



BSI Standards Publication

Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks

Part 7: Lining with spirally-wound pipes
(ISO 11296-7:2011)

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National foreword

This British Standard is the UK implementation of EN ISO 11296-7:2013. It is identical to ISO 11296-7:2011. It supersedes BS EN 13566-7:2007 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/3, Rehabilitation of pipeline systems using plastics piping materials and components.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Published by BSI Standards Limited 2013.

ISBN 978 0 580 79118 5
ICS 23.040.20; 23.040.45; 23.040.99

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2013.

Amendments issued since publication

Date	Text affected
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English Version

Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks - Part 7: Lining with spirally-wound pipes (ISO 11296-7:2011)

Systèmes de canalisations en plastique pour la rénovation des réseaux de branchements et de collecteurs d'assainissement enterrés sans pression - Partie 7: Tubage par enroulement hélicoïdal avec espace annulaire (ISO 11296-7:2011)

Kunststoff-Rohrleitungssysteme für die Renovierung von erdverlegten drucklosen Entwässerungsnetzen (Freispiegelleitungen) - Teil 7: Wickelrohr-Lining (ISO 11296-7:2011)

This European Standard was approved by CEN on 5 February 2013.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

The text of ISO 11296-7:2011 has been prepared by Technical Committee ISO/TC 138 “Plastics pipes, fittings and valves for the transport of fluids” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11296-7:2013 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 2013, and conflicting national standards shall be withdrawn at the latest by August 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 supersedes EN 13566-7:2007.

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

Endorsement notice

The text of ISO 11296-7:2011 has been approved by CEN as EN ISO 11296-7:2013 without any modification.

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and abbreviated terms	3
4.1 Symbols	3
4.2 Abbreviated terms	3
5 Pipes at the “M” stage	3
5.1 Materials	3
5.2 General characteristics	4
5.3 Material characteristics	4
5.4 Geometric characteristics	5
5.5 Mechanical characteristics	6
5.6 Physical characteristics	6
5.7 Jointing	6
5.8 Marking	6
6 Fittings at the “M” stage	7
7 Ancillary components	7
8 Fitness for purpose of the installed lining system at the “I” stage	7
8.1 Materials	7
8.2 General characteristics	7
8.3 Material characteristics	7
8.4 Geometric characteristics	7
8.5 Mechanical characteristics	7
8.6 Physical characteristics	8
8.7 Additional characteristics	8
8.8 Preparation of samples	8
8.9 Adhesives	8
9 Installation practice	8
9.1 Preparatory work	8
9.2 Storage, handling and transportation of profiled plastics strips and fittings	8
9.3 Equipment	8
9.4 Installation	9
9.5 Process-related inspection and testing	10
9.6 Lining termination	10
9.7 Reconnecting to existing manholes and laterals	10
9.8 Final inspection and testing	10
9.9 Documentation	10
Annex A (normative) Spirally-wound pipe — Test method for watertightness in a deflected condition ..	11
Annex B (informative) Examples of methods for reconnecting and sealing laterals to SWO pipe	14
Bibliography	16

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 11296-7 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*.

ISO 11296 consists of the following parts, under the general title *Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks*:

- *Part 1: General*
- *Part 3: Lining with close-fit pipes*
- *Part 4: Lining with cured-in-place pipes*
- *Part 7: Lining with spirally-wound pipes*

Lining with continuous pipes is to form the subject of a Part 2 and lining with discrete pipes is to form the subject of a Part 5.

Introduction

The System Standard, of which this is Part 7, specifies the requirements for plastics piping systems of various materials used for renovation of existing pipelines in a specified application area. System Standards for renovation specify procedures for the following applications:

- plastics piping systems for renovation of underground non-pressure drainage and sewerage networks (this application);
- plastics piping systems for renovation of underground drainage and sewerage networks under pressure;
- plastics piping systems for renovation of underground water supply networks;
- plastics piping systems for renovation of underground gas supply networks.

These System Standards are distinguished from those for conventionally installed plastics piping systems because they set requirements for certain characteristics in the as-installed condition, after site processing. This is in addition to specifying requirements for plastics piping system components, as manufactured.

Each of the System Standards comprises a Part 1 (general) and all applicable renovation technique family-related parts from the following:

- Part 2: Lining with continuous pipes;
- Part 3: Lining with close-fit pipes;
- Part 4: Lining with cured-in-place pipes;
- Part 5: Lining with discrete pipes;
- Part 7: Lining with spirally-wound pipes.

The requirements for any given renovation technique family are given in Part 1, applied in conjunction with the relevant other part. For example, Parts 1 and 2 specify the requirements relating to lining with continuous pipes. For complementary information, see ISO 11295. Not all technique families are applicable to every area of application and this is reflected in the part numbers included in each System Standard.

A consistent structure of clause headings has been adopted for all parts to facilitate direct comparisons across renovation technique families.

Figure 1 shows the common structure and the relationship between ISO 11296 and the System Standards for other application areas.

