SLOVENSKI STANDARD
SIST EN ISO 11298-4:2021

01-julij-2021

Cevni sistemi iz polimernih materialov za obnovo podzemnih omrežij za oskrbo z vodo - 4. del: Oblaganje s cevmi, utrjenimi na mestu vgradnje (ISO 11298-4:2021)

Plastics piping systems for renovation of underground water supply networks - Part 4: Lining with cured-in-place pipes (ISO 11298-4:2021)

Kunststoff-Rohrleitungssysteme für die Renovierung von erdverlegten Wasserversorgungsnetzen - Teil 4: Vor Ort härtendes Schlauchlining (ISO 11298-4:2021)

Systèmes de canalisation en plastique pour la rénovation des réseaux enterrés d'alimentation en eau - Partie 4: Tubage continu par tubes polymérisés sur place (ISO 11298-4:2021)

Ta slovenski standard je istoveten z: **EN ISO 11298-4:2021**

ICS:

23.040.03	Cevovodi za zunanje sisteme transporta vode in njihovi deli	Pipeline and its parts for external water conveyance systems
93.025	Zunanji sistemi za prevajanje vode	External water conveyance systems

SIST EN ISO 11298-4:2021 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 11298-4

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ICS 23.040.20; 23.040.45; 93.025

English Version

Plastics piping systems for renovation of underground water supply networks - Part 4: Lining with cured-in-place pipes (ISO 11298-4:2021)

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This European Standard was approved by CEN on 18 March 2021.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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European foreword

This document (EN ISO 11298-4:2021) 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of an identical text or by endorsement, at the latest by October 2021, and conflicting national standards shall be withdrawn at the latest by October 2021.

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.

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Endorsement notice

The text of ISO 11298-4:2021 has been approved by CEN as EN ISO 11298-4:2021 without any modification.

INTERNATIONAL STANDARD

ISO 11298-4

First edition
2021-03

Plastics piping systems for renovation of underground water supply networks —

Part 4: Lining with cured-in-place pipes

Systèmes de canalisation en plastique pour la rénovation des réseaux enterrés d'alimentation en eau —
Partie 4: Tubage continu par tubes polymérisés sur place

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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).

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

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 8, *Rehabilitation of pipelines systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 155, *Plastics piping systems and ducting systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 11298 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is a part of a system standard for plastics piping systems of various materials used for renovation of existing pipelines in a specified application area. System standards for renovation dealing with the following applications are either available or under preparation:

— the ISO 11296 series, *Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks*;

— the ISO 11297 series, *Plastics piping systems for renovation of underground drainage and sewerage networks under pressure*;

— the ISO 11298 series, *Plastics piping systems for renovation of underground water supply networks* (including this document);

— the ISO 11299 series, *Plastics piping systems for renovation of underground gas supply networks*.

These system standards are distinguished from those for conventionally installed plastics piping systems by the requirement to verify certain characteristics in the "as-installed" condition, after site processing. This is in addition to specifying requirements for plastics piping systems components "as manufactured".

Each of the system standards comprises a:

— *Part 1: General*

and all applicable renovation technique family-related parts, which for water supply networks include or potentially include the following:

— *Part 2: Lining with continuous pipes;*

— *Part 3: Lining with close-fit pipes;*

— *Part 4: Lining with cured-in-place pipes* (this document)*;*

— *Part 5: Lining with discrete pipes;*

— *Part 6: Lining with adhesive-backed hoses;*

— *Part 10: Lining with sprayed polymeric materials;*

— *Part 11: Lining with inserted hoses.*

The requirements for any given renovation technique family are specified in Part 1, applied in conjunction with the other relevant part. For example, ISO 11298-1 and this document together specify the requirements relating to lining with cured-in-place pipes. For complementary information, see ISO 11295. Not all technique families are pertinent 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 of ISO 11298 to facilitate direct comparisons across renovation technique families.

Figure 1 shows the common part and clause structure and the relationship between the ISO 11298 series and the system standards for other application areas.

