by June 2018.

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 ISO 11295:2010.

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

### Endorsement notice

The text of ISO 11295:2017 has been approved by CEN as EN ISO 11295:2017 without any modification.

# Contents

Page

|  |           |
|--|-----------|
| <b>Foreword</b>  | <b>v</b>  |
| <b>Introduction</b>  | <b>vi</b> |
| <b>1 Scope</b>   | <b>1</b>  |
| <b>2 Normative references</b>                                    | <b>1</b>  |
| <b>3 Terms and definitions</b>                                   | <b>1</b>  |
| <b>4 Abbreviated terms</b>                                       | <b>5</b>  |
| <b>5 Classification of renovation and replacement techniques</b> | <b>6</b>  |
| <b>6 Classification of renovation techniques</b>                 | <b>7</b>  |
| 6.1 General  | 7         |
| 6.2 Lining with continuous pipes                                 | 7         |
| 6.3 Lining with close-fit pipes                                  | 9         |
| 6.4 Lining with cured-in-place pipes                             | 11        |
| 6.5 Lining with discrete pipes                                   | 14        |
| 6.6 Lining with adhesive-backed hoses                            | 16        |
| 6.7 Lining with spirally-wound pipes                             | 18        |
| 6.8 Lining with pipe segments                                    | 20        |
| 6.9 Lining with a rigidly anchored plastics inner layer          | 22        |
| 6.10 Lining with sprayed polymeric materials                     | 23        |
| 6.11 Lining with inserted hoses                                  | 25        |
| <b>7 Classification of trenchless replacement techniques</b>     | <b>26</b> |
| 7.1 General  | 26        |
| 7.2 Pipe bursting  | 26        |
| 7.3 Pipe removal   | 29        |
| 7.3.1 General  | 29        |
| 7.3.2 Pipe eating  | 29        |
| 7.3.3 Pipe extraction  | 29        |
| 7.4 Horizontal directional drilling — HDD                        | 31        |
| 7.5 Impact moling  | 34        |
| 7.6 Pipe jacking   | 35        |
| 7.6.1 General  | 35        |
| 7.6.2 Auger boring   | 35        |
| 7.6.3 Microtunnelling  | 36        |
| <b>8 Information on design</b>                                   | <b>38</b> |
| 8.1 General  | 38        |
| 8.2 Condition assessment   | 38        |
| 8.2.1 General  | 38        |
| 8.2.2 Pipeline condition affecting functional performance        | 39        |
| 8.2.3 Site conditions affecting design                           | 40        |
| 8.3 System functions   | 40        |
| 8.3.1 Renovation   | 40        |
| 8.3.2 Replacement  | 41        |
| 8.4 Performance criteria   | 41        |
| 8.4.1 Structural performance                                     | 41        |
| 8.4.2 Hydraulic performance                                      | 45        |
| 8.5 Other factors affecting technique family selection           | 45        |
| <b>9 Aspects affecting installation</b>                          | <b>46</b> |
| 9.1 Site conditions affecting installation                       | 46        |
| 9.1.1 Working space requirements                                 | 46        |
| 9.1.2 Environmental impact                                       | 46        |
| 9.1.3 Assessment of site conditions                              | 47        |
| 9.2 Work preparatory for installation                            | 47        |

|                          |   |           |
|--------------------------|---|-----------|
| 9.2.1                    | General.....  | 47        |
| 9.2.2                    | Location of existing pipeline system .....          | 47        |
| 9.2.3                    | Dimensions of existing pipeline system .....        | 48        |
| 9.2.4                    | Provision for maintenance of pipeline service ..... | 48        |
| 9.2.5                    | Preparation of existing pipeline .....              | 48        |
| <b>Bibliography.....</b> |   | <b>49</b> |

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by ISO/TC 138 *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 8, *Rehabilitation of pipeline systems*.

This second edition cancels and replaces the first edition (ISO 11295:2010), which has been technically revised.

This edition includes the following significant changes with respect to the previous edition:

- [Clauses 3, 4, 5](#) and [6](#) have been technically revised;
- [Clause 7](#) for the classification of replacement techniques has been added.

## Introduction

This document classifies the techniques used for the renovation and trenchless replacement of existing pipelines and gives information on the design and application of plastics piping systems used for such rehabilitation.

In recent years, the rehabilitation of pipeline systems has become increasingly important and will continue to be so.

Pipeline systems are continuously required to satisfy physical, chemical, biochemical and biological demands. These demands depend on planning, material, construction, type and period of use.

When pipeline systems become operational, proper system management has to be put in place. In addition to inspection and cleaning, rehabilitation of the pipeline can be required. Rehabilitation is carried out when there is a need to restore or upgrade the performance of a pipeline system. Rehabilitation can consist of repair, renovation or replacement.

To coincide with the publication of ISO rehabilitation product standards for various application areas using methods other than renovation, the need to extend the scope of this document to include families of trenchless replacement techniques was recognized.



# Classification and information on design and applications of plastics piping systems used for renovation and replacement

## 1 Scope

This document defines and describes families of techniques for the renovation and trenchless replacement (on or off the line of an existing pipeline) of non-pressure and pressure pipelines through the use of plastics pipes, including plastics composites formed *in situ* into pipes, fittings and ancillary components. It does not include new construction provided as network extension. For each technique family, it identifies areas of application including, but not limited to, underground drainage and sewerage, and underground water and gas supply networks.

This document provides information on the principles of, but not the detailed methodologies for, the design of plastics piping systems used for renovation or trenchless replacement of existing pipelines, covering:

- existing pipeline and site conditions;
- functions of the new pipeline;
- structural performance;
- hydraulic performance;
- installation aspects and site impact;
- other factors affecting renovation or trenchless replacement technique selection.

Necessary work on the existing pipeline prior to renovation and/or trenchless replacement is outside the scope of this document.

This document provides information needed to determine viable options and for identification of the optimal technique with regard to a given set of rehabilitation objectives.

**NOTE** It is the responsibility of the designer to choose and design the renovation or trenchless replacement system.

It does not specify the calculation methods to determine, for each viable technique, the required amount of lining or replacement pipe material needed to secure the desired performance of the rehabilitated pipeline.

## 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.

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

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1043-1 and the following apply.