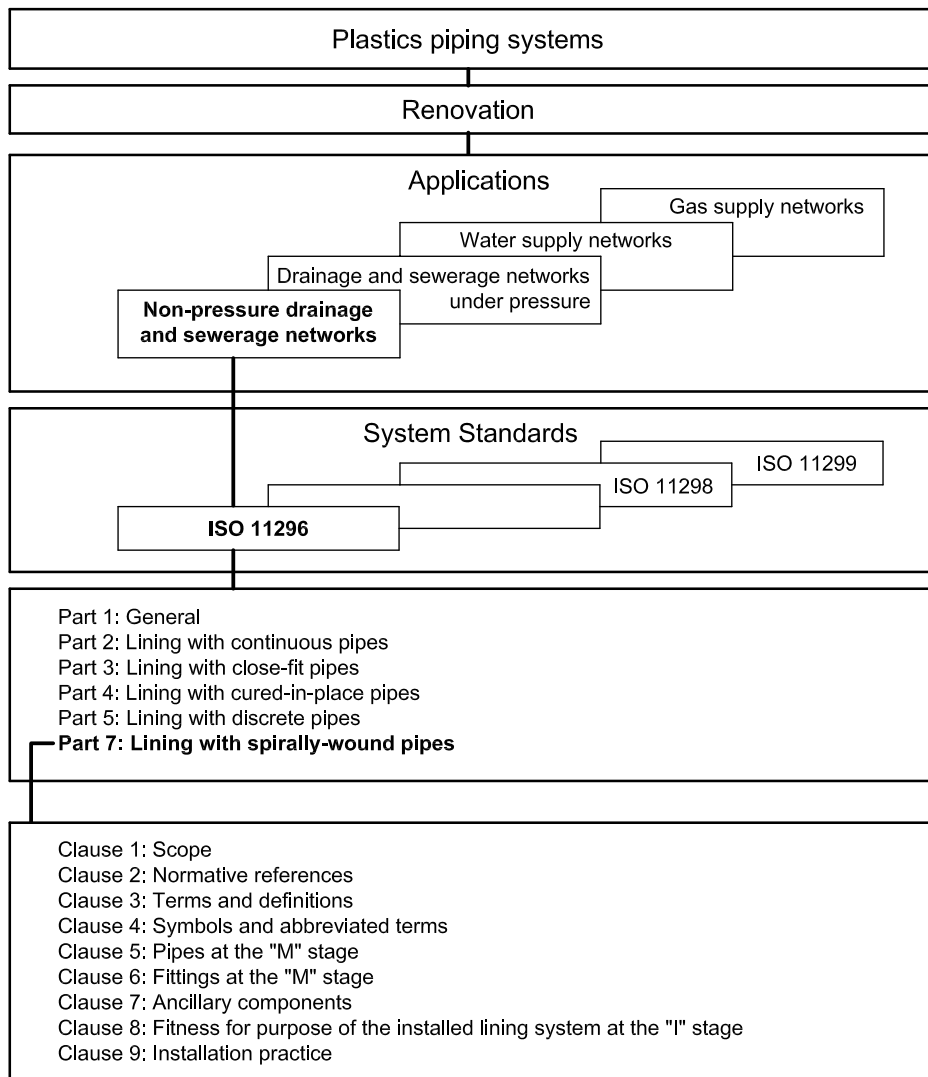


Figure 1 — Format of the renovation System Standards

Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks —

Part 7: Lining with spirally-wound pipes

1 Scope

This part of ISO 11296, in conjunction with Part 1, specifies requirements and test methods for pipes which are formed on site by spirally winding and jointing a pre-manufactured profiled plastics strip, or a profiled plastics strip and integral locking joiner strip, and used for the renovation of underground non-pressure drainage and sewerage networks.

It applies to spirally-wound pipes of fixed or variable diameter installed by one of two methods.

The first method employs a dedicated winding machine in front of the open end of an existing pipeline, e.g. in a manhole. The pipes thus formed are simultaneously inserted into the existing pipeline by the winding forces, and by certain techniques can also be expanded in diameter after or during insertion.

The second method employs a dedicated winding machine which forms the pipe as it traverses the existing pipeline from one manhole to the next.

It covers spirally-wound pipes of fixed or variable diameter made of profiled plastics strips, with or without steel stiffening elements, of unplasticized poly(vinyl chloride) (PVC-U) with integral locking mechanism or high density polyethylene (HDPE) with integrally welded joints.

2 Normative references

The following referenced documents are indispensable for the application 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 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test*

ISO 306, *Plastics — Thermoplastics materials — Determination of Vicat softening temperature (VST)*

ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles*

ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics*

ISO 4427 (all parts), *Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply*

ISO 4435, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U)*

ISO 4948-2, *Steels — Classification — Part 2: Classification of unalloyed and alloy steels according to main quality classes and main property or application characteristics*

ISO 6259-1, *Thermoplastics pipes — Determination of tensile properties — Part 1: General test method*