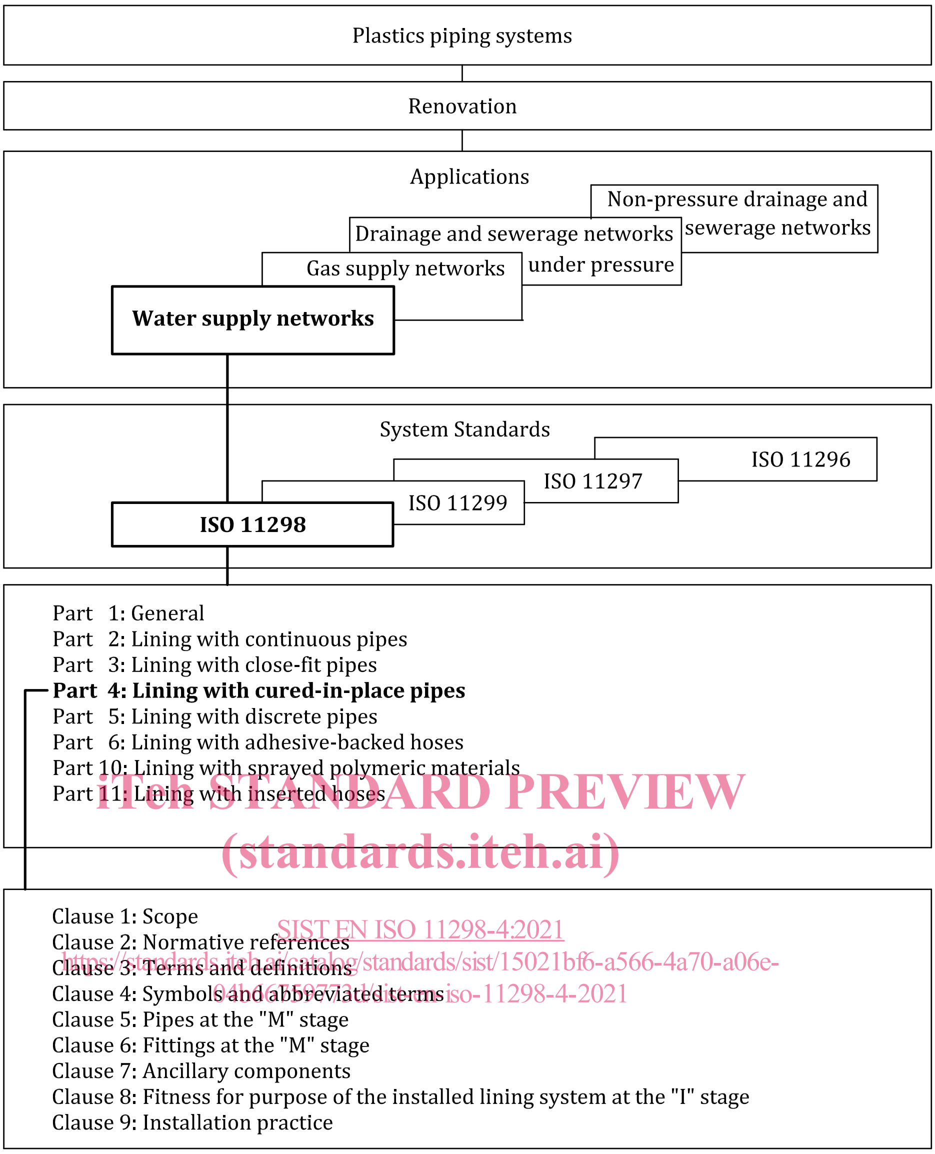

Figure 1 — Format of the renovation system standards

Plastics piping systems for renovation of underground water supply networks —

Part 4: Lining with cured-in-place pipes

1 Scope

This document, in conjunction with ISO 11298-1, specifies requirements and test methods for cured-in-place pipes and fittings used for the renovation of water supply networks, which transport water intended for human consumption, including raw water intake pipelines.

It applies to independent (fully structural, class A) and interactive (semi structural, class B) pressure pipe liners, as defined in ISO 11295, which do not rely on adhesion to the existing pipeline. It applies to the use of various thermosetting resin systems, in combination with compatible fibrous carrier materials, reinforcement, and other process-related plastics components (see 5.1).

It does not include requirements or test methods for resistance to cyclic loading or the pressure rating of CIPP liners where passing through bends, which are outside the scope of this document.

It is applicable to cured-in-place pipe lining systems intended to be used at a service temperature of up to 25 °C.

NOTE For applications operating at service temperatures greater than 25 °C, guidance on re-rating factors can be supplied by the system supplier.

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 75-2:2013, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite*

ISO 178:2019, *Plastics — Determination of flexural properties*

ISO 899-2:2003, *Plastics — Determination of creep behaviour — Part 2: Flexural creep by three-point loading*

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 7432, *Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Test methods to prove the design of locked socket-and-spigot joints, including double-socket joints, with elastomeric seals*

ISO 7509, *Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of time to failure under sustained internal pressure*

ISO 7685:2019, *Glass-reinforced thermosetting plastics (GRP) pipes — Determination of initial ring stiffness*

ISO 8513:2016, *Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Test methods for the determination of the initial longitudinal tensile strength*

ISO 8521:2020, *Glass-reinforced thermosetting plastic (GRP) pipes — Test methods for the determination of the initial circumferential tensile wall strength*